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Contributions to books

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

Journal and other articles

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

Conference papers

- Chandel K.S. (2009): "Ethics in Commerce Education." Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

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- Kumar S. (2006): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

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OPTIMIZATION OF THE ENROLMENT SYSTEM OF UNIVERSITY/COLLEGE X USING SIMULATION MODEL

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ABSTRACT

This study presents the results of a simulation study on optimization of the enrolment system in University/College X. The desired measure of performance is the server's utilization and enrollee's time spent in the system measured in terms of service time plus waiting time. The study was conducted during peak hours to determine the system's capacity. The proponent used Stat: Fit for the input data for descriptive statistics and their fitted probability distribution. To transform the input into a more valuable insight, Promodel was used to determine the performance measure of the system. The researcher performed several iterations of the different alternatives in order to accomplish the stated objective of the study, which are shorter waiting time, and increased utilization of the system's resources. The bottlenecks in the system are in all operations. But the most constraints are in the advisement and encoding since they have a larger variability of inter-arrival time and service time. The study determines the number of server in each serving point.

KEYWORDS

Optimization, Server's Utilization, Simulation, Waiting Time.

INTRODUCTION



One factor that affects or contributes to the efficiency of the system is Technology. These will often break or make the company's success. Many companies nowadays respond to the fast changing technology, otherwise they will be left behind or worst, they will not exist anymore. University/College X has successfully responded to these changes by providing several Instructional Technology Rooms and Seminar Rooms. Each selected room was equipped with video/data projectors, audio systems and a teaching station with appropriate computers and related peripherals. Also there were Industry Software Rooms, where several licensed software were available with the integration of industry needs.

All of these improvements resulted in enhanced learning strategies of the students and faculty, which provide excellence in education. Technology therefore, can be a powerful enabler in the learning process and a valuable tool in improving student learning and can help offset the challenges created by larger classes. But again there is a saying that "the sum of its part is greater than the whole." Likewise, the movement of the whole is based on the behavior of the parts. It is worthwhile to know the behavior of the parts to assess the whole system if it is effective and efficient. The larger part of the system, as enumerated a while ago, creates services through educational excellence resulting in customer satisfaction. This study therefore would look into one part of the service system of University/College X, which is the enrolment system. During this period, students undergo several procedures and processes to be officially enrolled for the coming semester. At some stage in the process, particularly during peak hours, they often experience long queues, which lead to fatigue and a feeling of dissatisfaction of the services provided to them.

In these times of sophisticated technology, too long and tedious enrolment procedures could be avoided. In fact there are now institutions in the country offering on-line enrolment, which can make life easier for the students and parents as well. From a new enrolment perspective, the on-line is good, particularly for the parents who accompany their children during enrolment period. They can see the benefits of finalizing their enrolment online with immediate confirmation of units/days/times, and are impressed that it doesn't take too long.

There are several factors to consider though, in the on line system, such as: financial requirements and technical difficulties as the use of computer-based technology may cause frustration. The less familiar you are with the technology the more intrusive and distracting it can be. There are numbers of strategies you can employ to overcome these, but it requires excessive time and effort both on the part of the users and the technical people.

At this time of economic difficulties, technology's role as a cost-efficient enabler is even more critical. We might as well use technology as a tool for decision making to select the best alternative of improving the enrolment system in this institution. It is the goal of this study therefore to investigate various approaches to speed up the enrolment processing time and use the four production elements (man, machine, material, methods) efficiently.

The study use ProModel Optimization Software. This technology software is simulation-based software for evaluating, planning, or designing manufacturing, warehousing, logistics and other operational strategic applications. The animation and graphical reports are powerful tools for visualizing, understanding and improving the system. Hence, this study will use the capabilities of simulation, as defined by Banks and Carson (2001). Simulation is the imitation of the operation of a real world process or system over time whether done by hand or on a computer. The same author refers to simulation as the process of designing a computerized model of a system and conducting experiments with this model for the purpose of understanding the behaviour of the system and evaluating the various strategies for its operation. Thus, there is a need to develop a simulation environment to allow verification of performance measures, without disturbing the real world system, as it allows predicting the outcomes of decisions before committing capital and resources. This paper aimed to conduct a study that will optimize the Enrolment System Phases of University/College X. Specifically, to identify the optimum number of server at each serving point in relation to the desired level of utilization and the cost of customers waiting. Through this study, Management can identify the effectiveness and efficiency of the system in satisfying the enrollee's need.

METHODOLOGY

Data required in the study were the Inter-arrival time of the enrollees in each serving points and the service time. These were collected during the enrolment period at peak time so as to derive the actual capacity of the system. The sources of data were based on the actual observation, where the proponent conducted time study from each serving points and the historical data of a selected serving points such as encoding and assessment section and payment section. Actual Observation data and historical data were compared so as to validate the computerized model to the real system behaviour.

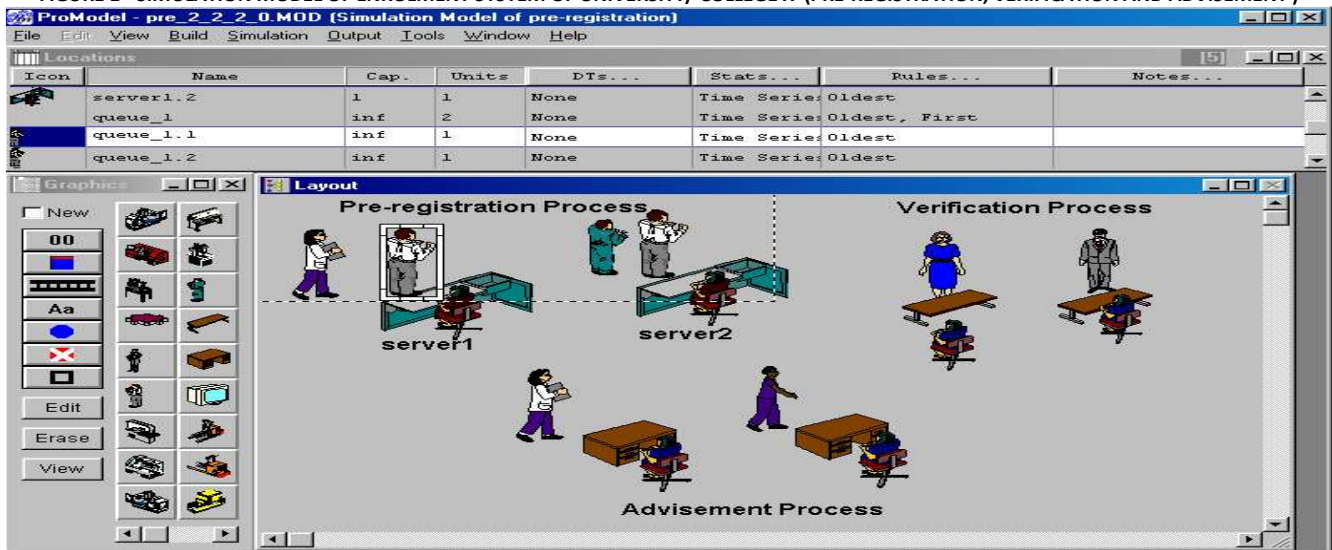
Length of data collection was statistically significant which is greater than or equal to 50 data points for each variable in the system. The proponent used work measurement technique in determining arrival time and service time of each server at each serving points. For the Inter-arrival times, the proponent uses stopwatch and checklist, the content of which were numbered, that is, 50 data points, Arrival time and Number of Students Arrived. The proponent entered in the serving point, ignoring the student in queue, (if it exists in the serving point), set the clock to zero and started timing the arrival of the first student(s). When the first customer arrived, proponent recorded the necessary information in the checklist such as Number of data points, Arrival time and Number of students arrived. The inter-arrival time or time between arrivals of the first student was assumed to be at time 0. When the next customer arrived, the proponent recorded arrival time or clock time and number of students arrived until the 50 data points had been taken. The time measurement of the service times of each server at each serving point is the difference the time service begins and departure of the students at the serving points. Service time is measured from the time service began up to departure of customer in the serving points.

The proponent validated the study in the sense that the collected data falls under their usual performance range. Also, the simulated output of the present system was closed to historical data averages.

RESULTS

This section presents all data that were gathered during the course of the study. The significance of all the data presented was to understand the systems behavior and its performance measures. All data were converted in minutes because the Stat: Fit software and the Simulation Optimization Software could be defaulted in minutes.

FIGURE 1 - SIMULATION MODEL OF ENROLMENT SYSTEM OF UNIVERSITY/ COLLEGE X (PRE-REGISTRATION, VERIFICATION AND ADVISEMENT)



The above figured is the simulation model for the enrolment system of University/College X. The simulation run length was 8 hours since this is the average working time of the system. The simulation model was run in 10 replications, which mean that the same initial conditions and assumption were considered but with a different random number stream. The simulation of the different process was done in sequential order. Starting from pre-registration process, three different alternatives were made as reflected in table 1. Scenario A has 2 servers each with its own waiting line and number of enrollees per arrival was 2. Scenario B is the same with scenario A except for the number of queue with only one waiting line for 2 server. Scenario C had 2 servers, 2 queue and 1 enrollee per arrival. The output reports are in table 1.

TABLE 1 – SUMMARY OF SIMULATION OUTPUT IN PRE-REGISTRATION PROCESS

Scenario	A	B	C
Number of Server	2	2	2
Number of Queue	2	1	2
Qty per arrival	2	2	1
SERVER	Pre-registration		
Ave. Total Entries for each server	640.15	640.15	557.5
Ave.% Utilization of Each Machine/Server	99	99	90
ENROLEES	Pre-registration		
Ave. Minutes in System	106	106	2.97
Overall Total Served*	1264	1264	1154

Scenario A and B had the same performance measure, although the condition was different only in the number of queues. Therefore number of waiting line did not affect the performance of the system. Scenario C had shorter time spent in the system as reflected in the average minutes in system which is 2.97 minutes but had lower server utilization. The main reason for shorter time in scenario C was because of the quantity of arrival. The proponent used 1 enrollee per arrival, which was the mode or most frequent occurrence in the number of students per arrival.

TABLE 2 – SUMMARY OF SIMULATION OUTPUT IN VERIFICATION PROCESS

Scenario	A	B	C
Number of Server	2	3	2
Number of Queue	1	2	1
Qty per arrival	2	2	1
SERVER	Verification		
Ave. Total Entries for each server	947	772	580.05
Ave.% Utilization of Each Machine/Server	99	81	61
ENROLEES	Verification		
Ave. Minutes in System	42.63	1.31	1.5
Overall Total Served*	1891	2323.4	1159

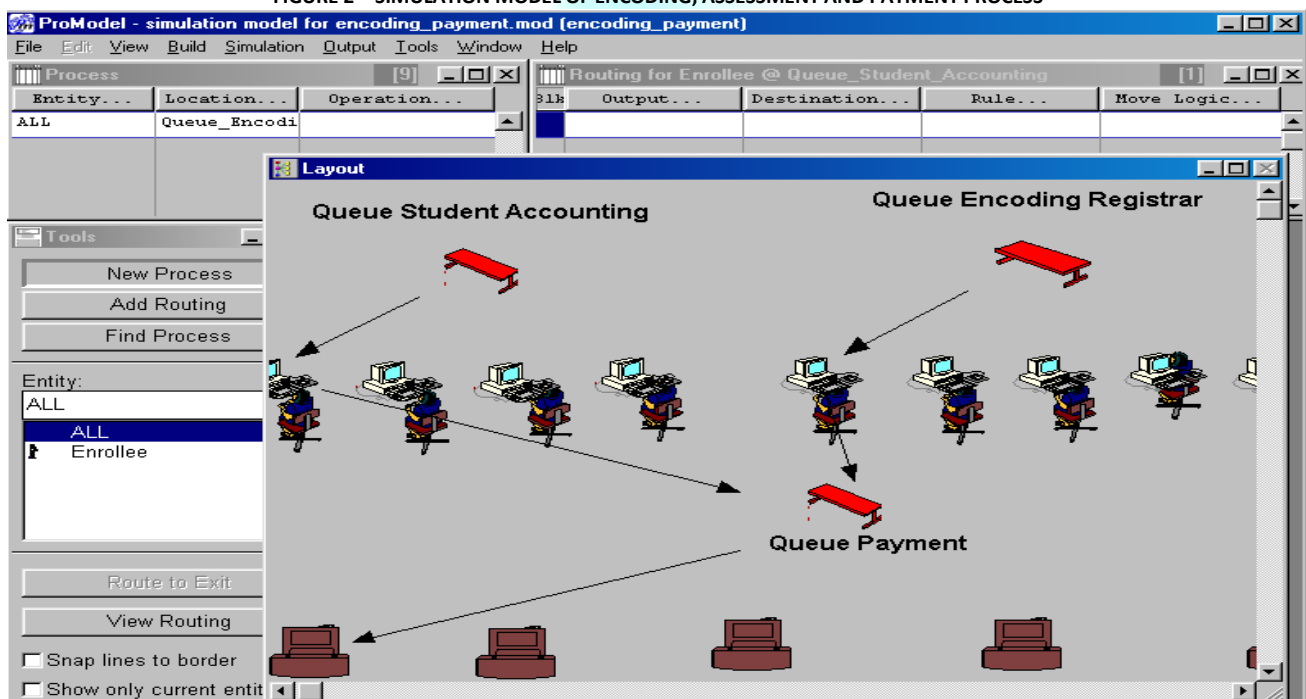
Scenario A and B followed the round – up mean quantity per arrival in the gathered input data which was 2 enrollees per arrival. In this case, 42.63 minutes will be the time spent in the system if you have 2 servers. On the other hand, if you have 3 servers this will have a significant decrease time in system where the enrollees will spent 1.31 minutes in the system. If the quantity per arrival is 1 enrollee, with 2 servers the time spent in the system per enrollee is 1.5 minutes.

TABLE 3 – SUMMARY OF SIMULATION OUTPUT IN ADVISEMENT PROCESS

Scenario	A	B	C	D
Number of Server	2	3	2	3
Number of Queue	2	3	1	1
Qty per arrival	2	2	1	1
SERVER Advise ment				
Ave. Total Entries for each server	384	386	380.15	290.7
Ave.% Utilization of Each Server	99	99	99	74.46
ENROLEES Advise ment				
Ave. Minutes in System	136.67	78.2	34.95	2.15
Overall Total Served*	738.8	1156	758	869.4

If the scenario in the enrolment system have two servers with each queue per server and two students arrived in the system every minute then enrollees spent 136.67 minutes in the system. The total number of enrollees served for a day is 738 enrollees. Additional of one server from scenario A significantly decreased the time spent in the system with 78.2 minutes, (scenario B), the result also have the same resource utilization that is 99%. However, if one enrollee per arrival was used in the simulation model which was the mode or most frequent occurrence in the gathered data, as reflected in scenario C, enrollee's time in system is 33.67 minutes, at the same time maximizing the resources utilization, 99%. Scenario D has the smallest time spent in the system which is 2.15 minutes per enrollees.

FIGURE 2 - SIMULATION MODEL OF ENCODING, ASSESSMENT AND PAYMENT PROCESS



The above figure showed the simulation model for last phase of enrolment systems which is encoding, assessment and payment process. Below are the summary results of the simulation output.

TABLE 4 – SUMMARY OF SIMULATION OUTPUT IN ENCODING/ASSESSMENT AND PAYMENT PROCESS

Scenario	A		B		C		D	
Number of Server	Encoding:14 Payment: 6		Encoding:16 Payment: 5		Encoding:19 Payment :8		Encoding:21 Payment :9	
Number of Queue	1		1		1		1	
Qty per arrival	2		2		2		2	
SERVER			Encoding and Payment					
	Encoding	Payment	Encoding	Payment	Encoding	Payment	Encoding	Payment
Ave. Total Entries for each server	78	179	76.46	232.62	75	149.125	62	136.6
Ave.% Utilization of Each Server	91	77	89	96	76	61	73	59
ENROLEES			Encoding and Payment					
Ave. Minutes in System	29.05		30.89		11.45		12.58	
Overall Total Served*	1068		1158		1188		1225	

Scenario C and D had a good performance measure with respect to time, however, they revealed slight differences in all the performance measures. To test whether, they have significant differences; statistical analysis was conducted to compare these two systems design. Using t- test as test statistic in a correlated sampling since they have the same input variables. Using a level of significance equal (α) to 0.05, the absolute value of T_0 (1.079) is less than the value of $T_{\alpha,9}$ (2.262), we failed to reject the null hypothesis and claim that there is no significant difference between the two alternatives. Therefore, the mean difference of 1.217 minutes was due to random variability and chance occurrence. Hence, scenario c is the optimum scenario in the enrolment system of university/college X.

DISCUSSION

Quantity per arrival of enrollees greatly affects the performance measures of the system. Furthermore, it has no fitted distribution so analyst need not only collect data but must have a good insight in the system so as to decide what to use, the mean average quantity per arrival or the mode or most frequent occurrence of quantity per arrival. However, the number of queue or waiting line does not affect the performance measures of the system.

The constraints or bottleneck in the system are in all processes where queue occurs. Waiting line occurs when demand is greater than capacity; likewise in enrolment system queue occurs when service time is greater than arrival rate. Service time varies in all serving point. Allowances were provided in extending the service time, this includes allowances for personal needs, fatigue and unavoidable. There are some observed delays that occurred in the serving point. Example is in verification, failing to filled the necessary data in pre-registration form. Another is in encoding and assessment, the scheduled subject written in pre-registration form has a conflict with the other stated subject written pre-registration form and the inaccuracy of writing subject code. These delays are beyond the control of the management and it is only the enrollees that have a direct control.

Below table is the summary for the best scenario of the different serving points in the enrolment system of University/College X. The capacity of serving points has been determined by the simulation output report with the condition of peak period in an 8 hour work. These are the following: Pre-registration: 1154 enrollees, Verification Process: 2323 enrollees, Advisement Process: 758 enrollees, Encoding and Payment: 1188 enrollees.

Scenario	C	B	C	C	
Number of Server	2	3	2	Encoding:19 Payment :8	
Number of Queue	2	2	1	1	
Qty per arrival	1	2	1	2	
SERVER	Pre-registration	Verification	Advisement	Encoding	Payment
Ave.% Utilization of Each Machine	90	81	99	76	61
ENROLEES	Pre-registration	Verification	Advisement	Encoding and Payment	
Ave. Minutes in System	2.97	1.31	34.95	11.45	
Overall Total Served*	1154	2323.4	758	1188	

Computing for the total average time spent in the different serving points in enrolment process the summation is 50.8 minutes. This means that an enrollee will spend approximately an hour to enrol in University/College X. This does not include the filling of the information of enrollees in pre-registration and getting the desired schedule for the next semester.

CONCLUSION

The study would like to assert that, given those scenarios, their corresponding performance measures (as tabulated in result sections), should be reflected with the given assumptions and conditions of the study so that optimization of the system might result. However, if this were not reflected in the system, there may be interventions occurring that affects the efficiency of the organization. Factors that will likely intervene in the efficiency of the system are: Management Intervention, this happened when they failed to plan properly their system's resources such as manpower, material, machine and method. On the other hand, the output of this simulation study can be used to avoid, if not eliminate the management intervention. Next is server intervention, when they failed to implement the Standard Operating Procedures of the system and go beyond their allowable relaxation period. Then, customer intervention, when they go beyond the proper procedure of enrolment system. Nevertheless, the study provided allowances to cover some unavoidable circumstances in the system like equipment breakdown, material irregularities, etc. For instance, allowance provided for the process of pre-registration, verification and advisement is 23% of the job time or of the total working time. Likewise, process of encoding and assessment and payment were provided for an allowance of 34% of the job time. Allowance factor was based on criteria of working condition set by the International Labour Organization. Thus, the simulated study was not merely conducted in an ideal condition but in a realistic one. Looking in the summary of findings of the best scenario of each serving points with respect to its performance measures, the current system is already optimized with respect to its service facility.

JOB QUALITY INDICATORS INTEGRATION WITH JCM DIMENSIONS

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ABSTRACT

This study investigates the vital factors of job, which give quality to job; such as skills variety, task identity, task significance, autonomy and feedback. Further, these factors were taken from the Job Characteristics Model, which was developed by Oldham & Hackman but the items of these factors were self developed after thoroughly consulting the totally quality management literature. Data collected from Pakistan International Airlines (PIA) and Atomic Energy Commission of Pakistan with sample size of 150 responses. Five research questions were asked out of which four were answered. Exploratory factor analysis results revealed that four questions were answered due to significant factor loadings of items on the relevant factors. Findings depict that these indicators will lead to good job quality. For the managers, it is an indication that they may use these indicators for the conformance of job quality for employees. For the future research, these indicators should be further confirmed by applying confirmatory study. The impact of these job quality indicators should be checked on the different outcomes.

KEYWORDS

Job Quality, Job Quality Dimensions, Job Quality Indicators, Job Characteristic Model (JCM), Job Characteristics Theory (JCT), Canadian Policy Research Networks (CPRN).

JOB QUALITY INDICATORS INTEGRATION WITH JCM DIMENSIONS

Job quality is a multidimensional concept. Different quality experts added different aspects as quality measures of job. Employees participation, information sharing, receiving feedback on work, impact of technology on job, job satisfaction, job rotation, work teams, skill use, opportunities for skills development, highly valued job design features including autonomy, task identity, income level, job security and interesting work are commonly considered as job quality indicators (Canadian Policy Research Networks, 2009; Clark, 2005). In 2001, a list of key indicators was included in the Employment Guidelines of the European Commission and identified more than ten important elements of job quality (Davoine & Erhel, 2006). In different jobs, different dimensions are important. To tab the wide range of job quality characteristics is difficult phenomenon.

In fact, job quality in which its content are included can influence organizational outcomes and also on the performance of employees (Humphrey, Nahrgang & Morgeson, 2007). Globalization and technological advancement have affected all industries, leading some to suggest that the competitive environment need good quality jobs, which have dynamic capability adjustment for responding the changes (Friedman, 2005). Unlike many other organizational aspects for improvement of an organization performance management, need the influence of work design choices which impact on the quality of job and ultimate impact is created on the performance of employees (Birdi, et al., 2008).

Good quality job is that job which has substantial significance to managers, workers, and organizations (Birdi, et al., 2008). Job characteristics model is the important determinant to find out quality of job for the employees' in organization (Hackman & Oldham, 1975). Hackman and Oldham (1975) introduced the Job Characteristics Model (JCM) based on Job Characteristics theory (JCT). In the basic elements of that theory one was Job scope, which divided in to five-sub dimensions including skill variety; task identity, autonomy, task significance and feedback.

This paper focus is toward job quality improvement, which may generate positive impact on the productivity of the organization via good performance of employees. First it has been highlighted what is job quality in the views of different people then we relate these characteristics with Hackman and Oldham (1974) job characteristics model who gave the job characteristics dimensions which are required for the good job. We try to find out the fit between these dimensions with quality job.

LITERATURE REVIEW

JOB CHARACTERISTICS THAT LEAD TO JOB QUALITY

SKILLS VARIETY: According to Hackman and Oldham (1976), skills variety refers to the variety or number of skills that are needed to perform a certain job. A Meta analytical study depicts, skills variety motivates to workers and in turn their performance and satisfaction level become high (Humphrey, Nahrgang & Morgeson, 2007). Skills variety also refers how much a job requires the employees to sustain various kinds of skills and abilities (Garg & Rastogi, 2006).

Quality gurus such as Deming (1986), Juran (Juran & Gryna, 1993), Crosby (1979), Feigenbaum (1991), and Ishikawa (1985) gave the different ideas regarding the concept of total quality management (TQM) and in their explanation about TQM consist of different dimensions of quality and one of those dimension focused on the job quality. They focus on the different job quality dimensions.

Deming (1986) emphasized the importance of fulfillment of customer requirements, creation of supplier partnership, use of functional teams to identify and solve quality problems and through these functional teams' chances of employee skills enhancement will be higher. Feigenbaum (1991) focus was job quality improvement of employees through skills development.

Mail Preparation Total Quality Management guidebook designed for mailers who were interested in a total quality management system for their mailing operations (Zachok, 2007). The MPTQM program remains based on three internationally recognized quality methodologies, which are International Organization for Standardization (ISO) 9001:2000, The Malcolm Baldrige Performance Excellence Criteria and Total Quality Management (Zachok, 2007). In that book, different quality management aspects are covered. From the job quality perspective this book guide in the following directions including skills variety, task identity, task significance, feedback and autonomy (Zachok, 2007).

TASK IDENTITY: Task identity refers how employees complete their whole work. Employees are being able to start and finish their work, which may be in the form of a product or completing a unit of service and having good quality (Hackman & Oldham, 1976). According to Garg and Rastogi (2006) task identity in the job refers to a job that has specific beginning and ending.

Deming (1986) emphasized about clear standard for employees work and he emphasized to provide methods to achieve those standards. Feigenbaum (1991) claimed that employees should know what their duties are.

Identification of tasks can be accomplished in a variety of way as internal management and line personnel working group meetings, working group meetings with management or with consultants (Zachok, 2007).

TASK SIGNIFICANCE: Task significance refers the importance of job and its impact on the lives of other people (Hackman & Oldham, 1980). In the task significance two type of significance are discussed; one is internal significance, which means task importance in the perspective of organization. External significance is related with the society (Garg & Rastogi, 2006). Task significance importance is increasing because the workers want to show their importance by doing the work and to show the importance of their work when the task is assigned to them by an organization. In this regard, they prove themselves very important part of the organization (Grant, 2008).

Deming (1986) supports the concepts of engineering and building quality into the process through its dimension, which focused on the cease dependence on mass inspection. To accomplish this, it is important for the production line worker to know about the next process or employee as the customer. Each employee must see his or her actions contributing to the quality of the product (Winston, B.E., 1997). It was assured that worker participation in the program would be a great advantage to the company. If the recognition is given to the employees work then they feel pride to perform their duties and productivity level will be positively affected (Zachok, 2007).

AUTONOMY: It refers to the sovereignty of employees so that they do the work with full liberty. Concepts of empowerment and self-management are highly similar but of more recent origin. Autonomy addresses to job independence; it means how much freedom and control employees have to perform their job? How they schedule their work? How they make decisions or how their objectives are achieved? (Garg & Rastogi, 2006).

Employee's participation in giving their views, employees' participation as a workplace strategy and Information sharing enhance the autonomy factor (CPRN, 2009). Drive out fear of employees is also a quality dimension, which was given by Deming. This dimension explained that employees feel fair to ask the questions or they do not express their point of view with full freedom. Therefore assuring the better quality and productivity employees need to feel free and secure to express their ideas and feelings. This thing gives the concept of autonomy (Winston, B.E., 1997). Participation of employees for pursuit of continuous improvement will enhance the quality of job (Demming, 1986).

Another school of thought (Juran & Gryna, 1993) focus, TQM is the system of activities directed at achieving delighted customers, empowerment employees, higher revenues, and lower costs. Juran focused that management approach to enhance the quality of job is more important concern. Juran's approach emphasized self-managing teams.

FEEDBACK: Feedback is the information about the performance of employees how they are performing their duties (Locke & Latham, 1990). Hackman and Oldham (1976) interpret the feedback as "the degree to which carrying out the work activities required by the job results in the individual obtaining direct and clear information about the effectiveness of his or her performance."

Receiving feedback on your workday will enhance the worth of work (CPRN, 2009). Feedback process is important for the improvement of employees' performance and is essential component in all quality systems. For job quality improvement: employee suggestion boxes, employee surveys and management and employee interviews may use as the source of feedback (Zachok, 2007). Feigenbaum (1991) claimed that effective quality management consisted of four main stages in which two are related with feedback.

METHODOLOGY

DATA COLLECTION AND SAMPLE

The data collected through onsite administration of survey from organizations in the Pakistan International Airlines (PIA) and Atomic Energy Commission of Pakistan (AECN). Scale was self-developed through intriguing support of literature. Therefore, first a pilot study was conducted to check the reliability of instrument. All the Job characteristics including skills variety, task identity, task significance, autonomy and feedback were measured through self reported questionnaires. One eighty questionnaires were distributed; total 150 complete responses were received. All the respondents were males. Total response rate was 83%. All three levels of management were included in the respondents.

MEASURES

The questionnaires were presented in English because it is the default language of work and the medium of official correspondence in Pakistan (Butt, Choi, & Jaeger, 2005). Self-developed scales were used. In the skills variety five items included. Task identity was measured by 8 items scale. Task significance factor was consisted of 3 items. Autonomy and feedback consisted of 9, 4 items respectively. Support from literature was taken to proof that skills variety, task identity, task significance, autonomy, feedback leads to high quality job (Feigenbaum, 1991; CPRN, 2009; Deming, 1986; Zachok, 2007; Juran & Gryna, 1993). All the measures were designed on the 5-point likert scale. 1 shows strongly agree, and 5 shows strongly disagree. Some items were reverse coded.

STUDY RESULTS

The objective of this initial level study was to provide an initial assessment of those reliable factors, which lead to job quality. An exploratory factor analysis was conducted to find out those factors which were more important regarding quality of job. The Kaiser-Meyer-Olkin (KMO) measure was used to ensure sampling adequacy. KMO Value shows sampling adequacy if that may greater than 0.5 ensures. Table 1 shows details of the factor analysis. In this sample, the KMO measure of the sampling adequacy was 0.682, and the Bartlett test of sphericity was significant, providing support for the validity of the instrument. Factor analysis was conducted to identify the underlying factors in job quality. Items that were not pure were deleted to form a new instrument. Table 1 contains only those items that had factor loadings greater than 0.5. Therefore, 19 items were extracted from 29 items which have factor loading greater than 0.5. Those items which have factor loading less than 0.5 and having similar loading on two factors were deleted. Reliability analysis of the five factors was conducted. One item was loaded on a factor, which indicated task significance. It had good factor loading of .79 but it was only item that's the reason it was also deleted. In summary, this initial instrument was refined by removing eleven items in which task significance was gave least important results as a factor in job quality.

TABLE 1: COMPONENT FACTOR LOADING

	Components Factor Loading					Reliabilities
	1	2	3	4	5	
	Skills variety	Task Identity	Task Significance	Autonomy	Feedback	
Effective training and education can enhance employee's skills variety	.661					.71
Enhancement of employee's skills will lead to good job quality	.682					
A variety in tasks perform by an employee can provide him/her better opportunity to use his/her skills to do the job.	.669					
Changing requirements of customers can be fulfilled through a more skilled and flexible workforce.	.532					
For achieving excellence in the job, standards should be set for job quality.		.789				.75
Which job should be performed by whom, such identity of task performance can increase the job value?		.595				
Defining an action that may take place in an easy way can be an indicator of good job quality.		.529				
Working group meetings regarding task clarity can enhance the job quality.		.662				
Better performance measure for each job position drives to good quality job.		.697				
Evaluation of employee's actions on his/her part can be an indicator of good job quality.			.796			N.S
Employee participation in giving their views can contribute towards job quality.				.789		.69
Employee participation as a workplace strategy can lead to good job quality.				.575		
Information sharing can enhance understanding of the job leading to quality improvement of the job.				.584		
Participation of employees for pursuing of continuous improvement can actually enhance the job quality.				.664		
Self-managing teams certainly promote quality improvement.				.514		
Self-managing teams can improve communication between management and employees an indicator of quality job.				.681		
Finding out the job deficiencies from the outset completion of a specific task will prove as a better way out an indicator of quality job.					.617	.63
Appraising conformance to specified standards cannot remove deficits from quality job.					.672	
Appraising conformance to specified standards can remove deficits from quality job.					.542	

DISCUSSION& CONCLUSION

Job quality factors based on Job Characteristics Model provides an indication, which factors are necessary for quality job. This study explored the job quality indicators, which are important for a good quality job. Overall, we found good support for the suggested research questions, which were designed to find the indicators of good quality job. In all, four out of five research questions were supported well through data. Here the test of exploratory factor analysis was run to find those factors which will indicate to an appropriate job design. In this research paper, self developed scale was used based on the job characteristics model indicators. Factors items were extracted from the literature of quality management. Scale was derived from the quality gurus' views, which they have regarding job quality dimensions. Overall results were significant except in the case of job significance. It has very low significance because only one item was loaded on this factor, with factor loading of .79 but not showing significant reliability. Skills variety and task identity factors having high factor loading and their reliabilities were also good. Skills variety has significant reliability of .71 and task identity has .75. Over all results show that these all factors are indicators of high quality job except task significance which have weak support.

MANAGERIAL IMPLICATIONS

This study will help to managers and to organizational practitioners who want to design the quality job. They can confer with these indicators while designing the job. These dimensions are helpful for design the good quality job. This is the way to implement the best policies of human resource. Best human Resource policies are always indicator of good quality employees hiring who may prove beneficial for the organization.

FUTURE RESEARCH DIRECTIONS

This study is an effort to find out the good quality job indicators. This is an initial effort. Extracted items must be retested for the confirmation of their reliability and validity. Then it will be proved that these factors have effect on the outcomes are not. This study was conducted to find opinion from employees about quality factors about which we asked during survey via questionnaires. Now next query is that either these factors will create impact on the outcomes of job, which are in the form of better quality performance, productivity or not.

REFERENCES

- Birdi, K., Clegg, C., Patterson, M., Robinson, A., Stride, C. B., Wall, T. D., & Wood, S. J. (2008). "The impact of human resource and operational management practices on company productivity: A longitudinal study". *Personnel Psychology*, Vol. 61, No.3, 467-501.
- Butt, A. N., Choi, J. N., & Jaeger, A. (2005). "The effects of self-emotion, counterpart emotion, and counterpart behavior on negotiator behavior: A comparison of individual-level and dyad-level dynamics". *Journal of Organizational Behavior*, Vol. 26, No.6, pp. 681-704.
- Canadian Policy Research Networks (2009). *JobQuality.ca*. www.cprn.org.
- Campbell, D.J. & Gingrich, K.F. (1986). "The interactive effects of task complexity and Participation on task performance: A field experiment". *Organization Behaviour and Human Decision Processes*, Vol. 38, pp.162-180.

- Casey,R., D.B.A., Robbins, J. (2009). "A Comparison of the Elements of Motivation In The Hospital Industry versus the Retail and Manufacturing Sectors". IABR & TLC Conference Proceedings:1-8. San Antonio, Texas.
- Clark, A. (2005). "Your money or your life: changing job quality in OECD countries". *British Journal of Industrial Relations* 43: 377-400.
- Cliffs, NJ, (1985). "Translated from original Japanese work in 1981". Prentice- Hall.
- Crosby, P. B. (1979). *Quality Is Free*. Penguin Books, New York.
- Davoine, L. and C. Erhel. (2006). "Monitoring employment quality in Europe: European employment strategy indicators and beyond". CES: Document de Travail No. 66.
- Deming, W. E. (1986). "Out Of The Crisis. Cambridge". MA: MIT Press.
- Feigenbaum,A.V.(1991). "Total Quality Control, fortieth anniversary edition". *McGraw Hill*.
- Ferris,G.R., & Gilmore,D.C. (1984). "The Moderating Role of Work Context in Job Design Research: A Test of Competing Models". *The Academy of Management Journal*, Vol.27,No.3, pp.885-892.
- Friedman, T. L. (2005). "The world is flat: A brief history of the twenty-first century". New York: Farrar, Straus, and Giroux.
- Garg,P.,& Rastogi,R.(2006). "New model of job design: motivating employees' performance". *Journal of Management Development*,Vol. 25, No.6,pp. 572-587.
- Grant, A. M. (2008). "Does intrinsic motivation fuel the prosocial fire? Motivational synergy in predicting persistence, performance, and productivity". *Journal of Applied Psychology*, Vol.93,No.1,pp.48-58.
- Hackman, J.R&Oldham, G.R (1974). "Job Diagnostic Survey: An instrument for the diagnosis of jobs and the evaluation of job redesign projects".CT: Yale University, Department of Administrative Science.
- Hackman, J.R., Oldham, R.G., Janson, R.,& Purdy, K. (1975). "A new strategy for job enrichment". *California Management Review*, Vol. 17,No.4, pp.55-71.
- Hackman JR& Oldham GR. (1976). "Motivation through the design of work: test of a theory".*Organizational Behavior and Human Performance*, Vol. 16, pp. 250-279.
- Hackman, J. R., & Oldham, G. R. (1980). "Work redesign. *Personnel Psychology*",Vol. 40,pp. 287-322.
- Humphrey, S. E., Nahrgang, J. D., & Morgeson, F. P. (2007). Integrating motivational, social, and contextual work design features: A meta-analytic summary and theoretical extension of the work design literature. *Journal of Applied Psychology*, 92: 1332-1356.
- Ishikawa, K. (1985). *What is Total Quality Control? The Japanese Way*. Englewood Cliffs, NJ: Prentice Hall.
- Juran, J.M., Gryna, F.M. (1993). *Quality Planning and Analysis*. McGraw-Hill, New York, NY, 3rd ed.
- Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting and task performance*. Englewood Cliffs, NJ: Prentice-Hall.
- Winston,B., E. (1997).*Total Quality Management a heartfelt approach to doing things right*.*Regent University School of Business*.
- Zachok,K (2007) *Mail Preparation Total Quality Management*. Version 7.3.1.

GAP ANALYSIS OF SERVICE QUALITY AMONG BANKS**DR. IQBAL****ASST. PROFESSOR****DEPARTMENT OF BANKING AND FINANCE****THE KINGDOM UNIVERSITY****KINGDOM OF BAHRAIN, BAHRAIN****NYMPHA RITA JOSEPH****LECTURER****DEPARTMENT OF ACCOUNTING AND FINANCE****THE KINGDOM UNIVERSITY****KINGDOM OF BAHRAIN****ABSTRACT**

Indian banking industry is in the grip of profound structural changes as evident from the phenomenal growth in the size, spread and activities undertaken by them. The banking industry has moved gradually from a regulated environment to a deregulated market economy. Therefore, quality of the services provided by the banks becomes very important. In this study for data collection, the SERVQUAL instrument developed by Parasuraman, Zeithaml and Berry (1988) has been used. Structured questionnaires were used for consumers and unstructured questionnaires for industry experts. The researcher selected 100 samples (50 each from conventional and interactive banks). The researcher used judgmental and convenience sampling technique. Factor analysis has been done on the various factors asked in the questionnaire. There were a set of 22 questions for which the importance level on a scale of 1-7 amongst all banks and the performance level their own bank (on a scale of 1-7) had been asked. After conducting gap analysis we can conclude that the most important factor leading to service gap is systemization or technological advancement among interactive and conventional banks. The next most important factor is accessibility to the bank. This implies whether the bank is closely located and has convenient banking timings. Customers tend to deal with banks which are closer to their home or work place. This is followed by the behaviour of the employees of the bank as human element and responsiveness came as the third and fourth most significant factors respectively.

KEYWORDS

Conventional banking, Factor analysis, Gap analysis, Interactive banking, Service quality.

INTRODUCTION

Indian banking industry is in the grip of profound structural changes as evident from the phenomenal growth in the size, spread and activities undertaken by them. Many leading business magazines like Business Today and Business India have, of late, started ranking the banks on several criteria such as operational ratios, profitability ratios, productivity ratios, financial parameters, net profits, total assets, advances and total deposits (Business India, 1995; 1996; 1998; Business Today, 1998; 1999). These rankings were in essence based on financial aspects rather than on quality of service delivered.

Although the presence of private sector banks and foreign banks have kindled a competitive spirit among the state-owned banks nationalized banks, the nationalized banks are not up to the task yet, as far as challenging the private sector and foreign banks with respect to the quality of services delivered by them – in terms of the intensity, depth, diversity and range of services offered. As electronic banking becomes more prevalent, a bank's service quality may well be measured in terms of personal support rather than technical support. Thus, the major factor on which all the banks are competing with each other is the quality of services offered. In this backdrop, the present study makes an attempt to investigate the service-quality issues from the perspective of the customers in the banking industry.

REVIEW OF LITERATURE

The foundation for the SERVQUAL scale is the gap model proposed by Parasuraman, Zeithaml and Berry (1985, 1988). The gap model maintains that the satisfaction is related to the size and direction of disconfirmation of a person's experience vis-à-vis his/her initial expectations (Churchill and Surprenant, 1982; Parasuraman, Zeithaml and Berry, 1985; Smith and Houston, 1982). As a gap or difference between customer's expectations and perceptions, service quality is viewed as lying along a continuum ranging from ideal quality to totally unacceptable quality.

Parasuraman, Zeithaml and Berry (1988) held that when perceived or experienced service is less than expected service, it implies less than satisfactory service quality. But when perceived service is more than expected service quality, the obvious inference is that service quality is more than satisfactory. Parasuraman, Zeithaml and Berry (1988) posted that while a negative discrepancy between perceptions and expectations – referred to as a performance gap-causes dissatisfaction, a positive discrepancy leads to consumer delight. Based on their empirical work they identified a set of 22 variables/items tapping five different dimensions of service quality construct. Since they operationalized service quality as being a gap between customer's expectations and perceptions of performance on these variables, their service quality measurement scale is comprised of a total of 44 items (22 for expectations and 22 for perceptions).

OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

1. To identify different variables of service quality in banking sector.
2. To measure the consumer perception about the quality of services delivered by conventional and interactive banks.
3. To ascertain the present state of service quality rendered by conventional and interactive banks.
4. To do gap analysis of service quality of conventional and interactive banks.

RESEARCH METHODOLOGY

On the basis of the experience survey, banks have been classified as follows:

1. Interactive banks: HDFC Bank, Safdarjung Enclave branch; ICICI Bank, Safdarjung Enclave branch; Citibank, Vasant Vihar branch.
2. Conventional Bank: State Bank of India, Bikaji Cama place branch; UTI Bank, Bikaji Cama place branch; Corporation Bank, Bikaji Cama place branch.

Primary data has been collected from bank customers through structured and unstructured questionnaires. Secondary data was collected from Journals, Magazines, Financial Dailies, News papers and websites. The study was confined within the geographical area of New Delhi covering green park, safdarjung enclave and vasant kunj.

For data collection, the SERVQUAL instrument developed by Parasuraman, Zenithal and Berry (1988) has been used. Structured questionnaires were used for consumers and unstructured questionnaires for industry experts. The researcher selected 100 samples (50 each from conventional and interactive banks). The researcher used judgmental and convenience sampling technique.

The techniques used are factor analysis. In order to ascertain the perceptions of service quality, Linker's 7-point scale have been used for its suitability to estimate the range and variations in the perceptions. The scale 1-7 represents '7' as mostly agree and '1' as mostly disagree. Based on their empirical work they identified a set of 22 variables/items tapping five different dimensions of service quality construct. Since they operationalized service quality as being a gap between customer's expectations and perceptions of performance on these variables, their service quality measurement scale is comprised of a total of 44 items (22 for expectations and 22 for perceptions). In equation form, their operationalization of service quality can be expressed as follows:

$$SQ_i = \sum_{j=1}^k (P_{ij} - E_{ij})$$

Where,

SQ_i = perceived service quality of individual 'i'

k = number of service attributes/ items

P_{ij} = perception of individual 'i' with respect to performance of a service firm attribute 'j'.

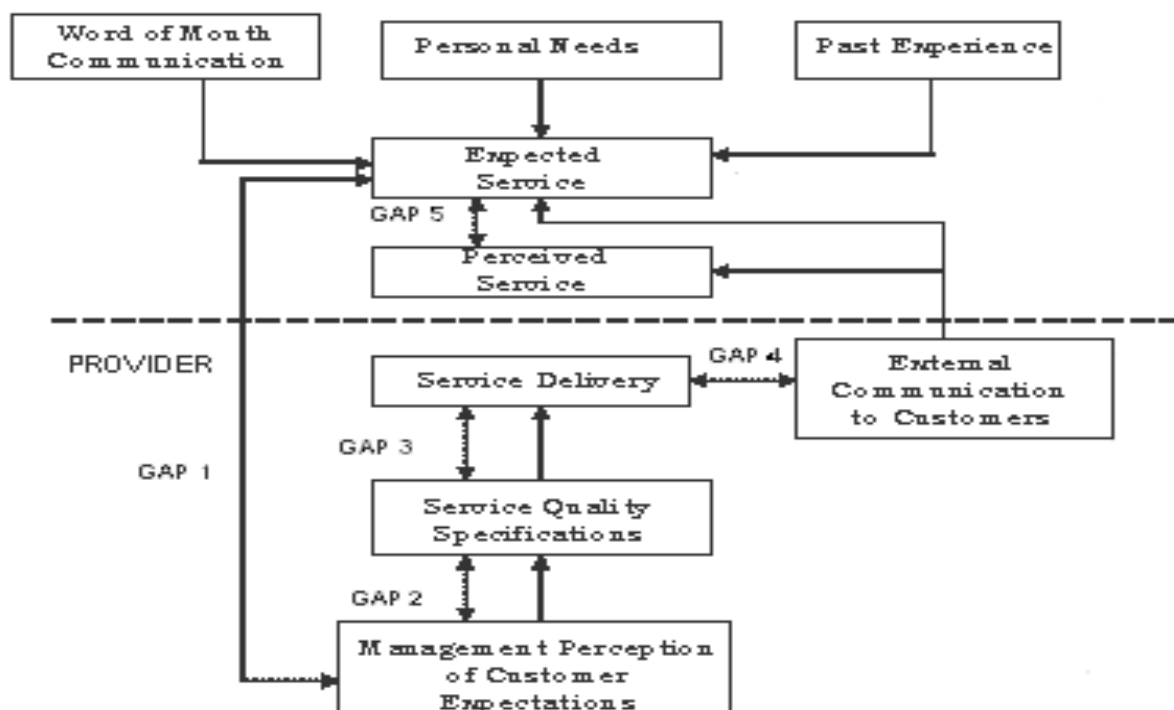
E_{ij} = service quality expectation for attribute 'j' that is relevant norm for individual.

Among the various models of service quality, the SERVQUAL instrument (Parasuraman et al., 1988), a 22 item scale that measures service quality along the five factors namely; reliability, responsiveness, assurance, empathy and tangibles forms the foundation on which all other works have been built (Most of these factors (*Speed, Accuracy*) have been supported by Chowdhary, 2005).

GAP MODEL OF SERVICE QUALITY

Gap model of service quality suggests that there is a gap between the perceptions and expectations of a customer. There are, at least, four reasons or gaps that contribute to this gap often referred to as gap 5. These are as follows: difference between a customer's expectation and the management's perception of the customer expectations; inability to translate management perception into adequate service designs; failure to deliver services as per design; and, difference between service delivery and external communication (Chowdhary, 2005).

FIGURE 1: GAP MODEL



This model provides a framework for understanding and improving service delivery. The various gaps are explained as follows:

GAP 1: CUSTOMER'S EXPECTATIONS – MANAGEMENT PERCEPTIONS GAP: The customers' expectations and the managers' perceptions on the customers' expectations do not match. The various reasons for this gap are: inadequate marketing research orientation, lack of upward communication, insufficient relationship focus, and inadequate service recovery.

GAP 2: MANAGER'S PERCEPTION: The managers' perceptions on the customers' expectations and the specifications concerning service quality do not match. The various reasons for this gap are: poor service design, absence of customer defined standards, and inappropriate physical evidence and servicescape.

GAP 3: SERVICE QUALITY SPECIFICATION-SERVICE-DELIVERY GAP: The specifications concerning service quality and service delivery do not match. The various reasons for this gap are: deficiencies in HR policies, failure to match supply and demand, problems with service intermediaries.

GAP 4: SERVICE DELIVERY-EXTERNAL COMMUNICATIONS GAP: Service delivery and the external communications of the service characteristics do not match. The various reasons for this gap are: lack of integrated services marketing communications, ineffective management of customer expectations, over promising, and inadequate horizontal communication.

GAP 5: EXPECTED SERVICE-PERCEIVED SERVICE GAP: The actually perceived quality does not match with the service quality expected by the customer. This gap is a result of all the gaps described above.

DATA ANALYSIS AND INTERPRETATION

The software used for data analysis is SPSS11.0 software package.

RESPONDENTS PROFILE

The profiles of the respondents on various parameters are as follows:

Figure 2 Age Profile of Customers

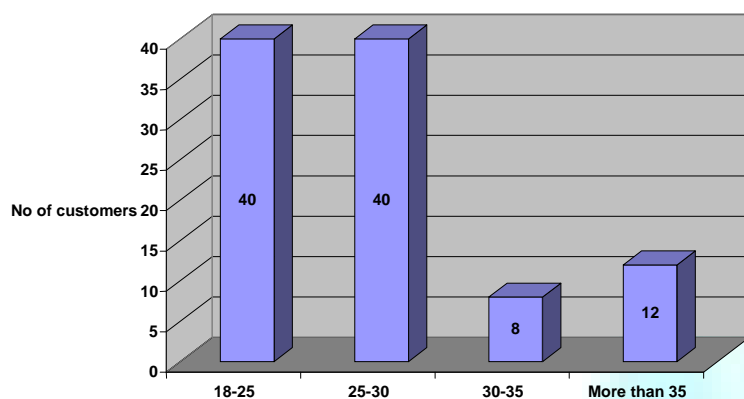


Figure 2 shows that 40% of the respondents belong to 18-25 years of age group, the same is in 25-30 years of age group, 8% of the customers belong to 30-35 years of age group and remaining comes to more than 35 years of age group.

Figure 3 Profile of customers - Gender wise



In Figure 3, 72 percent of the participants are male and females are as low as 28 percent.

Figure 4 Profile of customers - Marital status

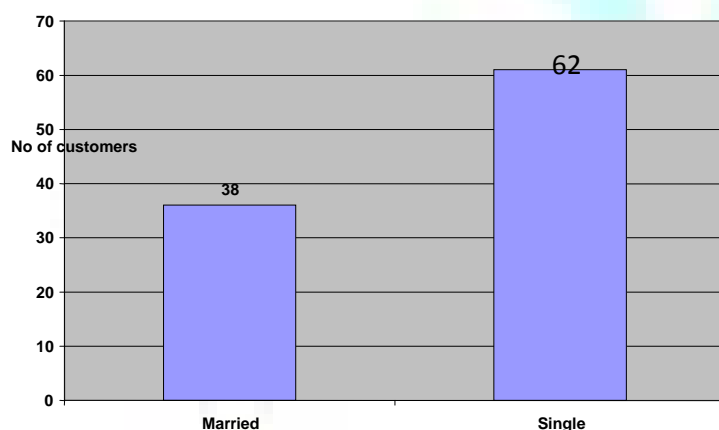
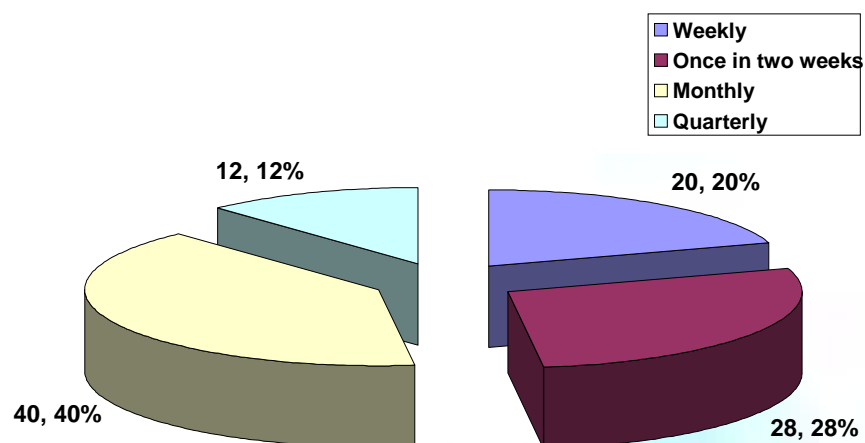


Figure 4 shows that 38 percent are married people and remaining 62 percent are single in status.

FREQUENCY OF BANK VISIT

The frequency with which the customers visit banks is shown by Figure 5:

Figure 5 Frequency of bank visits

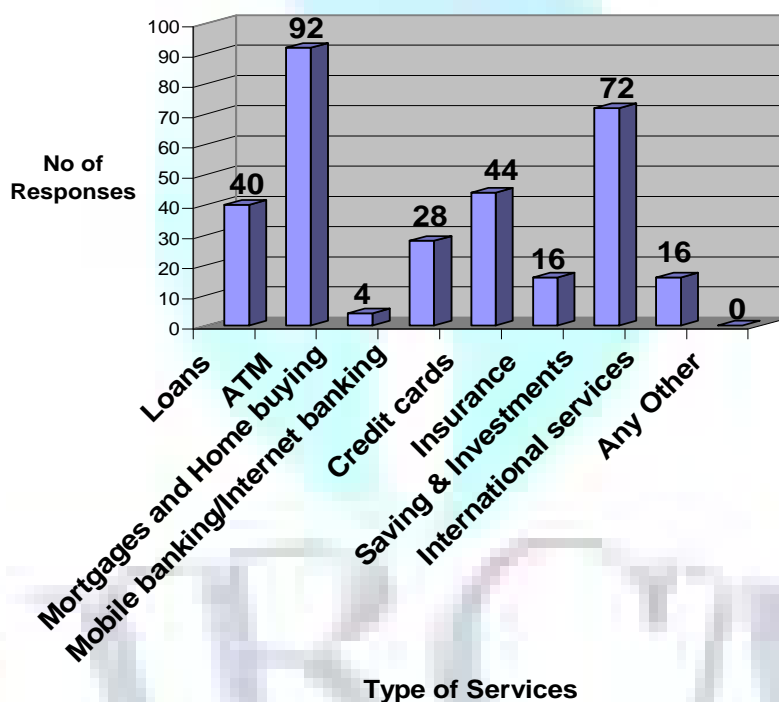


As per Figure 5, 40.40% of people visit their banks once in a month, where as 28% of customers belong to the category where they visit their bank once in 2 weeks followed by 20% which go weekly and 12% of customer go quarterly.

SERVICE PORTFOLIOS

FIGURE: 6

Services availed by the Customers



As per Figure 6, 92% of people avail the facility of ATM's and savings and investment facility is used by 72% of customers followed by credit card facility used by 28% of customers. The most common service that the customers use is the ATM followed by saving and investments implying the saving or current accounts facilities. These are followed by credit cards and loans of various kinds. Mobile banking and internet banking come at the fifth position on the most utilized list of services.

GAP ANALYSIS

Gap analysis aims at providing the difference between what a customer perceives as important and what he actually receives from the service organization. In this study gap analysis is conducted to measure the difference between perception and satisfaction. If a customer's satisfaction is more than what he actually perceived then we can say that the gap is positive. But if satisfaction is less than the perception, then this gap is negative, which means that the bank was not able to satisfy the customer with its services.

To conduct gap analysis we need to convert perception variables into some meaningful factors so as to analyze the gap between the perception and expectation. Therefore, we have clubbed 22 variables into 5 factors as shown in Table 1 and then we have tried to analyze the customer perception by comparing the cumulative mean and standard deviation of all the factors.

TABLE 1: THE COMBINATION OF FACTORS SUBJECTIVE TO THE RESEARCHER

Factors	Variables
Reliability	1,3,4,10
Responsiveness	6,7,12,15
Human Element	2,8,9,11,16,22
Systemization	5,17,18,19,20
Accessibility	13,14,21

TABLE 2: CUMULATIVE MEAN AND STANDARD DEVIATION OF DIFFERENT FACTORS OF ALL BANKS

Factors	Variables	Mean	Standard Deviation	Cumulative Mean	Cumulative Standard Deviation
F1	VAR00001	6.68	0.89	6.68	0.89
Reliability	VAR00003	6.52	0.76	13.20	1.64
	VAR00004	6.56	0.76	19.76	2.40
	VAR00010	6.72	0.60	26.48	3.01
F2	VAR00006	6.32	0.97	6.32	0.97
Responsiveness	VAR00007	6.52	0.70	12.84	1.68
	VAR00012	6.44	0.70	19.28	2.38
	VAR00015	6.36	0.75	25.64	3.12
F3	VAR00002	6.40	0.75	6.40	0.75
Human Element	VAR00008	6.40	0.98	12.80	1.74
	VAR00009	6.20	1.02	19.00	2.76
	VAR00011	6.44	0.50	25.44	3.26
	VAR00016	6.24	0.71	31.68	3.97
	VAR00022	5.80	1.30	37.48	5.28
F4	VAR00005	5.80	1.30	5.80	1.30
Systemization	VAR00017	6.56	0.64	12.36	1.94
	VAR00018	6.24	0.77	18.60	2.71
	VAR00019	6.36	0.80	24.96	3.51
	VAR00020	5.96	1.22	30.92	4.73
F5	VAR00013	6.56	0.64	6.56	0.64
Accessibility	VAR00014	6.44	0.64	13.00	1.28
	VAR00021	6.72	0.60	19.72	1.89

TABLE 3: CUMULATIVE MEAN AND STANDARD DEVIATION OF DIFFERENT FACTORS OF INTERACTIVE BANKS

Factors	Variables	Mean	Standard Deviation	Cumulative Mean	Cumulative Standard Deviation
F1	VAR00001	4.74	1.39	4.74	1.39
Reliability	VAR00003	4.60	1.53	9.34	2.92
	VAR00004	4.60	1.53	13.94	4.45
	VAR00010	4.81	1.90	18.74	6.34
F2	VAR00006	4.00	1.56	4.00	1.56
Responsiveness	VAR00007	4.40	1.21	8.40	2.77
	VAR00012	3.87	1.74	12.28	4.51
	VAR00015	4.38	1.65	16.66	6.16
F3	VAR00002	3.91	1.21	3.91	1.21
Human Element	VAR00008	4.43	1.35	8.34	2.56
	VAR00009	4.36	1.19	12.70	3.75
	VAR00011	4.64	1.98	17.34	5.73
	VAR00016	4.13	1.50	21.47	7.23
	VAR00022	3.70	1.82	25.17	9.05
F4	VAR00005	4.34	1.68	4.34	1.68
Systemization	VAR00017	4.13	1.76	8.47	3.45
	VAR00018	3.55	1.94	12.02	5.39
	VAR00019	4.21	1.78	16.23	7.17
	VAR00020	4.21	1.46	20.45	8.63
F5	VAR00013	4.30	2.06	4.30	2.06
Accessibility	VAR00014	4.15	2.05	8.45	4.12
	VAR00021	4.98	1.44	13.43	5.55

TABLE 4: CUMULATIVE MEAN AND STANDARD DEVIATION OF DIFFERENT FACTORS OF CONVENTIONAL BANKS

Factors	Variables	Mean	Standard Deviation	Cumulative Mean	Cumulative Standard Deviation
F1	VAR00001	4.47	1.45	4.47	1.45
Reliability	VAR00003	4.53	1.83	9.00	3.27
	VAR00004	4.53	1.55	13.53	4.83
	VAR00010	5.47	1.78	19.00	6.61
F2	VAR00006	4.38	1.73	4.38	1.73
Responsiveness	VAR00007	5.15	1.46	9.53	3.19
	VAR00012	4.64	1.72	14.17	4.92
	VAR00015	4.57	1.73	18.74	6.64
F3	VAR00002	4.15	1.61	4.15	1.61
Human Element	VAR00008	4.45	1.74	8.60	3.35
	VAR00009	4.28	1.86	12.89	5.21
	VAR00011	5.09	1.80	17.98	7.01
	VAR00016	4.87	1.78	22.85	8.79
	VAR00022	4.42	4.42	27.26	13.20
F4	VAR00005	3.62	1.55	3.62	1.55
Systemization	VAR00017	5.25	1.87	8.87	3.42
	VAR00018	5.08	1.41	13.94	4.83
	VAR00019	5.17	1.68	19.11	6.51
	VAR00020	4.42	1.90	23.53	8.41
F5	VAR00013	5.32	1.61	5.32	1.61
Accessibility	VAR00014	4.77	2.14	10.09	3.75
	VAR00021	5.47	1.83	15.57	5.58

TABLE 5: COMPARATIVE SCORES OF ALL FACTORS – IMPORTANCE VS PERCEPTION

Factors		Importance-All Banks		Performance -Conventional Banks		Performance -Interactive Banks	
		Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
F1	Reliability	26.48	3.01	18.74	6.34	19.00	6.61
F2	Responsiveness	25.64	3.12	16.66	6.16	18.74	6.64
F3	Human Element	37.48	5.28	25.17	9.05	27.26	13.20
F4	Systemization	30.92	4.73	20.45	8.63	23.53	8.41
F5	Accessibility	19.72	1.89	13.43	5.55	15.57	5.58

TABLE 6: GAP BETWEEN IMPORTANCE AND PERFORMANCE OF CONVENTIONAL BANKS

Factors		Expected	Gap
F1	Reliability	26.48	7.74
F2	Responsiveness	25.64	8.98
F3	Human Element	37.48	12.31
F4	Systemization	30.92	10.47
F5	Accessibility	19.72	6.29

It has been seen from Table 6 that the most important factor due to which conventional banks lag behind is human element. Next factor to emerge is lack of systemization or technology advancement which is responsible for bad performance. Reliability, responsiveness and accessibility are the other equally responsible factors which create a service gap.

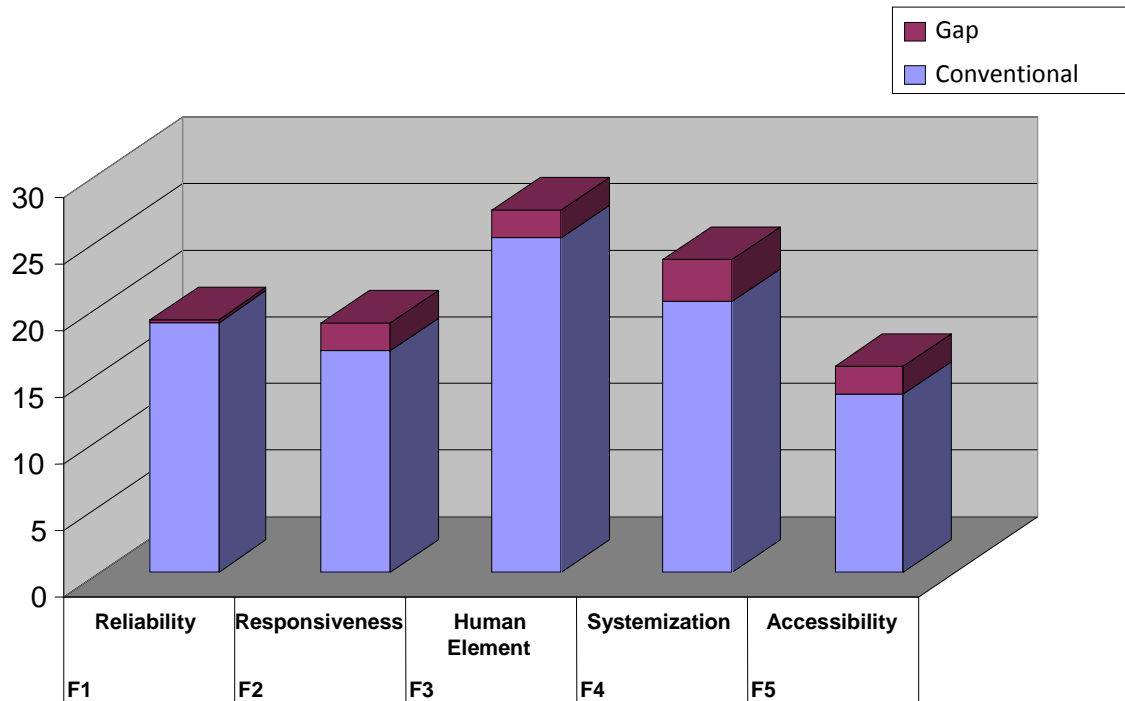
TABLE 7: GAP BETWEEN IMPORTANCE AND PERFORMANCE OF INTERACTIVE BANKS

Factors		Expected	Gap
F1	Reliability	26.48	7.48
F2	Responsiveness	25.64	6.90
F3	Human Element	37.48	10.22
F4	Systemization	30.92	7.39
F5	Accessibility	19.72	4.15

Table 7 shows that after human element, reliability is the most important factor which emerges among the interactive banks which lead to service gap. Systemization and responsiveness come at third and fourth place as the most important factors. Accessibility is one factor at which these banks are not behind.

TABLE 8: PERFORMANCE GAP BETWEEN INTERACTIVE AND CONVENTIONAL BANKS

Factors		Expected - Conventional Bank	Expected -Interactive Bank	Gap
F1	Reliability	18.74	19	0.26
F2	Responsiveness	16.66	18.74	2.08
F3	Human Element	25.17	27.26	2.09
F4	Systemization	20.45	23.53	3.08
F5	Accessibility	13.43	15.57	2.14

Figure 7 Performance Gap between Conventional and Interactive Banks

The most important factor which leads to service gap among interactive banks and conventional banks are the systemization and standardization of the banks. This is followed by accessibility which implies interactive banks have customer friendly bank timings and the branches are located at more accessible places. Responsiveness and human element are equally responsible for the service gap. Reliability factor is not significantly responsible for the difference. It should also be noted that this is most important factor in terms of importance but comes last here. Hence, we can conclude that all customers deal with only those banks which they trust but there is still room for improvements.

CONCLUSIONS

The perceived quality of service tends to play an important role in high involvement industries like banking services. Reliability emerged as the most important factor in both interactive and conventional banks preference list of important factors affecting their choice of banks. In case of IT-enabled banks, human element came at the second position implying the employees of these new banks treat their customers with. These customers believed that their banks were more responsive to their needs and requests as responsiveness came at the third position. Accessibility came at fourth position. A new factor emerged here, tangibility, which implies these banks have better services cape and a good environment which also affects the customer decisions of choosing a bank. The customers of conventional banks believe that their transactions are safe in with banks. This is a new factor which was not present in case of interactive banks. This is followed by assurance which implies customers of these banks a lot of confidence in them. At fourth and fifth position we have human element and accessibility respectively.

Reliability is the most important factor which customers give importance while deciding the bank whose facilities they should avail. This is irrelevant of the fact whether it is a modern interactive bank or a conventional bank which the customer wants to approach. The next most important factor is accessibility to the bank. This implies whether the bank is closely located and has good bank timings. Accessibility is followed by human element at the third position. Human element implies employee's courtesy level, customer handling skills, knowledge about the product, etc. Systemization and responsiveness come at fourth and fifth positions.

After conducting gap analysis we can conclude that the most important factor leading to service gap is systemization or technological advancement among interactive and conventional banks. The next most important factor is accessibility to the bank. This implies whether the bank is closely located and has convenient banking timings. Customers tend to deal with banks which are closer to their home or work place. This is followed by the behaviour of the employees of the bank as human element and responsiveness came as the third and fourth most significant factors respectively.

REFERENCES

1. Angur M.G., Natarajan R. and Jahera J.S. Jr. (1999), "Service Quality in the Banking Industry: An Assessment in the Developing Economy", *International Journal of Bank Marketing*, Vol. 17, No.3, pp.116-23.
2. Buttle F. (1996), "SERVQUAL: Review, Critique, Research Agenda", *European Journal of Marketing*, Vol. 30, No.1, pp. 8-32.
3. Chowdhari, R.S. (2005), "Service Quality Perceptions in Financial Services – A Case Study Of Banking Services", *Journal of Marketing*, Vol. 4, No. 2, pp. 45-57.
4. Debasish, and Sathya Swaroop. (2004), "Exploring Customer Preference for Life Insurance in India – Factor Analysis Method", *Vilakshan – XIMB Journal of Management*, Vol. 1, No. 1, pp. 7-15.
5. "India's Best Banks 2004", *Business Today*, January, 2005.
6. "Indian Banking: Time for a Renewal", *Business Today*, November, 1998.
7. Parasuraman A., Zeithaml V.A. and Berry, L.L. (1985), "A Conceptual Model of Service Quality and its Implications for Future Research", *Journal of Marketing*, Vol. 49, No.4, pp.41-50.
8. Parasuraman A., Zeithaml V.A. and Berry, L.L. (1994), "Reassessment of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Further Research", *Journal of Marketing*, Vol. 58, No. 1, pp. 111-24.
9. Rust R.T. and Oliver R.L. (1995), *Service Quality: Insights and Managerial Implications from the Frontier*, Edited by Rust R.T., and Oliver R.L. (Eds), Service Quality: New Directions in Theory and Practice, Sage Publications, London, pp.1-20.
10. Russel I. Parera, Manoj Kumar Vijai and Mahesh, S. (2005), "The 3 C Effect", *Business Today*, January, pp. 20-23.

A STUDY ON THE ORGANISATIONAL CLIMATE WITH SPECIAL REFERENCE TO THE EMPLOYEES OF SALALAH COLLEGE OF TECHNOLOGY

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ABSTRACT

Organizational climate has direct bearing on employees' satisfaction. The satisfaction of employees with organizational climate enhances positive organizational results which includes efficiency, productivity, organizational commitment and cohesiveness of co-workers while it reduces negative outcomes which also consist of turnover, deviant behavior at work and absenteeism. This research works conducted to measure the satisfaction of employees with organizational climate in educational institution. The report on organizational climate is forward planner of better performance. This study with respect to the employees of Salalah College of Technology analysis and identifies areas of employee satisfaction and dissatisfaction to facilitate management in the creation of greater workplace harmony and, therefore, increased performance.

KEYWORDS

Organizational climate, Employee's satisfaction, Organizational design, work relations and work environment.

INTRODUCTION



Organizational climate is referred as habitual logical form of behavior, attitudes and feelings that characterize life in the organization. The study on the satisfaction of organizational climate with job satisfaction is important because of its effect on productivity and success of the company. The positive climate of the organization has positive relationship with job satisfaction while negative relationship with turnover and absenteeism. The organizations create positive organizational climate to retain employees by enhancing their morale and job satisfaction. The organizational climate of an organization is like an individual's personality, that everyone has unique personality traits. It is found that a significant relationship exists between organizational climate and job satisfaction. The supportiveness of organizational climate has positive relationship with job satisfaction, commitment with the organization and performance at work.

NEED AND IMPORTANCE OF THE STUDY

An issue in research on organization climate is the extent to which the climate reflects the personality of the organization members. The purpose of this study is to explore the overall relationship of a person characteristic to climate and to explore ways in which personal factors relate to specific climate dimensions. Organisation climate is an important concept because it is an influence on the behavior of organizational members. It has been linked to outcome which measures job satisfaction and effective performance. Climate is measured as an aggregation of the perception of organization members. The satisfaction of employees with organizational climate enhances positive organizational outcomes which includes efficiency, productivity, organizational commitment and cohesiveness of coworkers while it reduces negative outcomes which also consist of turnover, deviant behavior at work, absenteeism. This study is conducted to measure the satisfaction of employees with organizational climate in educational institution.

RESEARCH METHODOLOGY

The present study has adopted analytical methodology. As the study is based on organizational climate, the measurement with respect to various factors is considered for the research. The questionnaire has been designed to obtain the primary data from the employees of Salalah College of Technology. The study has adopted well known branch of multivariate techniques of factor analysis using SPSS 12 package in order to get interpretable solutions clearly. The study has been carried out by using factor analysis by principal component method to identify the factors of organizational climate and one sample t-test to identify nature of responses of employees about various factors of organizational climate.

LIMITATIONS OF THE STUDY

The present study is restricted to the employees of Salalah College of Technology, one of the technical colleges in Sultanate of Oman. The college aims high to train Oman youth through quality education. The findings of the study are completely based on the facts collected from the respondents along with their views.

DATA ANALYSIS**FACTORS OF ORGANIZATIONAL DESIGN OF EMPLOYEES OF SALALAH COLLEGE OF TECHNOLOGY****TABLE NO.1 (A): KMO AND BARTLETT'S TEST ON THE FACTORS OF ORGANISATIONAL DESIGN**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.579
Bartlett's Test of Sphericity	Approx. Chi-Square
	Df
	Sig.
	174.845
	6
	.000

Source: Computed Data

From the above table it is found that KMO measures of sampling adequacy is .579 chi-square value for Bartlett's test of sphericity is 174.845 and satisfying significant at 5% level. This shows that the sample size is adequate in explaining the variable of organizational design. The normal distributions formed through the samples possess acceptable mean values and standard deviation to reduce the number of variables into predominant factors. Each variable and its variances are expressed in the following communality table. The variance range from .704 to .807 regulating for the 4 variables of organizational design. It is found that the variances are enormously found.

TABLE NO.1 (B): COMMUNALITIES ON THE FACTORS OF ORGANISATIONAL DESIGN

	Initial	Extraction
Goals and objectives are clear	1.000	.757
understanding of roles and responsibilities	1.000	.704
Establishment of clear reporting structure	1.000	.807
Right skills to perform their job functions	1.000	.804

Extraction Method: Principal Component Analysis

Source: Computed Data

This shows that the employees of Salalah college of Technology express very large range of opinions for the establishment of clear reporting structure and right skills to perform their job functions. They also had a range of opinions on goals and objectives which are very much clear and understanding of roles and responsibilities. The data reduced and their individual variances are presented in the following table.

TABLE NO.1 (C): TOTAL VARIANCE EXPLAINED ON THE FACTORS OF ORGANISATIONAL DESIGN

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.966	49.139	49.139	1.952	48.789	48.789
2	1.106	27.659	76.798	1.120	28.009	76.798
3	.626	15.645	92.443			
4	.302	7.557	100.000			

Extraction Method: Principal Component Analysis

Source: Computed Data

From the above table it is found that the two major factors are substituted out of four variables with total variance 76.798. The factors individually possess the variance 48.789% and 28.009% respectively. Since the total variance is above 50%, it can be noted that the data reduced from four variables to 2 factors is systematic and critical in explaining the typical elements of Salalah college of Technology organizational design. The grouping of variables and the variable loading are presented in the following tables.

TABLE NO.1 (D): ROTATED COMPONENT MATRIX (A) ON THE FACTORS OF ORGANISATIONAL DESIGN

	Component	
	1	2
Establishment of clear reporting structure	.895	
Goals and objectives are clear	.834	
understanding of roles and responsibilities	.642	
Right skills to perform their job functions		.872

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. A Rotation converged in 3 iterations.

Source: Computed Data

From the above table it is found that the 1st factor consist of 3 variables viz., Establishment of clear reporting structure (.895), Goals and objectives are clear (.834) and understanding of roles and responsibilities(.642) Therefore the first factor is called as "**Regulative Structure**". The 2nd factor comprises of Right skills to perform their job functions, hence the second factor is known as "**Skilled Performance**". The organizational design among the employees of Salalah College of Technology reviewed that rules and regulations are properly regulated on the basis of skills and the performance of the efficient employees.

FACTORS OF WORK RELATIONS OF EMPLOYEES OF SALALAH COLLEGE OF TECHNOLOGY**TABLE NO.2 (A): KMO AND BARTLETT'S TEST ON THE FACTORS OF WORK RELATIONS**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.593
Bartlett's Test of Sphericity	Approx. Chi-Square
	Df
	Sig.
	94.386
	6
	.000

Source: Computed Data

From the above table it is found that KMO measures of sampling adequacy is .593 chi-square value for Bartlett's test of sphericity is 94.386 and satisfying significant at 5% level. This shows that the sample size is adequate in explaining the variable of work relations. The normal distribution formed through the samples possesses acceptable mean values and standard deviation to reduce the number of variables into predominant factors. Each variable and its variances are expressed in the following communality table. The variance range from .609 to .785 regulating for the 4 variables of work relations. It is found that the variances are enormously found.

TABLE NO.2 (B): COMMUNALITIES ON THE FACTORS OF WORK RELATIONS

	Initial	Extraction
Impact valued by the peers	1.000	.609
Consultation with others for support	1.000	.705
Individual Appreciation for personal contribution	1.000	.785
Peers suggestions in case of disagreement	1.000	.744

Extraction Method: Principal Component Analysis.

Source: Computed Data

This shows that the employees of Salalah college of Technology express very large range of opinions for the individual appreciation for personal contribution and peers suggestions in case of disagreement. They also had a range of opinions on consultation with others for support and impact valued by the peers. The data reduced and their individual variances are presented in the following table.

TABLE NO.2 (C): TOTAL VARIANCE EXPLAINED ON THE FACTORS OF WORK RELATIONS

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.795	44.865	44.865	1.463	36.571	36.571
2	1.048	26.189	71.054	1.379	34.483	71.054
3	.655	16.385	87.439			
4	.502	12.561	100.000			

Extraction Method: Principal Component Analysis.

Source: Computed Data

From the above table it is found that the two major factors are substituted out of four variables with total variance 71.054. The factors individually possess the variance 36.571% and 34.483% respectively. Since the total variance is above 50%, it can be noted that the data reduced from four variables to 2 factors is systematic and critical in explaining the typical elements of work related aspects of Salalah college of Technology. The grouping of variables and the variable loading are presented in the following tables.

TABLE NO.2 (D): ROTATED COMPONENT MATRIX(A) ON THE FACTORS OF WORK RELATIONS

	Component	
	1	2
Individual Appreciation for personal contribution	.882	
Consultation with others for support	.752	
Peers suggestions in case of disagreement		.858
Impact valued by the peers		.704

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. A. Rotation converged in 3 iterations.

Source: Computed Data

From the above table it is found that the 1st factor consist of 2 variables viz., individual appreciation for personal contribution (.882), and consultation with others for support (.752). Therefore the first factor is called as **"Supportive Appreciation"**. The 2nd factor comprises of peers suggestions in case of disagreement (.858), impact valued by the peers (.704), thus the second factor is known as **"Suggestive Peer ship"**. The work related aspects among the employees of Salalah College of Technology closely emphasized that the employees had supportive relationship among each other and the employees valued and suggested in the case of any disagreement in their work related matters.

FACTORS OF WORK ENVIRONMENT OF EMPLOYEES OF SALALAH COLLEGE OF TECHNOLOGY**TABLE NO.3 (A): KMO AND BARTLETT'S TEST ON THE FACTORS OF WORK ENVIRONMENT**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.588
Bartlett's Test of Sphericity	Approx. Chi-Square
	Df
	Sig.
	60.585
	10
	.000

Source: Computed Data

From the above table it is found that KMO measures of sampling adequacy is .588 chi-square value for Bartlett's test of sphericity is 60.585 and satisfying significant at 5% level. This shows that the sample size is adequate in explaining the variable of work environment. The normal distributions formed through the samples possess acceptable mean values and standard deviation to reduce the number of variables into predominant factors. Each variable and its variances are expressed in the following communality table. The variance range from .338 to .708 regulating for the 5 variables of organizational design. It is found that the variances are enormously found.

TABLE NO.3 (B): COMMUNALITIES ON THE FACTORS OF WORK ENVIRONMENT

	Initial	Extraction
Feel valued as an Employee	1.000	.676
Enjoy being a part of the college	1.000	.338
Good balance between work and personal life	1.000	.338
High Morale in the college	1.000	.708
Employee speak highly about the college	1.000	.622

Extraction Method: Principal Component Analysis.

Source: Computed Data

This shows that the employees of Salalah college of Technology express very large range of opinions for the high morale in the college, feel valued as an employee and employee speak highly about the college. They have only considerable opinion of balancing between work and personal life. The data reduced and their individual variances are presented in the following table.

TABLE NO.3 (C): TOTAL VARIANCE EXPLAINED ON THE FACTORS OF WORK ENVIRONMENT

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.659	33.188	33.188	1.542	30.849	30.849
2	1.024	20.479	53.667	1.141	22.818	53.667
3	.948	18.954	72.621			
4	.795	15.904	88.525			
5	.574	11.475	100.000			

Extraction Method: Principal Component Analysis.

Source: Computed Data

From the above table it is found that the two major factors are substituted out of five variables with total variance 53.667. The factors individually possess the variance 30.849% and 22.818% respectively. Since the total variance is above 50%, it can be noted that the data reduced from four variables to 2 factors is systematic and critical in explaining the typical elements of work environment in Salalah college of Technology. The grouping of variables and the variable loading are presented in the following tables.

TABLE NO.3 (D): ROTATED COMPONENT MATRIX(A) ON THE FACTORS OF WORK ENVIRONMENT

	Component	
	1	2
Feel valued as an Employee	.818	
Employee speak highly about the college	.780	
Enjoy being a part of the college	.502	
High Morale in the college		.842
Good balance between work and personal life		.570

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. A Rotation converged in 3 iterations.

Source: Computed Data

From the above table it is found that the 1st factor consist of 3 variables viz., feel valued as an employee (.818), employee speak highly about the college (.780) and enjoy being a part of the college (.502). Therefore the first factor is called as "**Reputational Value**". The 2nd factor comprises of high morale in the college (.842) and good balance between work and personal life (.570), the second factor is known as "**Balanced Work environment**". The work environment among the employees of Salalah College of Technology impressed that the employees are valued more in their employment as individuals concerned widely in the development of the community in general and personalities who enables to balance the work and personal life.

T-TEST: ORGANISATIONAL CLIMATE OF EMPLOYEES OF SALALAH COLLEGE OF TECHNOLOGY MANAGEMENT

Table No.4

Variables	Mean	Std. Deviation	Std. Error Mean	T	Sig. (2-tailed)
Management sets high standards of excellence	2.76	1.028	.073	-3.300	.000
Goals and objectives are clear	1.85	.813	.057	-20.007	.000
Trust information received from superiors	2.37	.875	.062	-10.263	.000
Believe superiors appreciate the work	1.53	.657	.046	-31.657	.000

Source: Computed Data

From the table 1.4 it is found that the mean values of 4 statements are 2.76, 1.85, 2.37 and 1.53 significantly. The standard deviation also ranges from .657 to 1.028 for all the 4 statements respectively. From the one sample test table it is found that the t-values are -3.300, -20.007, -10.263 and -31.657 statistically significant at 5% level with respect to the test value 3.

COMMUNICATION

TABLE NO.5

Variables	Mean	Std. Deviation	Std. Error Mean	T	Sig. (2-tailed)
Establishment of clear reporting structure	1.90	.967	.068	-16.091	.000
Clear on the work to support the Institution	1.64	.710	.050	-27.183	.000
Consultation with others for support	2.08	.937	.066	-13.885	.000
Interpersonal commun contribute to goals	1.95	.957	.068	-15.584	.000

Source: Computed Data

From the table 1.5 it is found that the mean values of 4 statements are 1.90, 1.64, 2.08 and 1.95 significantly. The standard deviation also ranges from .710 to .967 for all the 4 statements respectively. From the one sample test table it is found that the t-values are -16.091, -27.183, -13.885 and -15.584 statistically significant at 5% level with respect to the test value 3.

TECHNOLOGY

TABLE NO.6

Variables	Mean	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)
Adequate technology to perform work	1.85	.813	.057	-20.007	.000
Technology helps to get job done	2.24	1.072	.076	-10.031	.000
Tools and Technology helps for efficient work	1.84	.943	.067	-17.400	.000
Technology is reliable to work	2.26	1.130	.080	-9.326	.000

Source: Computed Data

From the table 1.6 it is found that the mean values of 4 statements are 1.85, 2.24, 1.84 and 2.26 significantly. The standard deviation also ranges from .813 to 1.130 for all the 4 statements respectively. From the one sample test table it is found that the t-values are -20.007, -10.031, -17.400 and -9.326 statistically significant at 5% level with respect to the test value 3.

JOB SATISFACTION

TABLE NO.7

Variables	Mean	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)
Understand needs of society in general	1.73	.788	.056	-22.806	.000
Focused on delivery of high quality of work	1.44	.662	.047	-33.443	.000
Meeting students and community expectations	1.70	.724	.051	-25.481	.000
Students and community accepts our great job	1.67	.660	.047	-28.627	.000

Source: Computed Data

From the table 1.7 it is found that the mean values of 4 statements are 1.73, 1.44, 1.70 and 1.67 significantly. The standard deviation also ranges from .660 to .788 for all the 4 statements respectively. From the one sample test table it is found that the t-values are -22.806, -33.443, -25.481 and -28.627 statistically significant at 5% level with respect to the test value 3.

FINDINGS

FACTOR ANALYSIS

The factor analysis revealed the Organisational Design of Employees of Salalah College of Technology has been emerged in the form of Regulative Structure and Skilled Performance. They perceived that the high quality of service could be rendered through proper regulations of the institution. They also believed that the efficiency of the employees plays in a vital part in accomplishing the goals of the college.

It is found that the employees of the Salalah college of Technology on the work relations expressed Supportive Appreciation and Suggestive peer ship. The employees in the organization felt that each other formed supportive relationship which helps to smooth environment in achieving the organizational objectives. They also believed that peers could ease the disagreement at the time of confusion and inconsistent matters.

On analysis it is assessed that the employees are highly satisfied with reputational value and balanced work environment in Salalah College of Technology. The employees in general, felt valued highly as an employee of the institution and they in turn speak high about the college and its work environment. It also made everyone to feel enjoyable to be part of the College in providing educational services to uplift the Omani community.

ONE SAMPLE T-TEST

It is determined that the employees disagree that the management sets high standards of excellence and trust on information received from superior. They also strongly disagree that the goals and objectives are clear and believe superiors appreciate the work.

It is identified that the employees disagree that the consultation with others for support and interpersonal communication contribute to goals. They also strongly disagree that the establishment of clear reporting structure and clear on the work to support the institution.

It is inferred that the employees disagree that the technology is reliable to work and it helps to get job done. They also strongly disagree that the adequate technology to perform work and tools and technology helps for efficient work.

It is seen that the employees strongly disagree that the understand needs of society in general, meeting students and community expectations. They also strongly disagree that the students and community accepts the great job of employee and focused on delivery of high quality of work.

SUGGESTIONS

The emergence of the Organisational Climate accelerates the innovative capabilities of the employees. The objective of the educational institutions depends on discharge of greater quality of work on the basis of vision and mission. The management should also incorporate new mechanism like stress management, to increase the organizational efficiency. They also must be ready to imbibe the qualities to materialise the policy enforcement of their organization. The learning programs in educational institution are the indispensable tool to upgrade the employees through organizational climate and performance. The educational Institution should spend more time to improve the employee participation and learning programs both theoretically and practically. Organisational objectives can be achieved with the proper communication system. Interpersonal communication and relationship contributes to the achievement of the organizational goals. Each employee has to exchange their ideas which they are able to perform in the overall organizational functions. Each activity of the employee should be encouraged and appreciated which works as the one of the motivational factors in any Educational Institution. The management should conduct workshops to set high standard of excellence in accomplishing activities to reach quality of work. Educational Institution should characterize the value such as treating employees as the most important resource, believing in the capability of employees, communicating openly, promoting trust, supportive personal policies and development of overall co-operation in achieving the goals. The service community should understand the specific needs of the student, their parents and community in general. The educational institution always should meet the expectations of the community.

CONCLUSION

It is concluded that organizational climate of the employees of Salalah College of Technology plays in a vital role in judging dynamic approaches of the educational system of the country in Oman as the factor impeding their developments. In this study entitled "A Study on the Organisational Climate with special reference to the Employees of Salalah College of Technology", the researcher identified certain points to be accelerated. These functions play as a catalyst for socio-economic development of a country in general. The study analyses everything from an employee's workload to their relationships with co workers and superiors. A climate survey was conducted on the basis of employee's perceptions and perspectives of an organization. The study would definitely help to increase performance and also ensures to improve quality of work life. It also facilitates to identify the areas of inefficiency in all the levels of the organization and to render required solutions to overcome the problems identified. Conclusions are drawn from the data and recommendations are made to the management team. It would set benchmark for future generations which may allow for more in-depth research.

QUESTIONNAIRE

A STUDY ON THE ORGANISATIONAL CLIMATE WITH SPECIAL REFERENCE TO THE EMPLOYEES OF SALALAH COLLEGE OF TECHNOLOGY

I. QUESTIONS RELATING TO PERSONAL INFORMATION OF THE RESPONDENTS

- | | | | |
|-------------------------------|---|-------------------------|------------|
| 1.1 Name (Optional) | : | | |
| 1.2 Locality (Optional) | : | | |
| 1.3 Gender | : | Male () | Female () |
| 1.4 Age | : | Below 30 years () | |
| | | 31years to 40 years () | |
| | | 41years to 50 years () | |
| | | Above 50 years () | |
| 1.5 Educational Qualification | : | Diploma () | |
| | | Higher Diploma () | |
| | | Graduate () | |
| | | Post Graduate () | |
| | | Others () | |
| 1.6 Monthly Income | : | below RO 750 () | |
| | | RO 751 - 1250 () | |
| | | Above RO 1250 () | |
| 1.7 Marital Status | : | Married () | |
| | | Unmarried () | |
| 1.8 Designation | : | Teaching staff () | |
| | | Non Teaching staff () | |
| 1.9 No of years of Experience | : | below 2 years () | |
| | | 2-5 years () | |

5-10 years ()
Above 10 years ()

II. QUESTIONS RELATING TO THE ORGANISATIONAL DESIGN

Please mark the suitable scale against each statement.

SA-Strongly agree. A-Agree. N-Neither agree nor disagree. DA-Disagree, SDA-Strongly disagree.

S.no	Description	SA	A	N	DA	SDA
2.1	Goals and objectives of the college are clear to me					
2.2	Roles and responsibilities are understood					
2.3	Clear reporting structure have been established					
2.4	Employees have right skills to perform their job functions					

III. QUESTIONS RELATING TO THE WORK RELATIONS

S.no	Description	SA	A	N	DA	SDA
3.1	I feel my impact is valued by my peers					
3.2	Employees consult each other when they need support					
3.3	Individual appreciate the personal contribution of the peers					
3.4	In case of disagreement peers suggests promptly in order to resolve them					

IV. QUESTIONS RELATING TO THE WORK ENVIRONMENT

S.no	Description	SA	A	N	DA	SDA
4.1	I feel valued as an employee of this college					
4.2	I enjoy being a part of the college					
4.3	Employees have a good balance between work and personal life					
4.4	Morale is high across the college					
4.5	Employees speak highly about this college					

V. QUESTIONS RELATING TO MANAGEMENT

S.no	Description	SA	A	N	DA	SDA
5.1	Management sets high standard of excellence					
5.2	Management treats employees fairly					
5.3	I trust the information I receive from my superiors					
5.4	I believe superiors appreciate the work I do					

VI. QUESTIONS RELATING TO COMMUNICATION

S.no	Description	SA	A	N	DA	SDA
6.1	I receive the information I need to perform my job well					
6.2	I am clear on how my work supports the department's overall objectives					
6.3	When I need help, I can ask others in my department for suggestions or ideas					
6.4	Interpersonal communication and relationship contribute to organizational goals					

VII. QUESTIONS RELATING TO TECHNOLOGY

S.no	Description	SA	A	N	DA	SDA
7.1	My department has adequate technology to perform work					
7.2	The technology we use helps me to get my job done					
7.3	The tools and technologies that I use helps me to be efficient in completing my work					
7.4	The technology is reliable and works when we need to work					

VIII. QUESTIONS RELATING TO JOB SATISFACTION

S.no	Description	SA	A	N	DA	SDA
8.1	We understand the specific needs of students, parents and community in general					
8.2	We are focused on delivering high quality of service					
8.3	Our service meets the students and community expectation					
8.5	Students and community regularly tells us that we are doing a great job					

REFERENCES

- Aarons, G. A and Sawitzky A. C, Organizational culture and climate and mental health provider attitudes toward evidence-based practice. Psychological Services, 2006 1, Pp.61-62.
- Al-Shammari, An analysis of the organizational climate and effectiveness in Jordanian industrial companies.1994, Pp.43-45.
- Argyris, C, Some problems in conceptualizing organizational climate: A case study of a bank.Administrative Science Quarterly, 1957, Pp.501.
- Dension, what is the difference between organizational culture and organizational climate? A native's point of view on a decade of paradigm wars, Academy of Management Review, 1990, Vol 21(3), Pp.619.
- Gordon and Ditomaso, Predicting Corporate performance from organizational climate, Journal of Management studies, 1992, Vol 29(6), Pp.783.
- Jackosky, E & Slocum J, a longitudinal study of climates. Journal of Organizational Behaviour. 1988, Pp.319.
- James, L, & Jones A, Organizational Climate: A review of theory and research. Psychological Bulletin, 12, 2007, Pp.1096.
- Jones, A, & James L, Psychological climate: Dimensions and relationships of individual and aggregated work environment perception. Organizational Behaviour and Human Performance, 23, 1999, Pp.201.
- Muchinsky P, Organizational communication: Relationship to organizational Climate and job satisfaction. Academy of Management Journal 2007, Pp.607.
- Qualls, W & Puto C, Organizational climate and decision framing. Journal of Marketing Research, 1989, Pp.179.
- Rajpal, Role of HRD to improve efficiency and effectiveness of organizational climate. A view from Hewlett Packard, HRD in the new economic environment, Tata McGraw Hill Company Limited, 1994.
- Udai Pareek, Introducing organizational effectiveness in Industries, Human Resource Development in Industries, New Delhi, Oxford IBH Publishing Co. Pvt Limited, 1988, Pp.156.

BACKGROUND OF IMF & IMPACT OF FINANCIAL CRISIS IN ARGENTINA

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ABSTRACT

The crisis unfolded against the backdrop of several decades of outstanding economic performance in Asia, and the difficulties that the East Asian and western countries face are not primarily the result of macroeconomic imbalances. Rather, they stemmed from weaknesses in financial systems and, to a lesser extent, governance. But the greater challenge lies beyond the mere definition of standards in the process of implementation. Countries need new laws, new institutions, and strong professionals to adopt and apply the new standards. And the international community needs mechanisms to make the standards operational and to monitor progress. The IMF, which has been given a universal mandate for surveillance, will have here a critical role a daunting task indeed for which it will need to avail itself of the support of the variety of other bodies with more practical experience in different areas. [CRS Report for Congress, Martin A. Weiss updated October 30, 2008].

KEYWORDS

International Monetary Fund (IMF), International currency exchanges, Foreign Exchange rates, Economic growth, financial system

INTRODUCTION

International Monetary Fund

The International Monetary Fund [IMF] with its headquarter in Washington D.C. was founded in 1944 as result of the Bretton Woods conference in New Hampshire, United States. The target of the 45 participating governments was providing a framework for international economic cooperation. [IMF, 2006].

The IMF was created to support orderly international currency exchanges and to help nations having balance of payment problems through short term loans of cash. [Stewarts, 2009].

With affixing the signature of the first 29 countries to its Articles of Agreement, the IMF took up its tasks in December 1945 [IMF, 2006].

IMF introduced new international reserve assets The Special Drawing Right (SDR) in 1969 to support the Bretton Woods fixed exchange rate system. A country participating in this system needed official reserves government or central bank holdings of gold and widely accepted foreign currencies that could be used to purchase the domestic currency in world foreign exchange markets, as required maintaining its exchange rate. But the international supply of two key reserve assets gold and the U.S.dollar proved inadequate for supporting the expansion of world trade and financial development that was taking place.

However, only a few years later, the Bretton Woods system collapsed and the major currencies shifted to a floating exchange rate regime. In addition, the growth in international capital markets facilitated borrowing by creditworthy governments. Both of these developments lessened the need for SDRs.

Today, the SDR has only limited use as a reserve asset, and its main function is to serve as the unit of account of the IMF and some other international organizations. The SDR is neither a currency, nor a claim on the IMF. Rather, it is a potential claim on the freely usable currencies of IMF members.

The value of the SDR was initially defined as equivalent to 0.888671 grams of fine gold which, at the time, was also equivalent to one U.S. dollar. After the collapse of the Bretton Woods system, however, the SDR was redefined as a basket of currencies, today consisting of the euro, Japanese yen, pound sterling, and U.S. dollar. [IMF, 2008b].

Each IMF member has to deposit a certain quota of SDRs, related to the relative size of the country in the world economy. This quota defines the voting power of the member. Total quotas, which provide the main financial resource for the IMF, are at the moment at about SDR 216.75 billion [IMF, 2008e], with the USA holding the largest part of about 17 percent of the stock [IMF, 2008g].

Currently 185 countries are members of the IMF [IMF, 2008h]. There is a strong variation in the volume of loans the IMF has granted since its formation. In the 1970s the oil shocks, in the 1980s the debt crisis and in the 1990s the crises in emerging market economies led to a boost in demand for IMF loans. Those loans have largely been repaid. At the end of March 2008 only \$16.1 billion of the \$209.5 billion funds loanable were outstanding [IMF, 2008c]. The income from interest charges is accordingly low at the moment.

Organization Mission

The mission of the IMF is to Achieve International Financial Stability and Cooperation. Keep sufficient cash reserves for each member nation to avoid financial crises due to currency instability and to Promote Economic Growth. Provide loan reserve assets to member nations that have financial or balance of payments problems and advise member nations on Macroeconomic policy issues such as interest rates and investment levels. [Stewarts, 2009].

Purpose

The purposes of the International Monetary Fund are to promote international monetary cooperation, facilitate the expansion of international trade for the sake of high levels of employment and real income, promote exchange-rate stability and avoid competitive depreciation, work for a multilateral system of current international payments and for elimination of exchange controls over current transactions, create confidence among member nations and give them the opportunity to correct balance of payments adjustments while avoiding measures destructive of national and international prosperity, and make balance of payments and disequilibrium's shorter. [IMF Leland B.Yeager].

Tasks of the IMF

The work of the IMF is based on three main types in order to stable the international financial system. (1) **Surveillance** involves the monitoring of economic and financial developments, and the provision of policy advice, aimed especially at crisis-prevention. (2) The main purpose of **Technical assistance**, is to helps the member countries to effectively manage their economic policies, strategies and financial affairs. (3) **Financial assistance** means to provide loan to countries with balance of payments difficulties to support measures against the crises. [IMF, 2008a].

Surveillance

In today's globalized economy, where the policies of one country may affect many other countries, international cooperation is essential. The IMF, with its nearly universal membership of 185 countries, facilitates this cooperation. The monitoring system of the IMF practices in two areas: The bilateral and the multilateral surveillance. In the bilateral surveillance the exchange rate policies of each individual member country are evaluated. The IMF advises on risks to stability and growth of the countries and analyses cross country spillovers. Through the central surveillance countries can profit from the experience of the other members [IMF, 2007]. Multilateral surveillance, on the other hand, refers to the surveillance of economic linkages between countries and international economic and market developments, including the global implications of policies pursued in individual countries. Within the scope of the world economy and the global consistency of exchange rates are monitored. Multilateral and Bilateral surveillance are closely linked concepts. Multilateral surveillance often draws on the country specific information obtained from bilateral surveillance. [IMF'S multilateral surveillance P. 5].

Technical Assistance

Technical assistance provided to emerging and industrialized economies in select cutting-edge areas helps provide traction to IMF policy advice, and keeps the institution up-to-date on innovations and risks to the international economy. With the technical assistance, the IMF supports its member countries to create country specific financial, structural, and macroeconomic policies and strong institutional and human resources. About 90 percent of the demand for technical assistance comes from low and lower-middle income countries. The IMF helps low-income countries expanding their participation in the global economy and establishing poverty and debt-reducing projects and growth programs. [IMF, 2008d].

Financial Assistance

IMF helps countries to stabilize their currencies, reconstruct their international reserves, and continue import-payments. A base for a stable economic growth is to be formed. According to the World Bank, the loans of the IMF are not targeted on specific projects. The interest rates for the loans are adapted from the SDR interest rates, with a surcharge on large loans. The maximum extent of the loan is generally a multiple of the quota the member has paid into the Fund. The IMF is a so-called "lender of last resort":

IMF loans are generally conditional on the adoption of appropriate policies to resolve a country's balance of payments difficulties and to establish adequate safeguards for the temporary use of IMF resources. Conditionality also provides the member with assurances on what is needed for the IMF to make its financial resources available. Through the conditionality the IMF tries to control that the money is really used by the country to resolve its economic troubles to be able to repay the loan according to the agreement. The measures the IMF sets prior to the credit approval, to make sure that there is a basis on which an effective program can be built on, are for instance abolishing price controls, adjusting exchange rates to a sustainable level, and adapting the government budget to the fiscal framework of the program. Conditions that have to be met for the approved amount of loan to be disbursed are e.g. the reduction of public debt, fortification of the financial systems, and the containment of inflation [IMF, 2008f].

Selected IMF Lending Facilities

- **Stand-By Arrangements:** Form the core of the IMF's lending policies. A Stand-By Arrangement provides assurance to a member country that it can draw up to a specified amount, usually over 12–18 months, to deal with a short-term balance of payments problem.
- **Extended Fund Facility:** The IMF support for members under the Extended Fund Facility (EFF) provides assurance that a member country can draw up to a specified amount, usually over three to four years, to help it tackle structural economic problems that are causing serious weaknesses in its balance of payments.
- **Supplemental Reserve Facility:** Provides additional short-term financing to member countries experiencing exceptional balance of payments difficulty because of a sudden and disruptive loss of market confidence reflected in capital outflows. The interest rate on SRF loans includes a surcharge over the IMF's usual lending rate.
- **Contingent Credit Lines:** Precautionary lines of defense enabling members pursuing strong economic policies to obtain IMF financing on a short-term basis when faced by a sudden and disruptive loss of market confidence because of contagion from difficulties in other countries.
- **Emergency Assistance:** Introduced in 1962 to help members cope with balance of payments problems arising from sudden and unforeseeable natural disasters, this form of assistance was extended in 1995 to cover certain situations in which members have emerged from military conflicts that have disrupted institutional and administrative capacity. [Selected IMF lending Facilities].
- **Trade Integration Mechanism:** Allows the IMF to provide loans under one of its facilities to a developing country whose balance of payments suffers because of multilateral trade liberalization, either because its export earnings decline when it loses preferential access to certain markets or because prices for food imports go up when agricultural subsidies are eliminated. [What is IMF SEP 30, 2006].

Core Elements

There are at least four core elements of conditionality that the U.S. and IMF should promote in the context of the current crisis.

- **Currency stabilization is critical.** The markets may have over-reacted to economic conditions in Asian countries with such extreme depreciation of currencies. The Asian economies are fundamentally sound, and with corrective policies they should rebound. The IMF's primary goal should be to stabilize currencies. Surely, agreement should be reached to avoid competitive devaluations that will further destabilize the international financial and trading systems.
- **The IMF must also seek vast improvements in the financial services sectors of countries using IMF Stand-By instruments.** The IMF should seek agreement from the affected countries to reform the laws and regulations governing their domestic financial institutions so that they meet generally accepted international standards. This would include laws to ensure adequate capital and reserves, adequate oversight, and standards for transparency.
- **The economies of these countries must be open.** The IMF must insist on economic reforms that open economies to both internal and external competition. Assisted countries must be open to competition, trade, investment, and capital flows domestically and internationally. Small domestic businesses and international companies must not be excluded from open market competition because of collusion among conglomerates, governments, and financing institutions.
- **Finally, existing creditors should be expected to bear an appropriate financial burden.** Public perception that IMF assistance will privatize creditors' profits and socialize their losses will erode public and Congressional support faster than anything else. And that is understandable. It simply does not appear fair or legitimate to use IMF resources to hold banks and investors harmless, or to shield them from the consequences of poor judgment in loans and investments. [Role of the United States and the IMF by John J. LaFalce January 27, 1998]

Growth in developed and developing countries decoupling or delayed coupling

With a recession already underway in the UK, Germany, France, the USA and other developed countries, it is quite startling to hear the Malawian finance minister argue that Malawi's economy is projected to grow by more than 8% this year. Yet this is today's stark reality. The USA is going through the greatest financial crisis since the 1930s, but, as the Financial Times has reported, Lagos is not Lehman. Nigeria, held back by decades of economic mismanagement, is growing at nearly 9%. Leaders in China suggest that they can help the world by offering growth rates of up to 10%, and many African countries still gain significantly from this (they are growing at 6-7%).

Growth performances vary substantially among developed and developing countries. African growth exceeds OECD growth by margins not seen for 25 years; East Asia's growth is diverging as much as it did during the last significant global economic downturn in the early 1990s (see Figure A).

The relationship between OECD GDP and Africa's GDP has weakened as a result of the emergence of countries such as China, as well as structural changes in African economies. According to the IMF World Economic Outlook report in April 2008, a decline in world growth of one percentage point would lead to a 0.5 percentage point drop in Africa's GDP, so the effects of global turmoil on Africa (via trade, FDI, aid) would be quite high. The correlation between African GDP and World GDP since 1980 is 0.5, but between 2000 and 2007, it was only 0.2. As there have been significant structural changes (and a move into services that

were able to withstand competition much better) as well as the rise of China, African growth has temporarily decoupled from OECD GDP. [Dirk Willem Te Velde, Oct 2008]

The Bailout Moral Hazard Problem

The current literature differentiates between moral hazard on the creditors' and on the debtors' side. From the debtors' perspective, the implied or even explicit insurance/bailout enables domestic borrowers to increase their risk exposure beyond the optimal level in the absence of insurance, as, in case of a negative shock that will leave them unable or unwilling to repay in full, they will be at least partially bailed out. On the other hand, there is the creditors' side. As creditors are aware that they will be bailed out in case of a balance-of-payment crisis in an emerging economy, their behavior changes. This has often been cited [Noy, 2003] as one of the more apparent stylized facts of the East Asian crises especially since most large international lenders were indeed partially bailed out.

An implied insurance (a bail-out is an ex post insurance policy) of sovereign and corporate bond issues or inter-bank lending can result in the following:

- An increase in the amount transacted over and above the amount that would have been transacted in the absence of such implicit guarantees.
- A decrease in the price of loans so that its no longer reflects the true (insurance-free) risk borne.
- A change in the composition of investment away from uninsured investment (e.g., equity) to insured flows (e.g., sovereign bonds).
- A change in the composition of international portfolios away from less risky but less profitable investment opportunities to more risky but more profitable if outcomes are positive.

These moral hazard effects might imply that IMF-led bailouts lead to sub-optimal equilibrium in which there is both a dead-weight-loss and a redistribution of resources away from domestic or foreign taxpayers to the international creditors or the sovereign countries that are bailed out [Noy, 2003].

LITERATURE REVIEW

The Anatomy of Financial Crises (views of Eichengreen and Portes)

The major contribution of insight into the material is Eichengreen and Portes 1987 work *The Anatomy of Financial Crises*, they particularly compare the financial crises of the 1930s to more recent occurrences of the 1980s. However since the beginning of the 1980s more than twenty-two years have passed and international contexts, politics and markets have undergone changes.

Eichengreen and Portes [1987] provide the subsequent definition of the term financial crisis as a basis for their research: "A financial crisis is a disturbance to financial markets, associated typically with falling asset prices and insolvency among debtors and intermediaries, which ramifies through the financial systems, disrupting the market's capacity to allocate capital within the economy." [pp. 1-2]. they even go further and enlarge their definition beyond single nations: "In an international financial crisis, disturbances spill over national borders, disrupting the market's capacity to allocate capital internationally." [p. 2].

According to some viewers, Market is not anymore able to allocate capital within an economy. Eichengreen and Portes already provide with the afore mentioned definition three components contributing to a financial crisis: Bank failures, debt defaults and foreign-exchange market disturbances. They are interlinked and at the same time each incident can evoke one of the others, ultimately leading to a generalized financial crisis. Al-ready each single dysfunction can disrupt the allocation of capital. Market conditions and institutional configurations, mainly depending on the roles of regulatory and stabilization policies. Financial crises result as well as from macroeconomic shocks as from distortions coming from financial markets. Hence it is crucial in preventing financial crises to secure a stable macroeconomic environment, which might financial markets allow to function [pp. 72-73].

Structural reasons for financial crises and compare them according to their specific time and circumstances [Eichengreen & Portes, 1987, pp. 65-67].

- External events led in the 1930s to debt defaults and endangered debtor countries banks. Contrary the banks of creditor countries did not hold too much sovereign debt that could provoke problems for them. In the 1980s the opposite seemed to have happened again (referring to Argentina). At this time the banks were sophisticated enough to assess credit risks and thus prevent a collapse of the financial system. Furthermore national authorities and international institutions' direct policy interventions nearly prevented the banking system from failing.
- Bank failures foster like no other factor debt defaults.
- In both times capital movements contributed to the propagation of crises. In the 1930s the authorities occasionally could restrict convertibility for averting debt de-fault by withdrawing short-term funds. Whereas in the case of the 1980s capital flight, induced by exchange-rate over valuation linked with missing exchange controls, made a bigger contribution to the development of dept crisis. The 1980s arrangement struggled with stopping this linkage compared to the 1930s one. A further 1980s threat were exchange-rate misalignments bringing protectionist trade policies in difficulties. Debtor countries were not able to achieve sufficient of the needed export surpluses.
- 1930s debt defaults did not always put down the debtor's exchange rate. The same effect was reached in the 1980s even for non-defaulting debtors due to the burden of debt service. This appearance was assisted by government's budget pressures and the necessity to accomplish current account surpluses. Both support a depreciation which takes the financial burden away of maintaining raising net exports under the constraint of overvalued rates.
- The banks of the 1980s were threatened because of their own excessive speculations in exchange markets. However instable foreign exchange markets mainly led in the 1930s to general financial instability.
- Home country's currency got in the 1930s under pressure through bank failures, which finally caused capital flight and incidentally even endangered major foreign creditor's currency. Disturbances in the 1980s US banking system seem to excite foreign exchange markets, although Eichengreen & Portes mention this fact as not being significantly considered [1987, p. 67].
- As more complete information are, the less quickly spread financial crises. Regulatory and stability policies can help creating a stable macroeconomic environment, which in the case of an imbalance is as much contributing to financial crises as per-turbations of financial markets do. Consequently the magnitude of financial crises varies under different in situational settings. Eichengreen & Portes alert in the context of the Great Depression in the US one important issue: The US government had been less effective than governments of other countries to avoid "the transformation of financial market disturbances into a generalized financial crisis" [p. 35].

PORTES APPROACHES

The analysis of Eichengreen and Portes [1987] primarily identify common patterns behind financial crises. First Portes appreciate Eichengreen's work ("All crises are the same") but later Portes comes up with counter-arguments and a suitably named chapter ("All Crises are Different"). Therefore is another logic given in third chapter Types of Financial Crises: "There is no credible unicausal story, and in each crisis the nature of the interaction among the factors listed here is itself unique." [pp. 3-4].

The economies do have weak banking system and portes also accuses presence of weak banking systems as a feature of past crises which mostly originated in overvalued exchange rates. In contrast present crises behave different and started else wise. Although only few common factors amounting for financial crises can be identified, Portes instances especially exchange rate pegs to the dollar, which lead to "overvaluation and large account deficits, and excessive private sector foreign borrowing." [p. 3]. In his work Portes also points on an economy's individual factors as facilitating a financial crisis, which vary throughout a broad scope of features:

- The role of fundamentals
- The relative importance of bank and securitized debt

- The relative importance of private and sovereign debt
- Exchange rate regimes and history
- Underlying structure and dynamics [p. 3]

In contrast parallel adhere several of the following causes making the identification and adequate reactions to crises challenging:

- A speculative attack on the exchange rate here we must distinguish between attacks based on deteriorating 'fundamentals' and those that exhibit self-fulfilling expectations.
- A 'financial panic' a bank run or its international analogue – in this case, no degree of 'transparency' or better information will eliminate herd behavior, which is based on a collective action problem.
- The collapse of an asset price bubble.
- A crisis induced by moral hazard (implicit or explicit guarantees of bailout)
- The recognition of a 'debt overhang', followed by a disorderly workout" [Portes,1998, p. 4].

BRIEF HISTORY OF PAST FINANCIAL CRISIS

Panic of 2008 effecting almost whole world. Lot of small and multinational companies disappeared from business world and for millions of investors and workers of these companies has been proved as a terrifying months. Investors watched their shares, bonds and mutual funds crash almost across the board. Many people, understandably, are panicking and fighting the urge to sell. The market's swings have been violent. Managing your investments is one thing. Managing your emotions during the biggest financial panic in a generation is another. Knowing history, as well as finance, is a big help.

In the past century, the world has seen countless financial crises, economic downturns, and market crashes. Of course we know about the famous crashes of 1929 and 1987. But what about the panics, crashes and slumps of 1812, 1837, 1857, 1873, 1903, 1907, 1914, 1917, 1930-2, 1937, 1946, 1962, 1966, 1973-4, 1976-8 and 1998? These things happen quite often. Some are worse than others. But the market has always eventually recovered.

In August 1998, the Dow Jones Industrial Average fell 1,000 points about one fifth in a few days, following the financial crisis in Asia and Russia. Despite the dire warnings, the U.S. didn't enter a severe recession. Most people have even forgotten there was a panic in 1998. It wasn't the crash of 1929 that caused the Great Depression. Wall Street actually rallied sharply in the following six months. It was a string of subsequent policy blunders that caused most of the misery.

The same kind of crashes already happened i.e. in 1873 so many banks and brokerage houses failed, and so many others had to shut their doors temporarily, that the stock exchange itself closed for about 10 days to stop the panic. Anyone who bought after the crash of 1873 and held on for 20 years, simply reinvesting dividends, trebled his money. Anyone who did the same following the gigantic crash of 1907, when J.P. Morgan Sr. stepped in to rescue the financial system, made a 700% return. After the 1987 crash, the figure was 900%. [Brett Arends Oct. 19, 2008].

The Wall Street Crash heads the list, with the US stock market falling by 89% between 1929 and 1932. The bursting of the speculative bubble led to further selling as people who had borrowed money to buy shares had to cash them in a hurry when their loans were called in. The second biggest collapse came from the technology-rich US NASDAQ index, which fell by 82% following the bursting of the dot.com bubble in 2000. In third place, with a 79% decline, was the Japanese stock market, which suffered a protracted slide in price from 1990 to 2003 as a share and property price bubble burst and turned into a deflationary nightmare. Next came the UK stock market's 73% drop in 1973 and 1974. Set against the backdrop of a dramatic rise in oil prices, the miners' strike and the downfall of the Heath government.

The Hong Kong stock market's heavy fall (64%) in 1997-1998 came as investors deserted emerging Asian shares, including a much overheated Hong Kong stock market. The UK took sixth place in the table with a 52% market fall between 2000 and 2003 as investors suffered the consequences of the collapse of the technology bubble. In 1937-38 Wall Street fell 49%. This share price fall was triggered by an economic recession and doubts about the effectiveness of Franklin D Roosevelt's New Deal policy. [Matherton April 14, 2008].

Example "Historical Losses" (Appendix: 1)

ANALYTICAL FRAME WORK OF CURRENT FINANCIAL CRISES

In July 2008, US Federal Reserve supported the rescue of Bear Stearns by taking \$29 billion of the investment bank's mortgage-related assets as collateral for a loan to J. P. Morgan Chase, which then agreed to 'acquire' the insolvent investment bank. In the beginning of September Fannie Mae and Freddie Mac, the two largest US mortgage lenders having a portfolio of about \$5 trillion in home loans, which is equivalent to about 40 percent of the US mortgage market, were effectively nationalized by the US Government. In Mid-September, crisis was triggered following the liquidation of 158 years old investment bank Lehman Brothers, 'forced sale' of 94 years old Merrill Lynch.

In 3rd Week of September, The US sub-prime mortgage credit crisis turned into a financial implosion when the largest insurance company in the world American International Group (AIG), which operates in more than 100 countries effectively became insolvent. Additionally, US Treasury organized \$85 billion loan rescue package for the American International Group (AIG). Default by AIG was imminent mainly due to the falling value of its debt securities and insurance contracts, and Credit Default Swap (CDS) amounting to \$441 billion; of which more than three quarters were held by European Banks. The Contagion effect has been seen on Major Financial Institutions in Europe like UK, Switzerland, France, Germany, Iceland, Nether land, and elsewhere. [Impact of Global Financial Crises on OIC Member States 20 October 2008].

The global financial crisis of 2008 is a major financial crisis, the worst of its kind since the Great Depression. It became prominently visible in September 2008 with the failure, merger or conservator ship of several large United States-based financial firms. The underlying causes leading to the crisis had been reported in business journals for many months before September, with commentary about the financial stability of leading U.S. and European investment banks, insurance firms and mortgage banks consequent to the subprime mortgage crisis.

As history shows that Wall Street crashed many times and this time again, why? Because many have blamed the greed of Wall Street for causing the problem in the first place because it is in the US that the most influential banks, institutions and ideologues that pushed for the policies that caused the problems are found. According to Joseph Stiglitz, Nobel Prize winner for Economics, former Chief Economist of the World Bank and university professor at Columbia University, "You throw enough money at Wall Street, and some of it will trickle down to the rest of the economy. It's like a patient suffering from giving a massive blood transfusion while there's internal bleeding; it doesn't do anything about the basic source of the hemorrhaging, the foreclosure problem. But that having been said, it is better than doing nothing." And he further added that we're having a massive blood transfusion without stopping the hemorrhaging at the bottom. Real Estate prices are likely to continue to fall. And we need to do more. This proposal does very little to stem the underlying problem.

The crisis became so severe that after the failure and buyouts of major institutions and their after shocks spread all over the world i.e. Wall Street shockwaves hammer the Asia stocks, a number of European Bank failures and declines in various stock indexes, and large reductions in the market value of equities (stock) and commodities worldwide. The crisis has led to a liquidity problem and the de-leveraging of financial institutions especially in the United States and Europe, which further accelerated the liquidity crisis. World political leaders and national ministers of finance and central bank directors have coordinated their efforts to reduce fears but the crisis is ongoing and continues to change, evolving at the close of October into a currency crisis with investors transferring vast capital resources into stronger currencies such as the yen, the dollar and the Swiss Franc, leading many emergent economies to seek aid from the International Monetary Fund.

The roots of the crisis are understood, on a simplified basis, by three L's:

- Lack of accountability, • Leverage, • Liquidity

Lack of accountability is most evident in the fundamental changes in the mortgage market in recent historical periods [Joseph Stiglitz, *Bail Out Wall Street Now*, Oct. 2, 2008].

"Serious global downturn" (Appendix: 2) shows that, on an annual basis, global growth is expected to moderate from 5.0 percent in 2007 to 3.9 percent in 2008 and 3.0 percent in 2009.

IMPACT OF FINANCIAL CRISES ON GLOBAL ECONOMY

The effects are complex and work across multiple channels. **First**, and most important, access to bank credit is likely to be highly restrained for a considerable period, as banks seek to reduce leverage and rebuild capital bases. Bank lending standards have already been ramped up sharply, and they are likely to tighten further as weakening economies further magnify bank losses, even while governments are providing public funds to help boost capital bases. **Second**, access to debt securities markets has tightened dramatically, not just for riskier low-grade borrowers but even for top-rated issuers and short-term securities, such as commercial paper, that are normally immune from such risks. **Third**, the drop in equity prices and residential property values has eroded household net wealth. For example, household net wealth in the United States has fallen by an estimated 15 percent over the past year. Fourth, emerging economies are also facing much tighter limits on external financing, as global deleveraging and increasing risk aversion have curtailed investor interest in these markets. [Crisis through the Lens of History, Charles Collyns 2008].

IMPACT OF THE ASIAN CRISIS ON ASIAN BUSINESS ENVIRONMENT

Business environment across the region has been permanently changed by the crisis and its aftermath. The confident complacency with in and about the region which was characteristic before the crisis, especially on the part of the global financial sector is history. Today within and beyond region alike, there is for the first time an acceptance of informed analysis and an expectation of demanding scrutiny. Countries, industries and individual firms are all under the microscope, not least by overseas investors who react negatively to opaque, unconsolidated accounts and non transparent transactions.

The business environment in the economies of East Asia is largely determined by rates of economy growth, buoyancy of domestic demand and the international competitiveness of global appeal of national output. However the crisis has emphasized the need of prudential supervision, modern institutional processes and the rule of law.

Factors for business to consider are an enhanced need for local knowledge and a greater need for close and continuous monitoring. Compared with a pre-crisis past, differences between countries are more important, industry structures in the modern sectors are more fluid and competitive, and risk of global financial market instability as well. [Asian post-Crisis Management BY Usha C. V.Haley and Frank-jurgen Richter P: 346-349].

LESSONS FOR WORLD CRISES

The first and most important lesson from every financial crisis since the Great Depression is to act early, to act aggressively, and to act comprehensively to deal with financial strains and to ensure the adequacy of external financing for countries that have been affected by contagion from the crisis, including steps to increase the availability of IMF credits. The priority must be to quench the fire, even if unorthodox measures are needed that would not be applied other than in the context of a systemic event. As former U.S. Treasury Secretary Larry Summers said, when markets overshoot, policymakers must overshoot too. Thus, the Great Depression became so great in part because for four years after the stock market crash of 1929, policymakers followed orthodox policies that allowed credit to shrink, banks to collapse, and the crisis to feed on itself. Policymakers today are very aware of this chilling precedent, including Federal Reserve Chairman Ben Bernanke, who has studied the period closely to help strengthen understanding of how financial and real sectors of the economy interlink (Bernanke, 1983).

A second important lesson is the value of providing macro-economic support in parallel with financial actions. With the effectiveness of monetary policy limited by financial disruptions, fiscal stimulus must play an important role to help maintain the momentum of the real economy and curtail negative feedbacks between the financial and real sectors. Indeed, increasing interest is now being paid to boosting infrastructure spending, akin to the public work programs of the Depression era.

The third lesson is the need for policy solutions that work at the global level.

The bottom line is that, we can avoid the worst of the past. The global economy is being battered by a massive financial crisis, but the damage can be contained by strong and coordinated actions that repair the financial damage, support activity, and ensure continued access to external financing. [Crisis through the Lens of History, Charles Collyns 2008].

CASE STUDY

ARGENTINA AS A MODEL OF SUCCESSFUL POLICYMAKER DURING FINANCIAL CRISIS AND IMF

Argentina was seen as a model of successful policymaking in 1990s. By pegging its exchange rate to the dollar under a currency board type arrangement in 1991, Argentina ended hyperinflation, reducing inflation rates to single-digit levels. Because of an increase in foreign bank entry, the banking sector in Argentina, traditionally weak, was strengthened considerably. A 1998 World Bank financial sector review rated Argentina second only to Singapore among emerging markets in the quality of its bank supervision (Perry and Servén 2002). Because of Greater economic stability, country attracted foreign investment contributing to an acceleration in economic growth; indeed, even as lenders withdrew their financing in East Asia in 1997, capital inflows continued to Argentina.

Things began to turn sour in 1999. The collapse of the Brazilian currency led to sharp declines in export revenues, and economic growth was negative for three years in a row. Nevertheless, with some brief exceptions, financial markets remained relatively undisturbed until 2001, when uncertainty about the growing public debt and the persistent economic contraction led to very sharp increases in the yields investors demanded to hold Argentine government bonds. Extended to the durability of the currency peg and the ability of the financial system to make good on dollar liabilities that were backed to a significant extent by peso assets, including government debt. The result was massive deposit withdrawals from the banking system.

Because of these developments, in December 2001, Argentina suspended payments on its external debt and restricted deposit withdrawals (the "corralito"). In January 2002, it abandoned its peg to the U.S. dollar. Because of continuing uncertainty about financial conditions, interest rates have continued to rise and the currency has depreciated 356% against the U.S. dollar in the year to September 20. The impact of the Argentine crisis has been severe. Output is forecast to decline 15% and inflation to rise to 72% in 2002. [Federal Reserve Bank of San Francisco [FRBSF], 2002].

Development of the Crisis

The major cause of Argentine crisis was the deficiencies of Argentina's peg to the U.S. dollar under a type of currency board arrangement. While the currency board did play a role, it also can be argued that other cause of the crisis was Argentina's persistent inability to reduce its high public and external debts. These made the economy vulnerable to adverse economic shocks and shifts in market sentiment.

[Appendix 3] illustrates the trend in the public debt/GDP ratio in Argentina since 1995, as reported by the International Monetary Fund (IMF). This ratio measures the total amount of public debt relative to the ability of the economy to produce (taxable) income to service it. In the figures, the thick solid line shows the actual path while the thinner solid lines and dashed lines represent alternative scenarios anticipated by the IMF first under a 1998 Extended Fund Facility (EFF) program and then under a 2000 Stand-By Arrangement (SBA). The figure reveals that Argentina's public debt/GDP ratio rose rapidly, from 35% in 1995 to nearly 65% in 2001. It is also apparent that under IMF consultations, it was consistently anticipated that Argentina's public debt/GDP ratio would stabilize or fall, but this did not happen. The actual path of the public debt/GDP ratio far exceeded the IMF projections in five different reviews between 1998 and 2000.

Argentina's experience stands in contrast to South Korea's, where a financial crisis in 1997-1998 forced the government to intervene to rescue failing banks and led to a rescheduling of its external debt. In South Korea, the public debt/GDP ratio rose sharply, from over 10% in 1997 to over 30% in 2000, but then declined. However, even at its peak, South Korea's public debt/GDP ratio was less than half Argentina's, and the path of the debt remained below that projected by the IMF in three separate reviews.

There is no unambiguous threshold at which public debt becomes unsustainable, and Argentina's public debt/GDP ratio of 65% in 2001 was still lower than that observed in some European countries. However, given the history of defaults and macroeconomic instability in emerging markets like Argentina, their threshold sustainable public debt may be much lower than in advanced economies. Additionally, limitations on tax collection capability imply that

a higher public debt/GDP ratio makes emerging markets more vulnerable to adverse shifts in market sentiment that raise the cost of funds. In line with this, large spikes in the yield on public debt occur in emerging markets that are rarely seen in advanced economies. For example, between January and November 2001, investor uncertainty raised the yield on an Argentine 10-year government bond (denominated in U.S. dollars) about 20 percentage points, to around 35%, signaling the growing unwillingness of investors to hold Argentine debt. Such a sharp rise in the interest rate, as well as a default and crisis, is more likely if the public debt/GDP ratio is 65% (as in Argentina) than if it is around 30% (as in South Korea). Argentina also was vulnerable because its capital account was open and there was a large amount of borrowing in foreign currency from abroad. A large external debt made Argentina vulnerable to default not only in the event that interest rates rose, but also in the event that the currency depreciated sharply, as this increased the repayment burden in domestic currency.

Argentina's external debt profile in 1990 and 2000 may be assessed using two alternative measures, the external debt/GDP and the external debt/export ratios. As external debt typically has to be serviced in foreign currency, the external debt/GDP ratio is a more informative measure of the size of the debt relative to payment capacity if output can easily be shifted to earn more exports. Otherwise, the debt/export ratio provides a better indicator. By either measure, Argentina's debt rose significantly between 1990 and 2000: the external debt/GDP ratio rose from 44% to 51%, and the external debt/exports rose from 421% to 471%.

ARGENTINA'S DEBT RATIOS ROSE FOR AT LEAST TWO REASONS

- Primary fiscal surpluses (government revenues minus expenditures exclusive of interest payments on the debt) were not large enough to cover interest payments and also retire some of the outstanding public debt. Between 1991 and 2000, Argentina's primary surpluses averaged 0.14% of GDP. These surpluses were remarkable achievements, given Argentina's past history, but they were still well below interest payments, which averaged 2.4% of GDP over this period. There were significant obstacles to reducing expenditures and raising revenues. On the expenditure side, the government was a large employer and, for political reasons, found it hard to cut its wage bill. The central government also found it hard to control spending by provincial governments, whose liabilities it was eventually forced to assume. At the same time, revenues were adversely affected by difficulties in tax collection and, after 1999, by falling output and rising unemployment.
- Export growth (and therefore economic growth) was not sufficiently robust to improve the country's ability to meet its debt obligations and lower debt/GDP ratios. In the 1990s, the dollar value of Argentina's exports of goods and services grew at 7.7% a year, less than the nearly 9% growth in its external debt and well below the rate of growth of exports in Asian economies such as South Korea or Malaysia (10%-11%). Export growth has been dampened by Argentina's trade barriers, which remain relatively high outside the Southern Cone common market area of Mercosur, of which Argentina is a member. These trade barriers have increased since the crisis broke out. Exports also suffered following the 1999 collapse of the Brazilian real because Argentina's rigid currency board arrangement produced an overvalued currency. Indeed, the focus on maintaining a rigid peg at all costs appears to have diverted attention away from the risks of not paying attention to real sector fundamentals [FRBSF, 2002].

Operations of IMF

IMF formulates the policies to control the financial crises. These policies, designed not only in Argentina, but in developing countries all over the world, contributed directly to the crisis.

- First, as the IMF's Independent Evaluation Office (IEO) report clearly states, the Fund prescribed many of Argentina's policy reforms during the 1990s, including the privatization of social security. Privatization was a condition in several of the IMF agreements signed during the 1990s.
- Second, when the depression began in late 1998, the IMF demanded a series of spending cuts in order to eliminate the fiscal deficit. However, since the deficit was not due to increased government spending, but to rapidly increasing debt-service payments, the cuts implemented at the IMF's behest actually deepened the debt cycle. Spending cuts led to a drop in economic activity, which resulted in decreased tax revenues and a higher deficit. At this point, further fiscal spending cuts were implemented.
- Third, the IMF tripled its exposure to Argentina (from \$5 billion to \$15 billion) just three months before the default. This seemingly contradictory measure served to buy sufficient time for those to take their capital outside the country, deepening the capital flight process that eventually resulted in the run on deposits in early December 2001.

The IMF's active participation in the Argentine crisis does not end with the December 2001 default. Following the crisis, the IMF committed major errors in all three key areas of policy formulation: a) in its diagnosis of the crisis and its aftermath, b) in its projections about the evolution of key economic variables in the post-crisis months, and c) in its policy prescriptions. These mistakes are clearly laid out in an unprecedented official document. At the time, the law was being used to investigate capital flight that had violated banking restrictions implemented during the crisis. Both laws were modified according to the IMF's demands. These reforms led to virtual impunity for many speculators and white-collar criminals and delayed the possibility to restore productive capacity in businesses filing for bankruptcy due to the crisis [Cibils, 2006].

THE CURRENCY BOARD

The Argentine Currency Board pegged the Argentine peso to the U.S. dollar between 1991 and 2002 in an attempt to eliminate hyperinflation and stimulate economic growth. In order to control inflation and build confidence in local currencies to foster investment and growth in the country. Three options of exchange rate management available to any government: a floating exchange rate, a super-fixed exchange rate (including the possible use of a currency board), or a hybrid system. The hybrid system consisted of various levels of control over exchange rates, and it was discredited in the early 1990s when empirical evidence from several currency crises showed that, in a world of high capital mobility, a semi-fixed exchange rate was very unstable, because it allowed a country with poor monetary policy to exercise too much discretionary power. The consequence was that a government had to choose between either fixed or fully floating exchange rate systems.

Before the implementation of the currency board there was much debate over which currency or currencies to peg the peso against. In the view of many economists, the peso should have been pegged to a basket of currencies from the countries that were Argentina's major trading partners. Others argued that the peso should be pegged to the U.S. dollar because it would provide simplicity of understanding, the highest degree of safety, greater international credibility, and the promise of increased trade with the United States. The latter argument won the day, with both positive and negative consequences.

Argentina's currency board established a fixed pegging of one-to-one parity between the peso and the U.S. dollar. It also guaranteed full convertibility of pesos into U.S. dollars. The government hoped to establish local and international credibility in the peg and to limit the amount of local control over monetary and fiscal policy. The currency board regime intended to stabilize the peso, encourage both foreign and local investment, and foster sustained economic growth.

While it initially met with considerable success, the board's actions ultimately failed because of significant flaws in policy implementation. In contrast of what most people think, this peg actually did not exist, except only in the first years of the plan. From then on, the government never needed to use the foreign exchange reserves of the country in the maintenance of the peg, except when the recession and the massive bank's withdrawals started in 2000. [Miguel A. Kiguel]

LESSONS FROM THE ARGENTINEAN CRISIS

Argentina's experience with debt and financial crises over the last decades provides important lessons:

Fixed Exchange Rate

The peso has proven to be uncompetitive. There is no other option but to devalue. Internationally, it has always proven to be the case that fixed exchange rate systems, sooner rather than later, outlive their utility and become a burden on the economy. Hardly have countries been able to exit pegs gracefully. Internationally, there is only best example of a successful and smooth abandonment of a fixed exchange rate system.

The lesson is the same for all nations and at all times. When economic fundamentals are sound, a floating exchange rate is as good as a fixed one. If fundamentals flounder, a fixed exchange rate offers no shield and, if any, becomes an additional burden, diverting the attention of policymakers and resources to maintaining the peg that could be usefully deployed to attend to real economic problems. [Anantha-Nageswaran, 2002].

Debt restructuring processes

Financial markets should not be the aim of debt restructuring processes. For a debt restructuring process to result in a sustainable and serviceable debt load in the long run it must be based on an economy that grows to a strong internal market and an equitable distribution of income. This is opposite to the Washington Consensus prescriptions, centered on fiscal austerity, financial liberalization and the free flow of speculative funds is precisely the policies that feed financial cycles and crises. [Cibils, 2006].

Recognition of social cost in crises

IMF role and responsibility cannot escape scrutiny. For one, many question the timing of its fresh loan support to Argentina in August and its later suspension. It probably misled some into believing that IMF thought that the Argentine fiscal situation was salvageable. Simply put, many question whether the IMF delayed the inevitable. IMF rightly claims that the currency board was not its choice (in fact, it claims to have counseled Argentina privately that it was becoming unsustainable) and hence the fiscal austerity decisions that Argentina took right from the beginning of 2001 flowed from its own decision to maintain the currency board at all costs, the question is whether the IMF could have advised Argentina differently and made such advice public.

The IMF did not do so and it gave loans under the condition that fiscal austerity is implemented. In this aspect, the IMF did not betray any learning from previous crises. Viewing the problem as one of reckless government borrowing and spending and urging fiscal austerity is questionable as the country faced a simultaneous private sector demand collapse that requires public spending to be kept up. Failing to do so gives rise to high social costs that a fiscal austerity programme extracts out of a nation already suffering from severe private sector demand contraction.

Investors anticipate the high social costs (protests and non-compliance) and reject such austerity as unworkable. Thus, IMF mandated government measures fail to impress markets and interest rates either remain high or even edge higher. The net result is a further squeeze on the ailing economy that brings it closer to breaking point. [Anantha-Nageswaran, 2002].

Strong Law Rule

The rule of law is vital to the success of economic reforms. It helps keeping the reforms in place and restrains a government from annulling the law in order to undo a reform. Without reforms in the legal and judicial systems in Latin American countries, the future for these economies remains uncertain. Some Latin countries have made such reforms with demonstrable success, as illustrated by Chile, whose leaders have decided not to depend on IMF financing but to pursue economic and political freedom.

International bailouts encourage risky behaviors

IMF owns archives show that, since 1983, it has provided nearly continuous funding to Argentina regardless of whether it met its prior loan conditions or was in fact in crisis. Such lending practice had two negative consequences.

First, the IMF assistance became predictable and signaled to investors that their risk would be mitigated by a bailout that investing in Argentina would bring a guaranteed profit regardless of how poor the economic conditions were. [Eiras & O'Driscoll, 2002].

Second, the Argentine government had little incentive to reform; the money would still come in. These consequences led to Argentina's recent default, and they will lead to capital flight if the current government lifts the financial restrictions set by the previous government.

Argentina – A Perspective

After the Argentina crisis seems to be overcome, it is important to examine Argentina's current economic situation and its susceptibility for another financial crisis. Argentina dependence on few exports goods, something that might cause trouble if these goods are not any more as highly demanded as they are nowadays.

Argentina's agricultural products play a vital role and account for 30% of all exports. Next follow up petroleum-related exports (20%), cars and car-related goods (9%) [Bundesagentur für Außenwirtschaft [BFAI], 2008b, p. 2]. This shows already Argentina's high dependence on few exports goods, something that might cause trouble if these goods are not any more as highly demanded as they are nowadays.

Argentina's imports significantly rose since the end of the crisis [Appendix 4] and display the country's need for foreign goods which are urgently required to keep up the country's performance. This excellent performance was mainly measured by high growth rates of the GDP, which constantly lay over 8% since 2003. The growth of the Argentinean GDP, which amounted to US-\$ 210 billion in 2007, has mainly been pushed through domestic consumption [BFAI, 2008a, p. 1]. The crucial point is that if the domestic consumption decreases again, the Argentinean economic will be endangered.

The domestic consume is an issue which has to be examined more closely, because currently it might cool down again. Two main reasons can be identified: Rising inflation and the financial market's resulting inability to allocate capital. Official statistics are faked and do not reflect real inflation rates. The official inflation rate kept single digit, while in reality the population faces inflation above 20% [Hocus-pocus, 2008]. High inflation restrains domestic demand, fosters inequality and poverty. Though an Argentinean labour economist confirms a poverty rate's rise from 27% (2006) to 30% (2007), it is actually hard to measure poverty since there are no more official poverty statistics released from official site ["Cristina in the land of the make-believe," 2008]. Through inflation real wages decreased and the government even makes the situation more precarious when planning to officially limit wage increases to 20% to 30% for 2008 [BFAI, 2008a, p. 4].

High inflation comes along with another crucial issue. Not permitting the public and particularly banks to know the real inflation rates disturbs the markets for money. On the one hand the central bank keeps the interest rates negative in real terms to foster workers tendency to spend their wages instead of saving them. On the other hand high inflation is a signal of limited output capacities, production capacities that should be enlarged to meet demands. Capacities which currently can only be enlarged with loans when, due to the rise in salaries, taxes and prices for raw material, companies' margins are shrinking and cannot finance anymore the required expansion.

Such controversial governmental actions are characteristic for Argentina's administration and elevate the susceptibility for another financial crisis. Officials pursue a questionable strategy, which is a mixture of direct interventions and scarce free-market attempts leading to an inconsistent approach [BFAI, 2008a, p. 4]. Once in favor of the national budget and finances, and once preferring a prosperous economy while sacrificing price stability ["Argentina's economy," 2008]. The public's dissatisfaction can easily be read off in sinking support of the president's politics in public polls ["Deadlock," 2008].

CONCLUSION

Conclusion is divided in to three stages.

Challenges for IMF

The current financial crisis represents a major challenge for the IMF since the institution is not in financial position to be able to lend to the United States or other Western countries affected by the crisis (with the possible exception of Iceland). The IMF's total financial resources as of August 2008 were \$352 billion, of which \$257 billion were usable resources. The most the IMF ever lent in any one year period (the four quarters through September 1998 at the height of the Asian financial crisis) was \$30 billion. The rise of emerging market countries over the past decade has created new challenges for the IMF. Many emerging market economies argue that their current stake in the IMF does not represent their role in the world economy. Several countries, particularly in East Asia and South America, believe that their new economic weight and status should afford them a larger quota and a greater voice at the institution. [CRS Report for Congress, Martin A. Weiss updated October 30, 2008].

Programs announced by IMF in financial crises

IMF has announced new lending programs, including "contingency credit lines," which allow qualifying countries to receive credit at the first sign of a crisis, and a "supplemental reserve facility" to provide substantial amounts of credit to countries with exceptional balance-of-payments problems [P:8]. On the macroeconomic side, the use of monetary and fiscal policies to support growth and break negative feedback loops between the financial and real sectors. IMF researchers and policymakers have examined various measures designed to control the downside of capital movements while retaining their benefits. [P: 5] It

also plays a valuable role in providing assistance to countries when private funds are not available. [P: 7] The IMF, like the World Trade Organization, has become a focus of dissent for those disturbed by the impact of global markets. [P: 8] [The IMF and Global Financial Crises July, 2000 Joseph Joyce]

Suggestions for the IMF in Global Financial Crisis

In case of another financial crisis, Argentina will not take help from IMF. In 2005, Argentina has even repaid their debt to the IMF before maturity to stop interventions by the Fund at their economic policy. Similarly most of the loans granted by the IMF to its member countries have been repaid by now. At the moment it seems that hardly any country wants to borrow from the IMF. Especially countries which have already used an IMF-credit try to avoid those loans accompanied by controversial IMF-conditionality. So the IMF can not avoid restructuring to regain trust of the member countries and to find a new use for the idle deposits. One often complained matter is the IMF quota system. The quota largely determines a member's voting power in IMF decisions, which is presently dominated by those who will presumably never borrow. In April 2008 the Board of Governors of the IMF adopted a reform of the system to increase the voice and participation of emerging market and low income countries through a new quota formula including an increase in the basic votes [IMF, 2008j].

The amendment will need to be accepted by at least three-fifths of IMF members representing 85 percent of the total voting power in order to become effective [IMF, 2008j]. However in an experts' letter addressed to the IMF some concerns had been expressed.

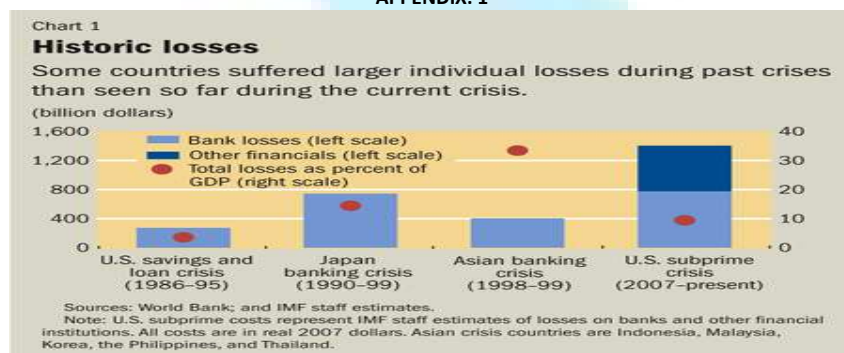
A major weakness is seen in the revised formula, which most important variable is the member countries' gross domestic product. The formula is expected to achieve only very modest improvements. For instance the combined voting share of China, Korea, India, Brazil, and Mexico will increase from 8.2 percent to only 10.7 percent and at the other side the combined share of the five European countries Italy, Netherlands, Belgium, Switzerland and Sweden will decline only from 10.4 percent to 9.5 percent of total votes. The only step in the right direction is considered to be the triplication of the basic votes allocated to each member [Linn, Bryant & Bradford, 2008].

A second concern is the IMF intervening in a crisis instead of preventing it. The Fund should not only react when a crisis is already under way, or even worse, a reform is already planned, but also be proactive. Through its surveillance the IMF can recommend changes in non-crisis times. With different types of loans it could support those reforms. As a matter of course no country would request for a credit of the IMF with strong conditionality, as long as they can borrow from the market. So it is crucial that the loans have slightly lower interest than the market and are linked to country ownership programs. In Argentina, the ownership of the policies should reflect a shared vision and an active support of reform objectives by the countries' authorities and the IMF [IMF, 2001].

Despite the problem of having only few countries borrowing from the Fund, the IMF it is not doomed, but its role has changed. Instead of forcing member countries to adhere to disputable conditionalities, they should act as a partner who can provide valuable advice and loans at fair conditions. So the most important reform for the IMF is at the moment not diminishing the crisis of a member country, but the reorganization of their own structure and tasks.

APPENDIX

APPENDIX: 1



APPENDIX: 2

Serious global downturn

A deep financial crisis and continuing high commodity prices have led to fast deteriorating global growth.

(percent change, unless otherwise noted)

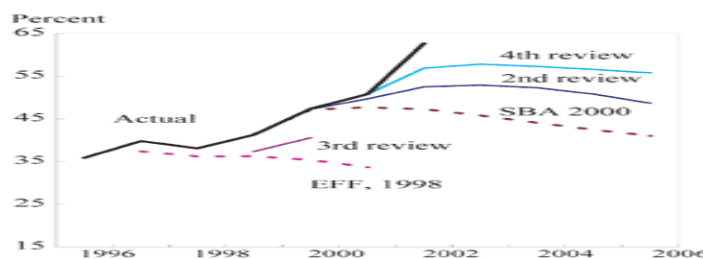
	Year-on-Year		
	2007	2008	2009
World output	5.0	3.9	3.0
Advanced economies	5.0	3.9	3.0
United States	2.6	1.5	0.5
Euro area	2.6	1.3	0.2
Germany	2.5	1.8	0.2
France	2.2	0.8	0.2
Italy	1.5	-0.1	-0.2
Spain	3.7	1.4	-0.2
Japan	2.1	0.7	0.5
United Kingdom	3.0	1.0	-0.1
Canada	2.7	0.7	1.2
Emerging and developing economies	8.0	6.9	6.1
Developing Asia	10.0	8.4	7.7
China	11.9	9.7	9.3
India	9.3	7.9	6.9
Western Hemisphere	5.6	4.6	3.2
Brazil	5.4	5.2	3.5
Mexico	3.2	2.1	1.8

Source: World Economic Outlook, October 2008.

Note: Real effective exchange rates are assumed to remain constant at the levels prevailing during August 15–September 15, 2008.

APPENDIX: 3

Argentina: Public Debt to GDP



Source: IMF

APPENDIX 4: ARGENTINA'S BALANCE OF TRADE FROM 1992 TO 2007 (IN MILLION US-\$)

	1992	1993	1994	1995	1996	1997	1998	1999
Exports FOB	12.399	13.269	16.023	21.162	24.043	26.431	26.434	23.309
Imports CIF	14.982	16.872	21.675	20.200	23.855	30.450	31.377	25.508
Trade Balance	-2.583	-3.603	-5.652	962	188	-4.019	-4.944	-2.200
	2000	2001	2002	2003	2004	2005	2006	2007
Exports FOB	26.341	26.543	25.651	29.939	34.576	40.387	46.456	55.933
Imports CIF	25.281	20.320	8.990	13.851	22.445	28.687	34.151	44.780
Trade Balance	1.061	6.223	16.661	16.088	12.130	11.700	12.306	11.154

Source: Instiuto Nacional de Estadisticasy Censos [INDEC] 2008 IV

GRAPH OF APPENDIX 4

**Foreign trade of Argentina,
In millions of U. S. dollars, 1991-2003**

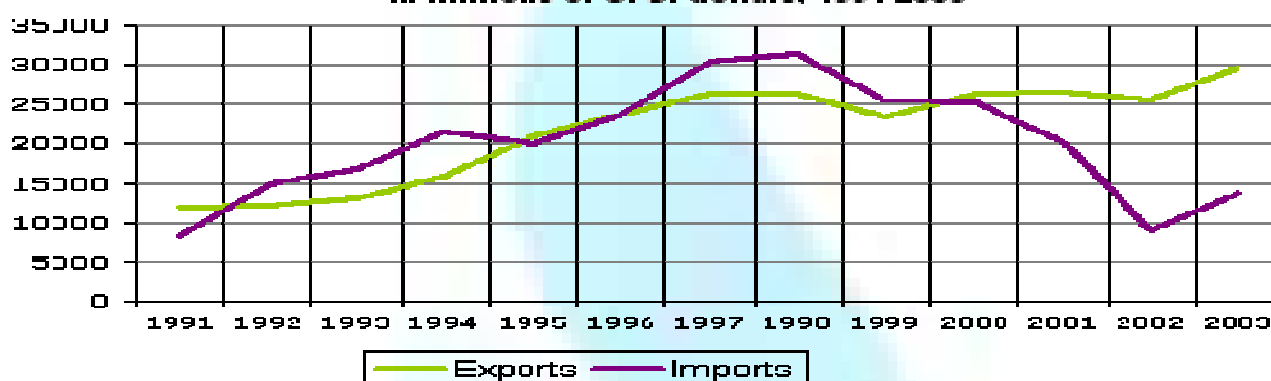


FIGURE A: GROWTH RATE HAVE BEEN DIVERGING BUT FOR HOW LONG?

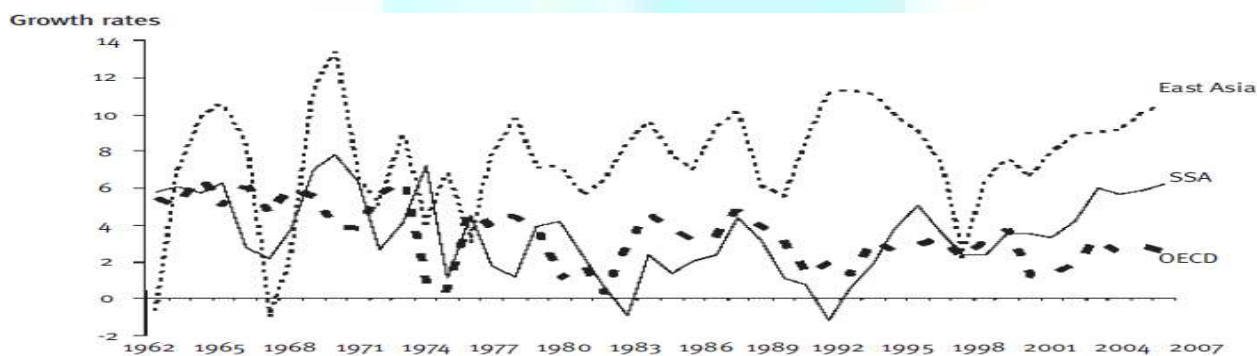
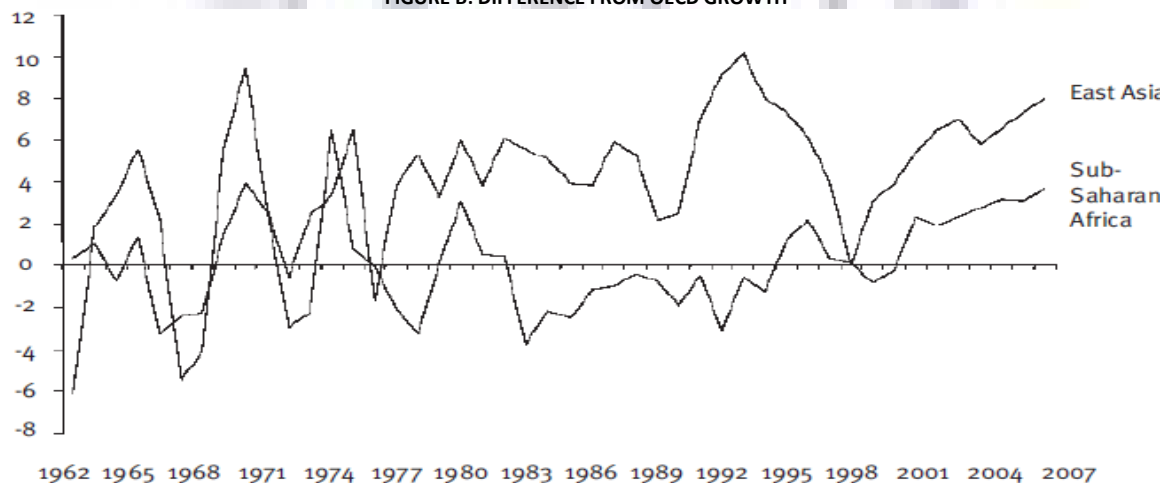


FIGURE B: DIFFERENCE FROM OECD GROWTH



Source: world Development indicator

REFERENCES

- International Monetary Fund. (2006, September, 30). What is the IMF? Retrieved from 10th of April 2009 <http://www.imf.org/external/pubs/ft/exrp/what.htm>
- International Monetary Fund.PPT "slide no: 3" From: www.stewarts.us (Stewarts, 2009) Retrieved from 10th of April 2009 <http://www.google.de/search?hl=de&q=Historical+Background+OF+IMF+&meta=>
- International Monetary Fund (2008b) Special Drawing Rights (SDRs). Retrieved from 13th of April 2009 <http://www.imf.org/external/np/exr/facts/sdr.HTM>
- International Monetary Fund (2008e) IMF Quotas. Retrieved from 14th of April 2009 <http://www.imf.org/external/np/exr/facts/quotas.htm>
- International Monetary Fund (2008g). IMF Members' Quotas and Voting Power, and IMF Board of Governors. Retrieved from 14th of April 2009 <http://www.imf.org/external/np/sec/memdir/members.htm>
- International Monetary Fund (2008h) the IMF at a Glance. Retrieved from 17th of April 2009 <http://www.imf.org/external/np/exr/facts/glance.htm>
- International Monetary Fund (2008c) IMF Lending. Retrieved from 18th of April 2009 <http://www.imf.org/external/np/exr/facts/howlend.htm>
- International Monetary Fund: Background and Purposes: (Leland B. Yeager) This selection was excerpted from Leland Yeager's book International Monetary Relations: Theory, History, and Policy, published in 1976. Retrieved from 20th of April 2009 <http://www.imfsite.org/origins/back.html>
- International Monetary Fund (2008a) What the IMF Does. Retrieved from 20th of April 2009 <http://www.imf.org/external/work.htm>
- International Monetary Fund (2007) IMF Surveillance. Retrieved from 29th of April 2009 <http://www.imf.org/external/np/exr/facts/surv.htm>
- THE IMF'S MULTILATERAL SURVEILLANCE Issues paper for an evaluation by the independent evaluation office (IEO) Sep 23, 2005. Retrieved from 30th of April 2009 <http://www.imf.org/External/NP/ieo/2005/ms/eng/092305.pdf>
- International Monetary Fund (2008d) Technical Assistance. Retrieved from 4th of May 2009 <http://www.imf.org/external/np/exr/facts/tech.htm>
- International Monetary Fund (2008f) IMF Conditionality. Retrieved from 4th of May 2009 <http://www.imf.org/external/np/exr/facts/conditio.htm>
- Selected IMF lending Facilities Retrieved from 7th of May 2009 <http://www.uniduisburg.de/FB5/VWL/IWB/docs/studium/download/ss05/IMF%20Facts.pdf>
- What is IMF September 30, 2006 Retrieved from 7th of May 2009 IMF lending facilities (Box 7) <http://www.imf.org/external/pubs/ft/exrp/what.htm>
- The Role of the United States and the IMF in the Asian Financial Crisis by John J. LaFalce, United States House of Representatives Address before the Institute for International Economics, Washington, DC January 27, 1998. Retrieved from 11th of May 2009 <http://www.iie.com/publications/papers/paper.cfm?ResearchID=301>
- Dirk Willem te Velde, "Which countries are at risk and what can be done?" Oct 2008 Retrieved from 11th of May 2009. http://www.scribd.com/document_downloads/7882310?extension=pdf&secret_password=
- Noy, I. (2003). Do IMF Bailouts Result in Moral Hazard? Retrieved from 13th of May 2009 http://www2.soc.hawaii.edu/css/dept/econ/research/workingpapers/WP_04-2.pdf
- Eichengreen, B. & Portes, R. (1987), The Anatomy Of Financial Crises (Working Paper No. 2126). Cambridge, MA: National Bureau of Economic Research.
- Portes, R. (1998) An Analysis of Financial Crisis: Lessons for the International Financial System. Paper presented at FRB Chicago / IMF Conference, Chicago, 8-10 October 1998. Retrieved from 15th of May 2009 http://www.sais-jhu.edu/faculty/sandleris/AIMT/Readings/Portes_Financial Crises. PDF
- Brett Arends "A Brief History of Crashes", The Wall Street Journal, Oct. 19, 2008 Filed Under: Financial Planning and Advice. Retrieved from 17th of May 2009 <http://www.filife.com/stories/a-brief-history-of-crashes>
- Matherton, "The Ten Biggest Stock Market Crashes of All Time April 14, 2008 Retrieved from 17th of May 2009 http://timesbusiness.typepad.com/money_weblog/2008/04/the-ten-biggest.html
- Impact of Global Financial Crises on OIC Member States Presentation to the 24th Session of the COMCEC, Istanbul – 20 October 2008. Retrieved from 20th of May 2009
- Joseph Stiglitz, Nobel Laureate Joseph Stiglitz: Bail Out Wall Street Now, Change Terms Later, Democracy Now!, Oct. 2, 2008 Retrieved from 20th of May 2009
- Asian post-Crisis Management BY Usha C. V. Haley and Frank-jurgen Richter (P: 346-349)
- Crisis through the Lens of History Charles Collins The current financial crisis is ferocious, but history shows the way to avoid another Great Depression dec 2008, volume 45 Retrieved from 23rd of May 2009: <http://www.imf.org/external/pubs/ft/fandd/2008/12/collins.htm>
- Federal Reserve Bank of San Francisco.(2002, October 18) Learning from Argentina's Crisis. FRBSF Economic Letter. 2002-31. Retrieved from 28th of May 2009 <http://www.frbsf.org/publications/economics/letter/2002/el2002-31.html>
- Cibils, A. (2006, September 6). Till Debt Do Us Part: Lessons from Argentina's Experience with the IMF, Debt, and Financial Crises. Retrieved, from 30th of May 2009 <http://americas.irc-online.org/am/3489>
- Anantha-Nageswaran, V. (2002, January 7). Lessons from Argentina crisis. Retrieved, from 2nd of June 2009 <http://www.thehindubusinessline.com/2002/01/07/stories/2002010700070800.htm>
- Eiras, A. I., & O' Driscoll, G.P. (2002, JAN 15). U.S. Policy toward Latin America: Lessons from Argentina. Retrieved from 4th of June 2009 <http://www.heritage.org/research/latinamerica/em798.cfm>
- Bundesagentur fur Außenwirtschaft [BFAI] (2008a), Wirtschaftsentwicklung: Argentinien2007. Retrieved from 6th of June, 2009, from https://www.bfai.de/ext/anlagen/PubAnlage_4734.pdf?show=true
- Bundesagentur fur Außenwirtschaft [BFAI] (2008b) Wirtschaftsdaten kompakt: Argentinian. Retrieved from 6th of June 2009, from https://www.bfai.de/ext/anlagen/PubAnlage_4561.pdf?show=true
- Hocus-Pocus. (2008, June 12). The Economist. Retrieved from 8th of June 2009 http://www.economist.com/world/la/displaystory.cfm?story_id=11546117&CFID=9235866&CFTOKEN=54217334
- Cristina in the land of the make-believe. (2008, May 1). The Economist. Retrieved 8th of June, 2009, from http://www.economist.com/world/la/displaystory.cfm?story_id=11293743&CFID=9235866&CFTOKEN=54217334
- Argentina's economy. (2008, April 9). The Economist. Retrieved from 9th of June, 2009, from <http://www.economist.com/research/backgrounders/displaybackgrounder.cfm?bg=1022218>
- Deadlock. (2008, May 29). The Economist. Retrieved from 11th of June, 2009, from http://www.economist.com/world/la/displaystory.cfm?story_id=11465492&CFID=9235866&CFTOKEN=54217334
- CRS Report for Congress the Global Financial Crisis: the role of the International Monetary Fund (IMF) Martin A. Weiss updated October 30, 2008.Retrieved from 11th of June 2009 http://assets.opencrs.org/rpts/RS22976_20081030.pdf
- The IMF and Global Financial Crises July, 2000 Joseph Joyce Retrieved from 13th of June 2009 http://findarticles.com/p/articles/mi_m1093/is_4_43/ai_64458675/pg_8/?tag=content;col1
- International Monetary Fund (2008j) IMF Quota and Voice Publications. Retrieved from 13th of June 2009 from <http://www.imf.org/external/np/fin/quotas/pubs/index.htm>
- Linn, J. F, Bryant, R. C., & Bradford, C. I. (2008,April 9) Experts Critique Proposal For International Monetary Fund Quota Reform. Retrieved from 15th of June 2009 from http://www.brookings.edu/opinions/2008/0409_imf_linn.aspx
- International Monetary Fund. (2001, December 14) IMF Reviews Strengthening Country Ownership of Fund-Supported Programs. Retrieved from 15th of June 2009 <http://www.imf.org/external/np/sec/pn/2001/PN01125.HTM#top>
- The Argentine Currency Board Miguel A. Kiguel Chief of Advisors and Undersecretary of Finance Ministry of Economics and Public Works and Services Argentina.Retrieved from 16th of June 2009 <http://www.cema.edu.ar/publicaciones/download/documentos/152.pdf>

EFFICIENCY-PROFITABILITY RELATIONSHIP IN PUBLIC, PRIVATE AND FOREIGN SECTOR BANKS OPERATING IN INDIA**DR. VIDYA SEKHRI****PROFESSOR AND CHAIRPERSON FINANCE
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INSTITUTE OF MANAGEMENT STUDIES
GHAZIABAD****ABSTRACT**

In the present move where the focus is on competition, consolidation and efficiency in a banking sector, this paper attempts to measure the technical efficiency (TE) based on the cross sectional data of 69 banks-26 public sector, 18 private sector and 25 foreign sector banks. Data Envelopment Analysis (DEA) technique has been used to compute the TE scores of each bank for the year 2007-08 and 2008-09. Empirical results reveal that among the three groups of banks Public sector banks seem to be relatively efficient followed by Private sector and Foreign banks. To have a wider picture of banks' performance, the relationship between the efficiency and profitability has been explored. The efficiency-profitability matrix based on the efficiency scores and Return on Assets (ROA) reveals that out of total 69 banks covered under the study five Public Sector Banks, two Private Sector Banks and two Foreign Banks were able to maintain their star status for both years. These seven banks appear as ideal banks and a bench mark for laggards in terms of efficiency-profitability parameters.

KEYWORDS

Banks, DEA, Profitability, Technical Efficiency.

INTRODUCTION

The Asian financial crisis of 1997-98 and thereafter the global financial turmoil of sub prime crisis of 2008 has confirmed the fact that the well regulated financial system specifically a banking system is the most crucial for the macroeconomic stability and sustainability in the long run for overall economic growth. As visible by financial tsunami in 2008, that the crisis in a banking system in terms of insolvency of rock like investment banker had the potential to push the economy into a depression. That is what (as explained by Caprio & Honohan in 2002) is the most extreme form of credit driven macroeconomic cycle.

Indian banking sector is at a very exciting point of its development. The financial sector reforms have played a significant role in enhancing competitiveness and modernization. Indian banks have thrown in to the era of competition (from their foreign counterparts as well as challenges from within), productivity, product innovation, e-revolution, customer expectation i.e. delivering high quality service at the cheapest price and so on. At this juncture the performance of banks becomes a major concern for planners and policy makers in India. Reserve Bank of India and Government of India constituted Narasimham Committee (1991, 1998) and Verma Committee (1999) to make banking sector more efficient and viable.

In this dynamic and competitive banking system only robust banks having high level of technical efficiency and profitability can assure the reasonable returns to shareholders while minimizing the risk of bankruptcy. They can stand tall in any adversities. Financial distress is a curse and lead to wastage of resources and reduces the profitability, which dampens the banking sector growth and the whole economy as well. Hence it has become necessary to identify the robust and distressed banks and an appropriate strategy for restructuring these banks can be framed out. The present study is an attempt in this direction of examining the efficiency- profitability relationship in commercial banks operating in India.

LITERATURE REVIEW

During the last few decades various researches have been done on banking efficiency measurement. Researchers employed different kinds of measures to assess the efficiency of banks.

Angadi & Devraj (1983) considered total working funds credits & deposits as output indicators while the establishment expenses as the total input indicators in the use of DEA approach. They measured efficiency as total working funds per rupee of establishment expenses.

Wheelock and Wilson (1999) used non-parametric methods to measure the bank productivity. They estimated the Malmquist productivity index with the help of DEA.

Shanmugam & A. Das (2004), Kaparakis, Miller and Novlas (1994) adopted a flexible stochastic Frontier Approach to evaluate cost efficiency of commercial banks.

Clark J (1984), Benston, Hanweck and Humphery (1982) adopted Generalized (translog) Cost Function Model to access scale economies of banking.

Rangkakulnuwat (2007) utilised DEA to estimate the technical efficiency of nine Thai Commercial Banks from 2000 to 2005. The result indicates that commercial banks in first tier had always produced at the production frontiers & had higher TE than the second and third tiers.

Halkos and Salamouris (2001) utilized the DEA technique to measure the efficiency of the Greek banking sector with the use of a number of suggested financial ratios for the period 1997-99.

Jemric and Vujcic (2002) used DEA to analyze bank efficiency in Croatia. They attempted to measure the relative efficiency of banks in Croatia market according to size, ownership structure, date of establishment & quality of assets in the period from 1995-2000.

Wu (2002) conducted productivity and efficiency analysis of banks operating in Australia. Since, deregulation of the Australian financial system in early 1980s. DEA was employed in order to investigate the level of & the change in efficiency of Australian banks over the period from 1983-2001.

Ozkan-Genay & Tektas (2006) assessed the technical efficiency of non-public commercial banks in Turkey during 1990-2001 following the DEA model.

Luciano (2007) illustrated the efficiency features of Italian banking system through the review of the most important empirical studies over the last 15 years.

Particular emphasis is given to DEA studies by Oral & Yolalan (1990); Vassiloglou & Giokas (1990); Giokas (1991); Haag & Jaska (1995); Yeh (1996); Avkiran 1997, 1999a & 1999b; Katib & Matthews (1999); Liu & Tripe (2002); Darrat et al (2002); Batchelor & Wadud (2003); Wadud & Yasmeen (2004).

A large number of studies have been done in Europe & USA but it has been limited in Indian contest.

In India the Verma committee (Verma 1999) was assigned the task of identifying and restructuring weak PSBs. Seven financial ratios were used for the study. Some remarkable attempts have been made by researchers & analyse the efficiency of Indian banking sector. used nine variables and seven output variables in order to examine the relative efficiency of commercial banks over the period 1997-2004.

Some other studies include- Noulas & Katkar 1996; Bhattacharya 1997; Das 1997, 1999; Mukherjee et al 2002; Sathye 2003; Kumar & Verma 2003; Saha & Ravisankar 2002; Shanmugam and Lakshmanasamy 2001.

The main purpose of the study is to apply methodology framework of DEA analysis along with profitability ratio to establish the efficiency-profitability matrix.

METHODOLOGY

A variety of techniques have been used to study the efficiency of commercial banks. The estimates of efficiency are sensitive to the choice of technique. The efficiency is a broader concept; it involves optimally choosing the levels and the mixes of input and/or outputs. The overall bank efficiency can be divided into scale, scope, pure technical and allocative efficiency. The bank has the scale efficiency when it operates in the range of CRS. Charnes, Cooper and Rhodes (CCR) (1978) proposed this model with assumption of constant returns to scale. Hence this model was named after the researches and called as the CCR model. Ferrell (1957) defined the technical efficiency as the producers' ability to produce as much output as input usage allows avoiding the waste of resources. Technical efficiency is defined as a ratio of minimum costs that could have expended to produce a given output bundle to the actual costs expended. There are four types of technical efficiency estimations based on different assumptions. They are-Data Envelopment Analysis (DEA), Stochastic Frontier Approach (SFA), Thick Frontier Approach (TFA) and Distribution Free Approach (DFA). They can be categorised in to two categories- Parametric Approaches-SFA, TFA, DFA and Non-Parametric Approaches-DEA. **For the present study we have used non-parametric approach i.e. DEA covering 69 banks operating in India along with the profitability ratios (ROA) to form an efficiency-profitability matrix.**

Data envelopment analysis (DEA) is a non-stochastic, non-parametric, linear programming to measure the relative efficiency of similar Decision Making Units (DMUs) with common inputs and outputs. The DEA technique has been used to compute the TE scores of the banks. The DEA estimate compares each of the banks in the sample with the one that is the best practice observation or Decision Making Unit (DMU) in the sample. It separates efficient DMUs from non-efficient DMUs. As survey of literature suggests, DEA has gained more and more acceptability as a tool for efficiency analysis of financial institutions.

The current study states that banks use certain inputs to produce certain outputs. Thus the efficiency of the banks will be measured as to how efficiently they are able to utilize their inputs given their outputs. In this model, the efficiency is measured by the ratio of weighted outputs to weighted inputs. The ratio is of the form-

$$u_1 y_1 + u_2 y_2 + \dots + u_n y_n$$

$$v_1 x_1 + v_2 x_2 + \dots + v_n x_n$$

Where, u and v are the weights for the outputs, (y_1, \dots, y_n) and inputs, x_1, \dots, x_n respectively. Assume that for each of the N firms there are data on K inputs and M outputs and represented by the column vectors x_i and y_i respectively for the i th firm. This may be expressed as $(u' y_i / v' x_i)$, where u is an $M \times 1$ vector of output weights and v is a $K \times 1$ vector of input weights. To arrive at the optimal weights, we define the following linear programming problem as

$$\text{Max } u' y_i / (u' y_i / v' x_j)$$

Subject to

$$u' y_j / v' x_j < 1, \quad j=1, 2, \dots, n$$

$$u, v > 0 \quad \dots (1)$$

Solving (1) values for u and v may be obtained such that the efficiency measure for each firm is maximized. A pertinent constraint with this particular model formulation is that it can have an infinite number of solutions. Thus an additional constraint is added, $v' x_i = 1$ so that this problem can be removed. The new model, known as the transformation model, thus becomes,

$$\text{Max } \mu' y_i$$

Subject to

$$v' x_i = 1$$

$$\mu' y_j - v' x_j < 0, \quad j=1, 2, \dots, n$$

$$\mu, v > 0 \quad \dots (2)$$

To reflect the transformation, u has been replaced by μ and v has been replaced by v .

This form in equation (2) is known as the multiplier form of the DEA linear programming problem.

Using duality in linear programming, an equivalent envelopment form of this problem may be obtained:

$$\text{Min } \theta, \lambda$$

Subject to

$$-y_i + Y \lambda > 0$$

$$\theta x_i - X \lambda > 0$$

$$\lambda > 0, \text{ where } \theta \text{ is a scalar and } \lambda \text{ is a } N \times 1 \text{ vector of constant.} \quad \dots (3)$$

The efficiency for the j -th Decision Making Unit (DMU) is reflected by the value of θ . For each DMU taken in the study, a separate linear programming problem would be solved.

The technically efficient DMU will have $\theta = 1$ and all other DMUs would have $\theta < 1$, implying that the efficiency scores of all other DMU will be measured relative to the technically efficient units that have a score of $\theta = 1$. In this study each bank under observation will be considered as a DMU.

EFFICIENCY-PROFITABILITY RELATIONSHIP

To have a wider picture of banks' performance, the relationship between efficiency and profitability has been explored. To achieve this DEA based TE scores have been plotted against ROA. This resultantly formed an 'Efficiency-Profitability Matrix' containing four distinct quadrants (see figure 1). These quadrants are separated from each other on the basis of arithmetic average (mean values) of TE score and ROA figures.

On the basis of this matrix banks are divided into four categories they are Ace/Stars, Lucky/Sleepers, Underdogs/Question mark "?" and Unlucky/Dogs.

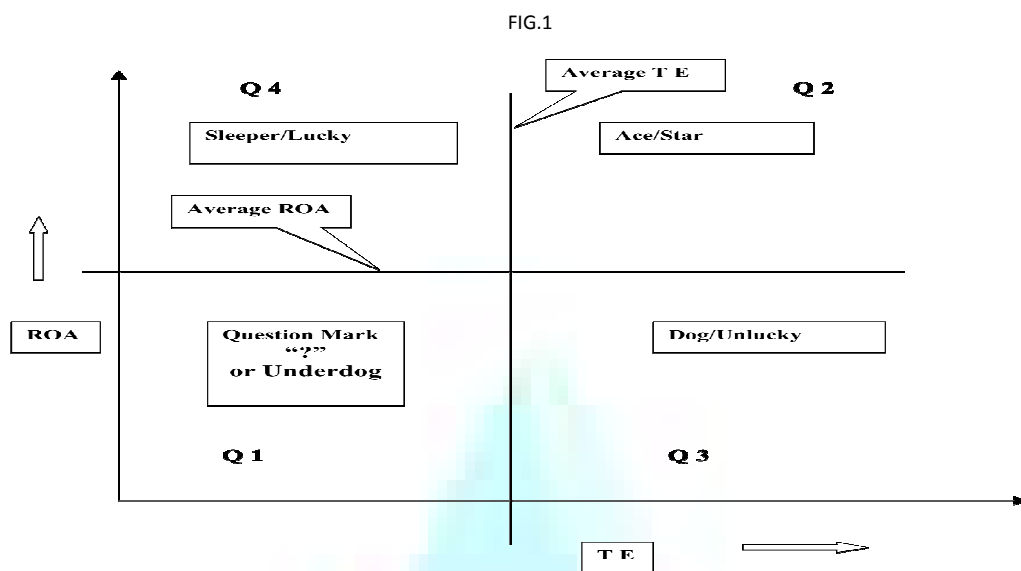
Basically this matrix is a plot between the ROA as profitability indicator and TE score obtained from DEA as efficiency indicator. On the basis of the average ROA and TE four quadrants are marked. These four quadrants represent respective category of the bank.

The first quadrant i.e. **Q 1** is labelled as '**? / Underdog**'. The banks positioned in this quadrant are below the average in terms of efficiency as well as profitability. These banks are considered as 'weak' banks and are target for potential mergers.

The units fall in the second quadrant i.e. **Q 2** are '**Star/Ace**' banks. They are the top performers and having high level of efficiency and profitability. They are the benchmarks and the role models for inefficient banks in the industry.

The third quadrant i.e. **Q 3** contains '**Unlucky/Dog**' banks who operate at high of efficiency as compared to their counter-parts but lack in profitability. The observation and analysis of the environmental factors can help these units to achieve the high profitability levels.

The fourth quadrant i.e. **Q 4** labelled as '**Sleeper/Lucky**' contains those banks whose TE scores are below average and ROA is above average. These banks can minimise waste of resources. The reason for high profits can be attributed to favourable economic environment. If they start working efficiently they can generate more profits with proper use of resources or can reduce their operating cost and reach to the level attained by 'star' units.



Efficiency- Profitability Matrix

CHOICE OF INPUTS AND OUTPUTS

It has been a matter of constant debate when it comes to defining the inputs and outputs. There are mainly two approaches that have been discussed in the existing literature. The first is the **Intermediation approach**. Here banks are viewed as intermediaries between the provider of funds and users of funds. In this approach, deposits are regarded as being converted into loans (Mester, 1987). This approach takes the interest expense into account, which accounts for a large proportion of a bank's cost (Elyasiani and Mehdi, 1990; Berger and Humphrey, 1991). In this approach, output may be taken as the money value of deposits and loans and the inputs considered include money value of labour, fixed assets and equipment and loanable funds. In contrast, the latter approach is the **Production approach**, where banks are considered to be producing deposits and loans (outputs) using capital and labour (inputs). This approach takes into account physical quantities of inputs and outputs, and does not assign a monetary value to inputs or outputs. This approach does not take into account the interest costs (which comprise a major proportion of expenses of the expenses in most countries), hence the criticism.

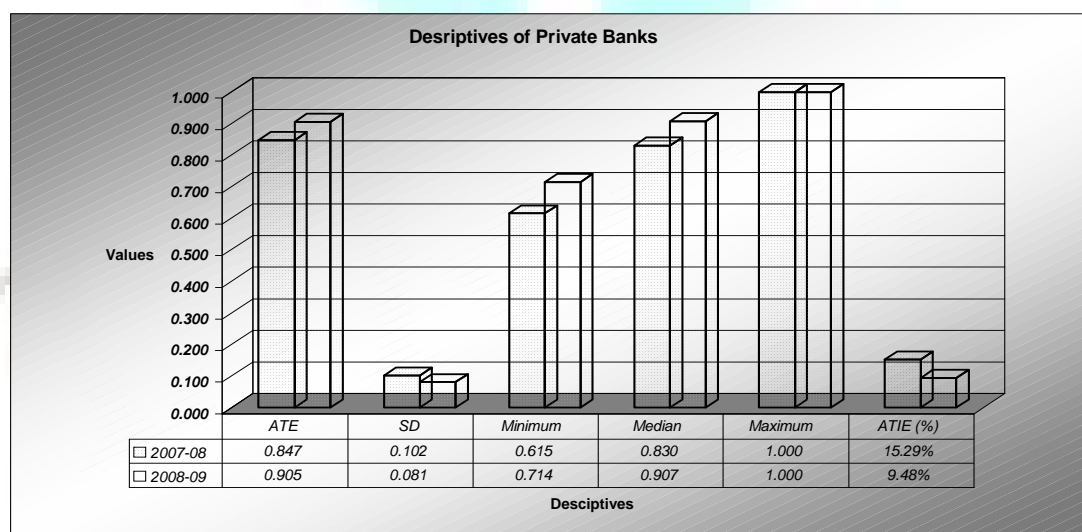
The financial performance of a bank is highly influenced by the amount it spends in various operating and non-operating activities. Thus, the Total income, the main measure of performance for the banks, is chosen as the output. Fund based financial services expenses, Compensation to employees and Provisions & contingencies the main expenditure of banks is taken as inputs. Hence it is being assumed that for increasing output by the banks to have balanced inputs. Thus, in this model **Total income (y)** is being taken as output while **Fund based financial services expenses (x1)**, **Compensation to employees (x2)** and **Provisions & contingencies (x3)** are taken as the inputs. As these three expenses constitute the major proportion of the expenses in banks, so these are being considered as inputs. Anand (1993) observed that for the year 1991, banks expended approximately 25% of the operating costs on deposit mobilization.

EMPIRICAL FINDINGS

Technical Efficiency: Each category of banks have been divided into three sub categories i.e. all banks, efficient banks and inefficient banks. On the basis of the DEA output following results was obtained.

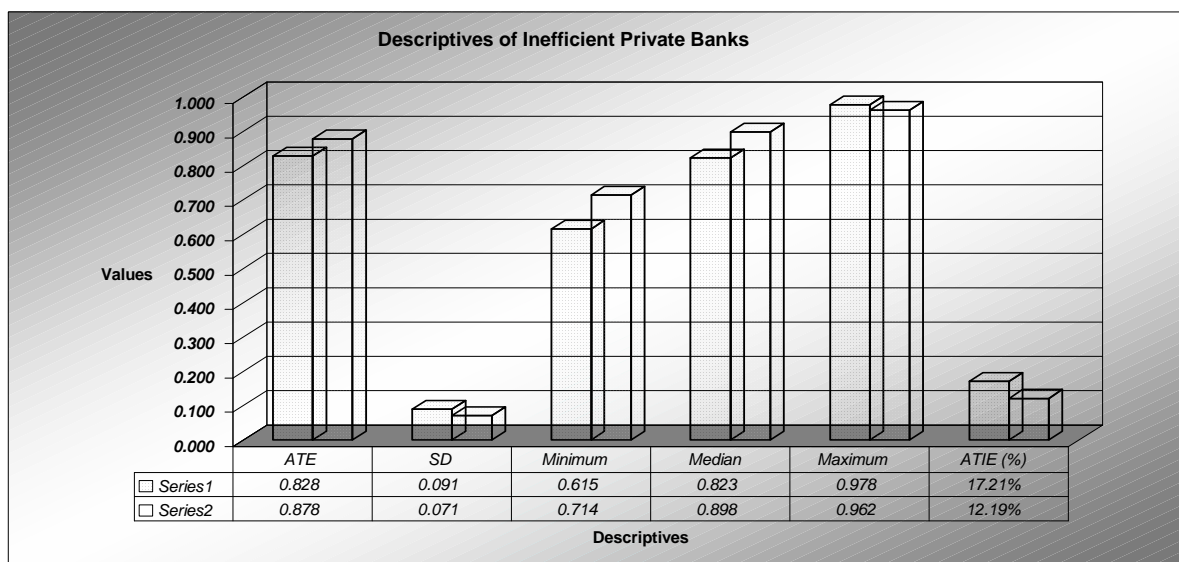
PRIVATE BANKS

GRAPH 1: DESCRIPTIVE OF ALL PRIVATE BANKS



As evident from graph 1 (see table 1 and 2), the mean technical efficiency of private sector banks have shown the improvement in efficiency frontier in the year 2008-09 as compared to 2007-08 (ATE improved from 84.7% to 90.5%). Still there is a scope for improvement, as they can produce 1.10 times more output than the current level with the same input. Another interesting observation is that the standard deviation has reduced for the year 2008-09 which is an indication of more competitive environment within this sector.

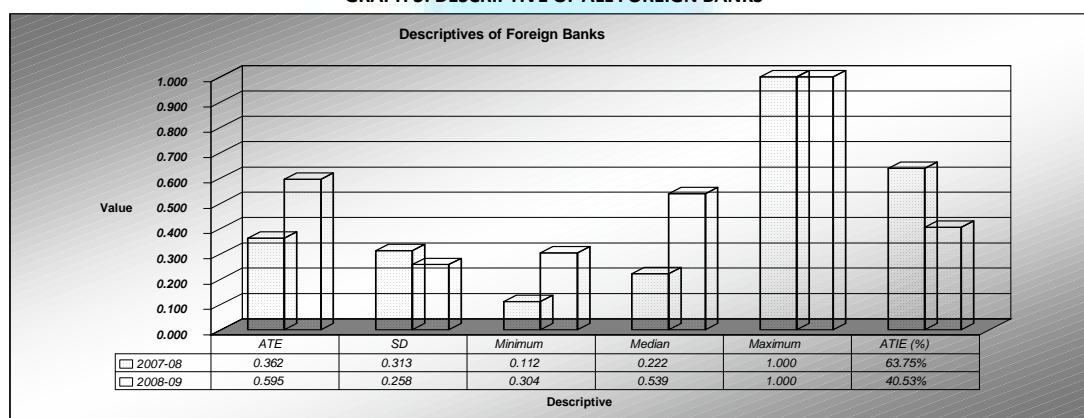
GRAPH 2: DESCRIPTIVE OF INEFFICIENT PRIVATE BANKS



On analyzing graph - 2 (see annex.- Table 1 and 2) it is found that the overall level of technical inefficiency in the private sector banks has been found at 17.21% in 2007-08 which has improved to 12.19% in 2008-09. These banks have reduced their inputs by 5.02% but still to be efficient banks they can further reduce their input by 12.19. Putting it differently, these banks had the scope of producing 1.14 times more output from the same level of input.

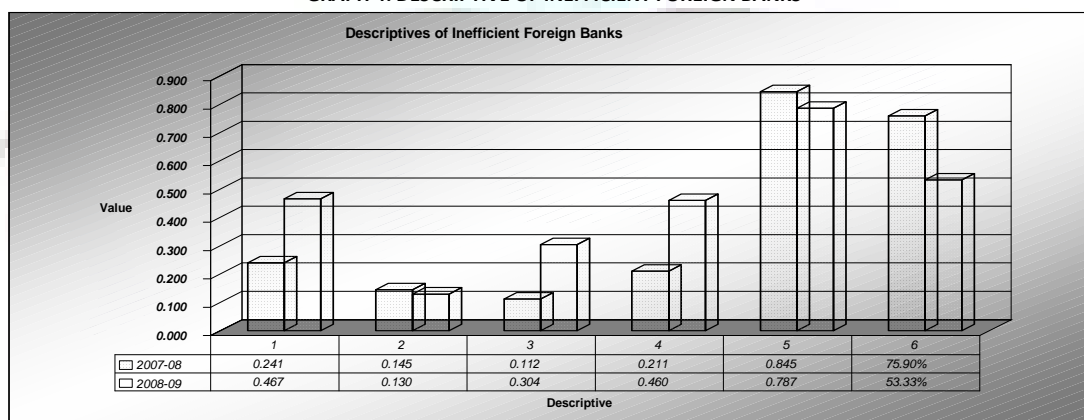
FOREIGN BANKS

GRAPH 3: DESCRIPTIVE OF ALL FOREIGN BANKS



As evident from graph - 3 (see annex. - Table 1 and 2) in case of ATE, which was 36.2% in 2007-08 has improved considerably to 59.5% in 2008-09. This shows that these banks either reduced their inputs by 23.22% or produced more output with the same input than the previous year. But still they can improve their efficiency by reducing their inputs by 40.53%. In other words they can produce 1.68 times more output than the current level or observed output with the same inputs.

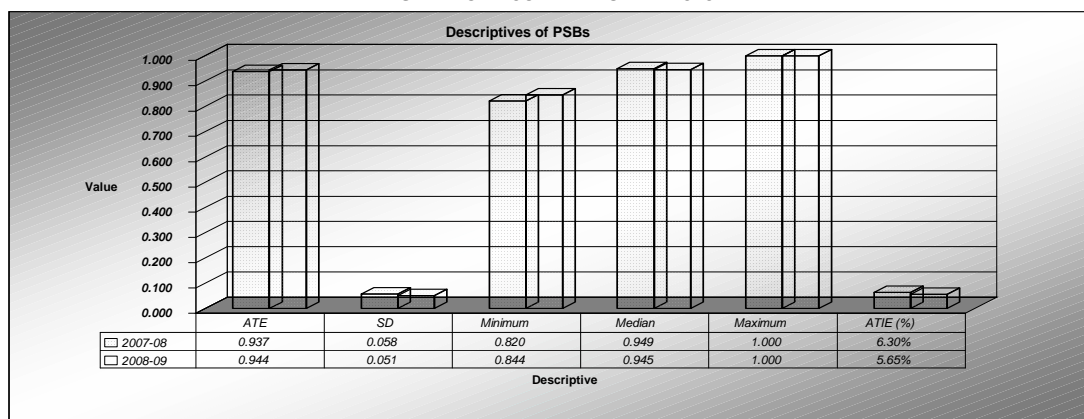
GRAPH 4: DESCRIPTIVE OF INEFFICIENT FOREIGN BANKS



On analyzing graph - 4 (see table 1 and 2) it is found that the overall level of technical inefficiency in the foreign banks has been found at 75.90% in 2007-08 which has been improved to 53.33% in 2008-09. But still there is a scope to produce 2.14 times more output than the current observed outputs with the same level of inputs. The improvement in the SD shows that the efficiencies of these banks are more close to the mean.

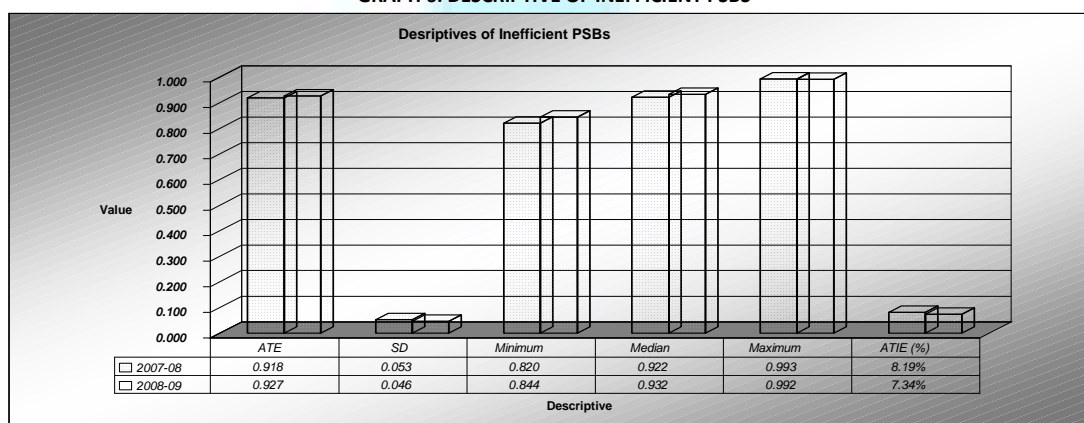
PUBLIC SECTOR BANKS

GRAPH 5: DESCRIPTIVE OF ALL PSBS



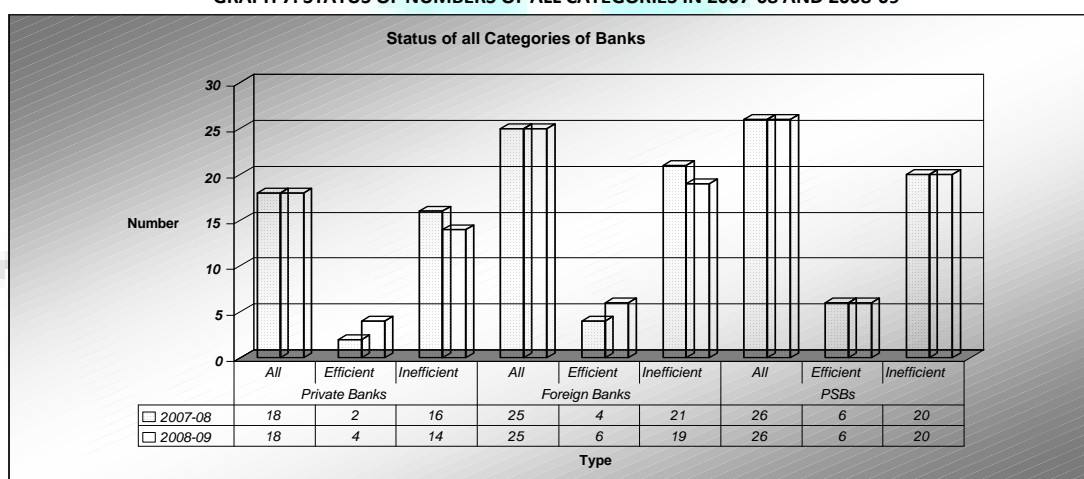
As evident from graph-5 (see annex.-Table 1 and 2) there is slight improvement in the ATE of Public sector banks (from 93.7% to 94.4%) due to the reduction in the inputs by 0.65%. Further efficiency can be achieved by reducing current level of inputs by 5.65% to produce same output or by improving 1.06 times the current level of output with the same level of inputs. Decrease in SD shows that current scores are more close to the mean score. While decrease in median shows the shift in positional mean towards lower efficient banks.

GRAPH 6: DESCRIPTIVE OF INEFFICIENT PSBS



As evident from graph-6 (see table 1 and 2) the improvement in ATE is due to the reduction in the input by 0.85%. Still there could be some improvement by reducing inputs by 7.34% to produce same output or can improve output by 1.08 times from the current observed level of output with the same level of inputs. On analyzing graph - 6 (see annex.- Table 1 and 2) it is found that the overall level of technical inefficiency in the public sector banks has been found at 8.19% in 2007-08 which has improved to 7.34% in 2008-09. These banks have reduced their inputs by 0.85%. These banks had the scope of producing 1.08 times more output from the same level of input.

GRAPH 7: STATUS OF NUMBERS OF ALL CATEGORIES IN 2007-08 AND 2008-09



On analyzing Graph- 7 it is found that during the study period number of efficient banks increased in case of Private Banks and Foreign banks from 2 to 4 and from 4 to 6 respectively. There is no change in number of the efficient banks in PSBs.

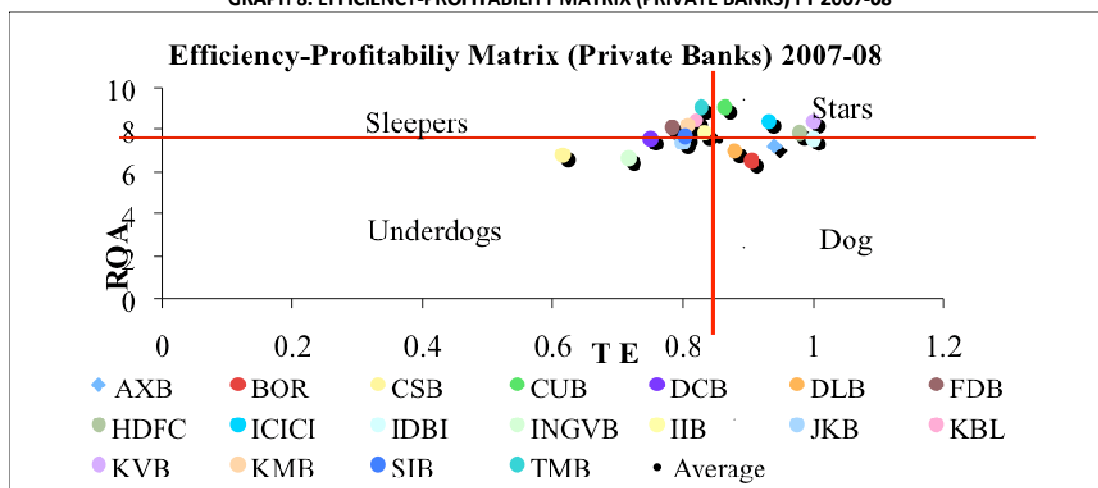
EFFICIENCY PROFITABILITY RELATIONSHIP

Return on Assets (ROA) has been taken as the main indicator of Profitability. In case of profitability it is found that the mean profitability of all the three types of banks has improved over the study period 2007-08 to 2008-09 (see table 3 & table 4). In case of foreign sector banks remarkable improvement is visible. While the SD showed the mixed trend i.e. there is no pattern of SD in case of efficient and inefficient banks either as individual groups or as combined group.

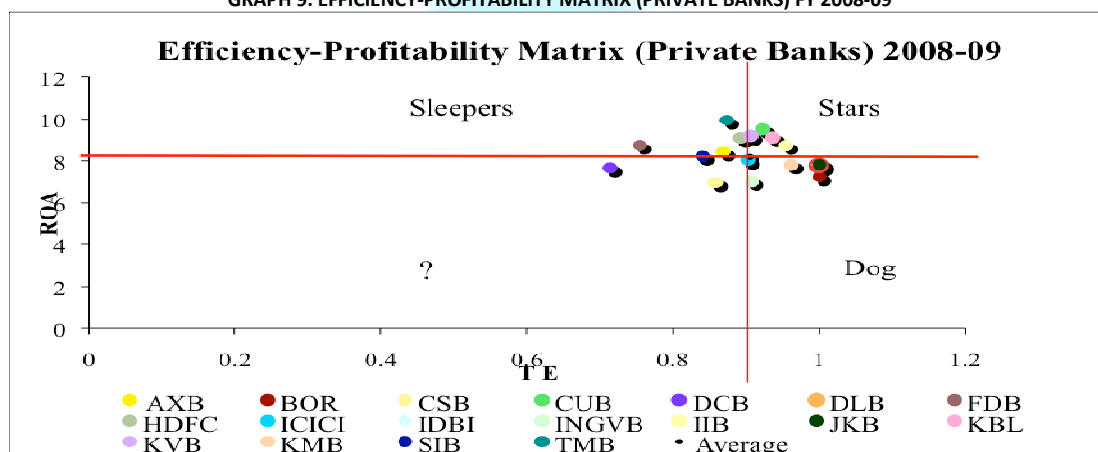
PROFITABILITY-EFFICIENCY MATRIX

1. PRIVATE BANKS

GRAPH 8: EFFICIENCY-PROFITABILITY MATRIX (PRIVATE BANKS) FY 2007-08



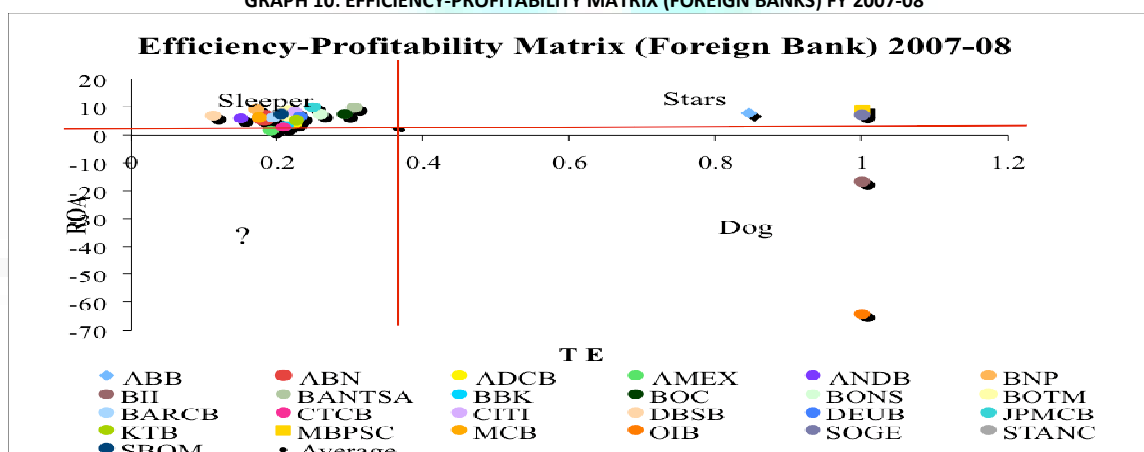
GRAPH 9: EFFICIENCY-PROFITABILITY MATRIX (PRIVATE BANKS) FY 2008-09



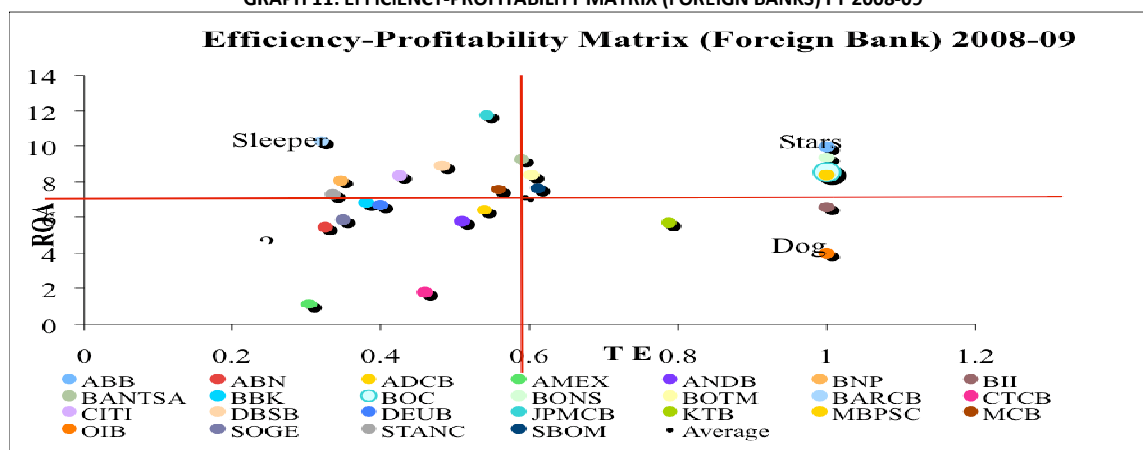
"Efficiency-profitability matrix" of Private Banks reveals the considerable wastage of resources in 56% banks (10 banks) in the year 2007-08 and 45% banks (8 banks) in the year 2008-09, which fall in the category of 'sleeper and 'underdog' (See table 5&6). These banks have the potential for increase in profitability thru operating efficiency. In both the period 22% banks (4 banks) occupied a place in 'star quadrant'. Out of 4 banks only two banks viz. KVB and CUB are able to maintain the star status in both the years. There are 2 new entrants viz. IIB and KBL in the year 2009-09.

2. FOREIGN BANKS

GRAPH 10: EFFICIENCY-PROFITABILITY MATRIX (FOREIGN BANKS) FY 2007-08



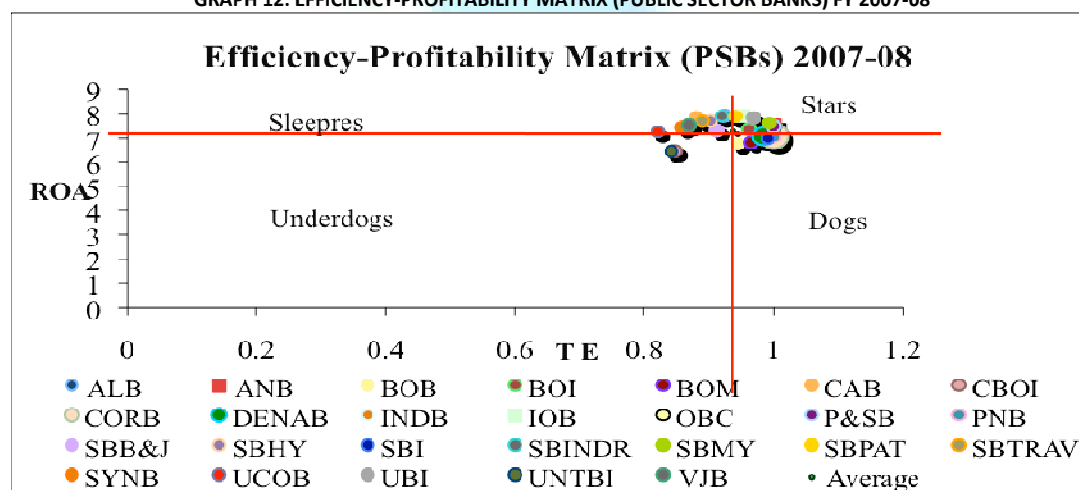
GRAPH 11: EFFICIENCY-PROFITABILITY MATRIX (FOREIGN BANKS) FY 2008-09



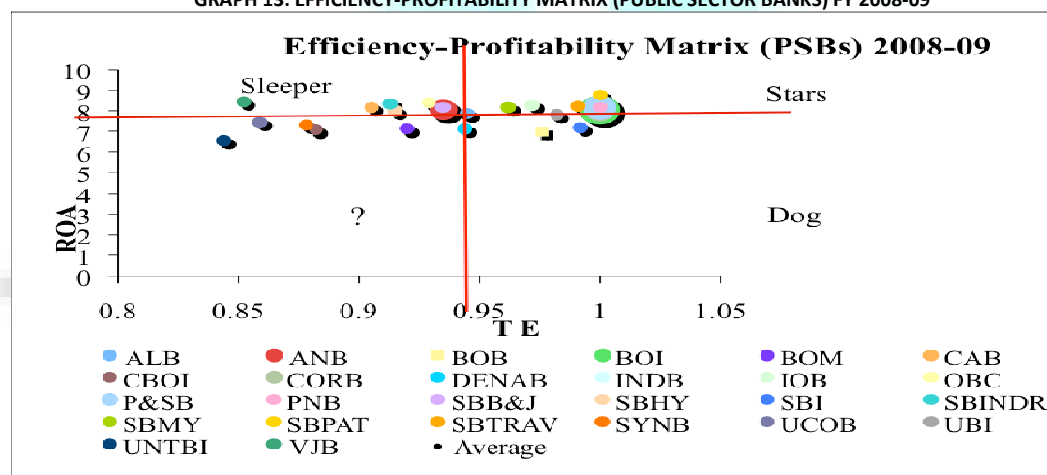
"Efficiency-profitability matrix" of Foreign Banks reveals the considerable wastage of resources in 76% banks (19 banks) in the year 2007-08 and 64% banks (16 banks) in the year 2008-09, which fall in the category of 'sleeper and 'underdog' (See table 5&6). These banks have the potential for increase in profitability thru operating efficiency. In both the period 12% banks (3 banks) and 24% banks (6 banks) respectively in 07-08 and 08-09 occupied a place in 'star quadrant'. Out of 3 banks two bank viz. ABB and MBPSC are able to maintain the star status in both the years. There are 4 new entrants viz. BOC, BONB, BOTM and SBOM in the year 2009-09.

3. PUBLIC SECTOR BANKS

GRAPH 12: EFFICIENCY-PROFITABILITY MATRIX (PUBLIC SECTOR BANKS) FY 2007-08



GRAPH 13: EFFICIENCY-PROFITABILITY MATRIX (PUBLIC SECTOR BANKS) FY 2008-09



"Efficiency-profitability matrix" of Public Sector Banks reveals the considerable wastage of resources in 42% banks (11 banks) in the year 2007-08 and 46% banks (12 banks) in the year 2008-09, which fall in the category of 'sleeper and 'underdog' (See table 5&6). These banks have the potential for increase in profitability thru operating efficiency. In both the period 35% banks (9 banks) and 39% (10 banks) respectively occupied a place in 'star quadrant'. Out of 9 banks only 5 banks viz. BOI, IOB, P&SB, SBMY and SBPAT are able to maintain the star status in both the years. There are 5 new entrants viz. ALB, SYN, CORB, INDB & PNB in the year 2009-09.

CONCLUSION

The study reveals that Public Sector Banks are having high technical efficiency during the study period. On the basis of profitability, Private Sector Banks are the best performers. While efficiency-profitability matrix reveals that large number of Public Sector Banks (5) are able to maintain their star status in both the years

(2007-08 and 2008-09, the period under study) followed by two each in Private and Foreign Banks. The low performance of Foreign Banks is an indicative of the after effects of subprime crisis.

REFERENCES

- Angadi V.B. (1983), "Measurement of efficiency in Banking Industry", *Reserve Bank India Occasional Papers*, Vol.3,
- Avkiran, N.K. (1997). Performance of foreign banks in Australia. The Australian Banker, *The Australian Institute of Banking and Finance*, pp. 222-224.
- Avkiran, N. K. (1999a). An application reference for Data Envelopment Analysis in branch banking: helping the novice researcher. *International Journal of Bank Marketing*, 17(5): 206-220.
- Avkiran, N.K. (1999b). The evidence of efficiency gains: the role of mergers and the benefits to the public. *Journal of Banking and Finance*, 23(1): 991-1013.
- Batchelor, V.B. and Wadud, I.K.M.M. (2003). The efficiencies in Malaysian Islamic banking operations: an empirical appraisal. Unpublished Paper. *The Islamic Banking Conference*, September 9-10, Italy.
- Benston, G.J., G.A. Hanweck, and D.B. Humphery, (1982), Scale economies in banking: a restructuring and reassessment, *Journal of Money, Credit and Banking*, 14, pp. 435-456. Bhattacharyya, A., Lovell, C.A.K., and Sahay, P., (1997a), "The impact of liberalization on the productive efficiency of Indian commercial banks", *European Journal of Operational Research*, Vol. 98, pp. 332-345
- Bhattacharyya, A., and Kumbhakar, S.C., (1997b), "Changes in economic regime and productivity growth: a study of Indian public sector banks", *Journal of Comparative Economics*, Vol. 25, pp. 196-219
- Darrat, A., Topuz, D. and Yousef, T. (2002) "Assessing Cost and Technical Efficiency of banks in Kuwait", presented in the *ERF's 8th Annual Conference in Cairo*, (January).
- Debasish, S. S. (2006). Efficiency performance in Indian banking. Use of data envelopment analysis. *Global Business Review*, 7(2), New Delhi: Sage Publications.
- Haag, S. E., & Jaska, P. V. (1995). Interpreting inefficiency ratings: An application of bank branch operating efficiencies. *Managerial and Decision Economics*, 16(1), 7-14.
- Halkos G and Salamouris D (2001) Efficiency Measures of the Greek Banking Sector: A Non-Parametric Approach for the Period 1997 – 1999. *Munich Personal RePec Archive*, No. 2858.
- Jemric I and Vujcic B (2002) Efficiency of Banks in Croatia: A DEA Approach. *Croatian National Bank Working Papers*.
- Katib, M. & Matthews, K. (2000). A non-parametric approach of efficiency measurement in the Malaysian banking sector. *Singapore Economic Review*, 44(2), 89-114.
- Liu, B., & Tripe, D. (2002). New Zealand Bank Mergers and Efficiency Gains. *Journal of Asia-Pacific Business*, 4(4), 61-81.
- Luciano E (2007) Bank Efficiency and Banking Sector Devp. : the Case of Italy. *International Center for Economic Research Working Papers Series*, No. 5.
- Mukherjee, A., Nath, P., & Pal, M. N. (2002). Performance benchmarking and strategic homogeneity of Indian banks. *International Journal of Bank Marketing*, 20(3), 122-39.
- Noulas, A.G and K.W. Katkar (1996), "Technical and Scale Efficiency in the Indian Banking Sector", *International Journal of Development Banking*, Vol.14, No.2, Pp.19-27.
- Oral, M., & Yolalan, R. (1990). An Empirical Study on Measuring Operating Efficiency and Profitability of Bank Branches. *European Journal of Operational Research*, 46(3), 282-294.
- Ozkan-Gunay E and Tektas A (2006) Efficiency Analysis of the Turkish Banking Sector in Precrisis and Crisis Period: A DEA Approach, *Contemporary Economic Policy*, Vol. 24, No. 3, pp418 – 431.
- Rangakulnuwat P (2007) Technical Efficiency of Thai Commercial Banks between 2002 and 2005, *UTCC Journal*, Vol. 24, No. 1, pp129 – 138.
- Saha, Asish and T.S Ravisankar (2000), "Rating Indian Commercial Banks: A DEA Approach", *European Journal of Operational Research*, Vol.124, Pp.187-203.
- Sathye, M. (2003). Efficiency of banks in a developing economy: The case of India. *European Journal of Operational Research*, 148(3), 662-671.
- Shanmugam K.R and T. Lakshmanasamy (2001), Production Frontier and Efficiency Measures: An analysis of the Banking Sector in India", *Asian –African Journal of Economics and Econometrics*, Vol.1, No.2, Pp. 211-228
- Shanmugam, K.R., and Das, A., (2004), "Efficiency of Indian commercial banks during thereform period", *Applied Financial Economics*, Vol. 14, pp. 681-686.
- Siems, T.F., and Clark, J.A., (1997), "Rethinking bank efficiency and regulation: how off balance sheet activities make a difference", *Financial Industry Studies*, Vol.3, No.2, pp.1-11.
- Sunil Kumar, Satish Verma (2002-03), "Technical Efficiency, Benchmarks and Targets: A case study of Indian Public Sector Banks", *Prajnan*, Vol.31, No.4.
- Vassiloglou, M., & Giokas, D. (1990). A Study of the Relative Efficiency of Bank Branches: An Application of Data Envelopment Analysis. *Journal of the Operational Research Society*, 41(7), 591-597.
- Verma committee (1999), "Report of the Working Group on Restructuring of weak public sector banks", *Reserve Bank of India*, Mumbai.
- Wadud, I.K.M.M. and Yasmeen, W. (2004). Competitiveness and returns to scale in the Bangladesh banking industry: a closer look into profitability of Islamic banking. In Shanmugam, B., Perumal, V. and Ridzwa, A.H. (Eds), *Islamic Banking: An International Perspective*. Serdang: *University Putra Malaysia Press*.
- Wheelock, David C. / Wilson, Paul W. (2008). Non-parametric, unconditional quantile estimation for efficiency analysis with an application to Federal Reserve check processing operations. *Journal of Econometrics*, 145(1-2): 209-225.
- Wu S (2002) Productivity and Efficiency Analysis of Australian Banking Sector under Deregulation. School of Accounting, Economics and Finance, *Deakin University*, Australia.
- Yeh, Q. - J. (1996). The application of data envelopment analysis in conjunction with financial ratios for bank performance evaluation. *Journal of the Operational Research Society*, 47(8), 980-988.

ANNEXURE

TABLE 1: DETAILS OF TE SCORE IN DIFFERENT CATEGORIES IN 2007-08

Year 2007-08									
	Private Banks			Foreign Banks			PSBs		
Statistics	All	Efficient	Inefficient	All	Efficient	Inefficient	All	Efficient	Inefficient
n	18	2	16	25	4	21	26	6	20
ATE	0.847	1	0.828	0.362	1	0.241	0.937	1	0.918
SD	0.102	0	0.091	0.313	0	0.145	0.058	0	0.053
Minimum	0.615	1	0.615	0.112	1	0.112	0.820	1	0.820
Median	0.830	1	0.823	0.222	1	0.211	0.949	1	0.922
Maximum	1.000	1	0.978	1.000	1	0.845	1.000	1	0.993
ATIE (%)	15.29%	0.00%	17.21%	63.75%	0.00%	75.90%	6.30%	0.00%	8.19%

TABLE 2: DETAILS OF TE SCORE IN DIFFERENT CATEGORIES IN 2008-09

Year 2008-09									
	Private Banks			Foreign Banks			PSBs		
Statistics	All	Efficient	Inefficient	All	Efficient	Inefficient	All	Efficient	Inefficient
n	18	4	14	25	6	19	26	6	16
ATE	0.905	1	0.878	0.595	1	0.467	0.944	1	0.927
SD	0.081	0	0.071	0.258	0	0.130	0.051	0	0.046
Minimum	0.714	1	0.714	0.304	1	0.304	0.844	1	0.844
Median	0.907	1	0.898	0.539	1	0.460	0.945	1	0.932
Maximum	1.000	1	0.962	1.000	1	0.787	1.000	1	0.992
ATIE (%)	9.48%	0.00%	12.19%	40.53%	0.00%	53.33%	5.65%	0.00%	7.34%

TABLE 3: DETAILS OF ROA IN DIFFERENT CATEGORIES IN 2007-08

	ROA (2007-08)				
	Mean	SD	Minimum	Median	Maximum
All Private	7.77	0.76	6.53	7.76	9.07
All Foreign Banks	2.97	14.87	-64.05	6.86	10.05
All PSBs	7.37	0.44	6.46	7.44	7.94
Efficient Private Banks	7.98	0.58	7.57	7.98	8.39
Efficient Foreign Banks	-16.13	34.02	-64.05	-4.71	8.93
Efficient PSBs	7.28	0.23	7.03	7.28	7.54
Inefficient Private Banks	7.74	0.79	6.53	7.76	9.07
Inefficient Foreign Banks	6.61	2.18	1.75	6.86	10.05
Inefficient PSBs	7.39	0.49	6.46	7.49	7.94

TABLE 4: DETAILS OF ROA IN DIFFERENT CATEGORIES IN 2008-09

	ROA (2008-09)				
	Mean	SD	Minimum	Median	Maximum
All Private	8.27	0.86	6.95	8.12	9.92
All Foreign Banks	7.21	2.45	1.12	7.57	11.77
All PSBs	7.85	0.55	6.58	8.03	8.77
Efficient Private Banks	7.65	0.29	7.22	7.79	7.81
Efficient Foreign Banks	7.82	2.20	3.99	8.49	9.98
Efficient PSBs	8.18	0.31	7.88	8.12	8.77
Inefficient Private Banks	8.45	0.89	6.95	8.57	9.92
Inefficient Foreign Banks	7.02	2.55	1.12	7.31	11.77
Inefficient PSBs	7.75	0.57	6.58	7.94	8.45

TABLE 5: PROGRESS CHART OF PRIVATE BANKS

Private Bank Progress				
Bank Name	Code	2007-08	2008-09	
Axis Bank Ltd.	AXB	Dog	Sleeper	
Bank Of Rajasthan Ltd.	BOR	Dog	Dog	
Catholic Syrian Bank Ltd.	CSB	?	?	
City Union Bank Ltd.	CUB	Star	Star	
Development Credit Bank Ltd.	DCB	?	?	
Dhanalakshmi Bank Ltd.	DLB	Dog	Dog	
Federal Bank Ltd.	FDB	Sleeper	Sleeper	
H D F C Bank Ltd.	HDFC	Star	Sleeper	
I C I C I Bank Ltd.	ICICI	Star	?	
I D B I Bank Ltd. [Merged]	IDBI	Dog	Dog	
I N G Vysya Bank Ltd.	INGVB	?	Dog	
Indusind Bank Ltd.	IIB	Sleeper	Star	
Jammu & Kashmir Bank Ltd.	JKB	?	Dog	
Karnataka Bank Ltd.	KBL	Sleeper	Star	
Karur Vysya Bank Ltd.	KVB	Star	Star	
Kotak Mahindra Bank Ltd.	KMB	Sleeper	Dog	
South Indian Bank Ltd.	SIB	?	?	
Tamilnad Mercantile Bank Ltd.	TMB	Sleeper	Sleeper	

TABLE 6: QUADRANT WISE STATUS OF PRIVATE BANKS

	Star	Sleeper	Underdog	Dogs
2007-08	4	5	5	4
2008-09	4	4	4	6

TABLE 7: PROGRESS CHART OF FOREIGN BANKS

Foreign Bank Progress			
Bank Name	Code	2007-08	2008-09
A B Bank Ltd.	ABB	Star	Star
A B N-Amro Bank N.V.	ABN	Sleeper	?
Abu Dhabi Commercial Bank	ADCB	Sleeper	?
American Express Bank Ltd.	AMEX	?	?
Antwerp Diamond Bank N V	ANDB	Sleeper	?
B N P Paribas	BNP	Sleeper	Sleeper
Bank International Indonesia	BII	Dog	Dog
Bank Of America National Trust & Savings Association	BANTSA	Sleeper	Sleeper
Bank Of Bahrain & Kuwait Bsc	BBK	Sleeper	?
Bank Of Ceylon	BOC	Sleeper	Star
Bank Of Nova Scotia	BONS	Sleeper	Star
Bank Of Tokyo-Mitsubishi U F J Ltd.	BOTM	Sleeper	Star
Barclays Bank Plc.	BARCB	Sleeper	Sleeper
Chinatrust Commercial Bank	CTCB	Dog	?
Citibank N A.	CITI	Sleeper	Sleeper
D B S Bank Ltd.	DBSB	Sleeper	Sleeper
Deutsche Bank A G	DEUB	Sleeper	?
J P Morgan Chase Bank, National Association	JPMCB	Sleeper	Sleeper
Krung Thai Bank Public Co. Ltd.	KTB	Sleeper	Dog
Mashreq bank P S C	MBPSC	Star	Star
Mizuho Corporate Bank Ltd.	MCB	Sleeper	Sleeper
Oman International Bank	OIB	Dog	Dog
Societe Generale	SOGE	Star	?
Standard Chartered Bank	STANC	Sleeper	Sleeper
State Bank Of Mauritius Ltd.	SBOM	Sleeper	Star

TABLE 8: QUADRANT WISE STATUS OF FOREIGN BANKS

	Star	Sleeper	Underdog	Dogs
2007-08	3	18	1	3
2008-09	6	8	8	3

TABLE 9: PROGRESS CHART OF PUBLIC SECTOR BANKS

PSBs Progress			
Bank Name	Code	2007-08	2008-09
Allahabad Bank	ALB	Sleeper	Star
Andhra Bank	ANB	Star	Sleeper
Bank Of Baroda	BOB	Dog	Dog
Bank Of India	BOI	Star	Star
Bank Of Maharashtra	BOM	Dog	?
Canara Bank	CAB	Sleeper	Sleeper
Central Bank Of India	CBOI	?	?
Corporation Bank	CORB	Dog	Star
Dena Bank	DENAB	Dog	Dog
Indian Bank	INDB	Dog	Star
Indian Overseas Bank	IOB	Star	Star
Oriental Bank Of Commerce	OBC	Star	Sleeper
Punjab & Sind Bank	P&SB	Star	Star
Punjab National Bank	PNB	Dog	Star
State Bank Of Bikaner & Jaipur	SBB&J	?	Sleeper
State Bank Of Hyderabad	SBHY	Sleeper	Sleeper
State Bank Of India	SBI	Star	Dog
State Bank Of Indore	SBINDR	Sleeper	Sleeper
State Bank Of Mysore	SBMY	Star	Star
State Bank Of Patiala	SBPAT	Star	Star
State Bank Of Travancore	SBTRAV	Sleeper	Star
Syndicate Bank	SYNB	Sleeper	?
Uco Bank	UCOB	?	?
Union Bank Of India	UBI	Star	Dog
United Bank Of India	UNTBI	?	?
Vijaya Bank	VJB	Sleeper	Sleeper

TABLE 10: QUADRANT WISE STATUS OF PUBLIC SECTOR BANKS

	Star	Sleeper	Underdog	Dogs
2007-08	9	7	4	6
2008-09	10	7	5	4

CONSUMER BEHAVIOUR AND PREFERENCES TOWARDS MOBILE PHONE AND IT'S ACCESSORIES – A BEHAVIORAL STUDY

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ABSTRACT

Consumer behavior is an integral part of human behavior and cannot be separated from it. Consumer behavior is a subset of human behavior; consumer behavior is the act of consuming or using goods or services. The main objectives of the study as follows (i) to analyze the factors which contributes to the satisfaction level of the customers of mobile phones, (ii) to understand the effectiveness of the sales promotional activities of mobile phone companies and offers providing the companies. The present study is an empirical research based on survey method. Through simple random sampling 80 samples were collected. The collected data were coded, calculated and analyzed with the help of statistical tools like percentages, chi-square test; garret ranking model employed this study. From the study find out students outnumbered using the mobile phone services and also low income group people are attracted by mobile phones and they bought it by credit system. This push those into the debt trap.

KEYWORDS

consumer behavior, mobile phone, customer satisfaction

INTRODUCTION

Consumer behaviour is an integral part of human behaviour and cannot be separated from it. Consumer behaviour is a subset of human behaviour. This does not mean that human behaviour is consumption oriented. Human behaviour refers to the total process by which individual's interest with their environment. Consumer behaviour is the act of consuming or using goods or services. Consumer behaviour results from individual and environmental influences. Consumer often purchases the goods and services, which they want, others to accept. Behaviour is therefore determined by the individual's psychological makeup and the influence of other. Thus behaviour is the result of interaction of the consumer is personal influence and pressure exerted upon them by outside forces in the environment. Buying behaviour is the Process by which individuals decide whether what, where, how and from whom to purchase goods and services. An understanding of buying behaviour is essential in marketing and planning programs.

Buying behaviour involves a complicated series of stimulus and response. These motives may be expressed or unexpressed and are based upon deep seated needs or more openly felt wants when someone buy something, he psychologically satisfies both a need and a want. He purchase specific product out of a vast lot, because it provides certain mental or physical satisfaction. Modern buyers want to know not only about the product features but also to know how and why the product will benefit them. They look not only for what a product can do but also what they mean. According to Webster, buying behaviour is all psychological, social and physical behaviour of potential customers as they become aware of evaluating purchasing consuming and telling other people about the product and service. Buying behaviour emphasizes that this behaviour is both Individual (psychological) processes and group (social) processes. It follows the buyer from awareness through post purchase evaluation. It includes communication, purchasing and consumption behaviours. It is broad enough for both the consumers Individual or house hold and Industrial (organizational) buyer behavior

In this dynamic world nothing is permanent except change. We witness changes in all aspects of modern world. It is said that necessity is the mother of invention. In the often-day, there were a lot of unsophisticated way and means of communication like birds, messenger, postal mail, etc. Today, in the era of communication novel means of communication came into existence. Postal mail has been replaced to certain extent by e-mail and landline is being replaced by hand phones called cell phones. It is reported by relevant authorities that after the invention and introduction of cell phones the rate of surrounding landline is at a decreasing rate and the number of users of cell phones is increasing even day by day. Usage of cell phones is not restricted to urban talk and educated youth.

The value of rebranding is in improving experiences that impact people's lives. Brands evolve to keep up with changing demographics, consumer lifestyles, various ethnicities becoming more prevalent and changing spending habits. Rebranding affects many touch points that provide consumer experiences, for example product delivery, or the bills we receive, as well as packaging, advertising and the retail environment (John Williams)¹. Successful rebranding requires a plan and a strategy. Companies need to assess the current brand equities, the market place and stat of the business. They need to retain what works by leveraging existing brand equities to allow the brand to re-emerge with a unique presence, a riveting promise and a fresh approach (Richard Duncan)². New consumer preferences may influence the existing customer to generate preferences for new products forcing the marketer position the present brand to other market segment (Gary Huynh)³. Competitors in the present market may launch an innovated product which may result in the loss of existing market share by old brand and making it essential for repositioning in the other market segment (Ramesh kumar)⁴. Of the dozen of categories of human action working, sleeping, chatting, breathing, buying and so forth the one of the primary importance of marketer is buying (Wholga)⁵. At any given time a person may be faced with a number of motives, but that he probably cannot act to all of them at same time. Therefore each person has a hierarchy of motives, with the motives arranged in ascending order according to their importance. The most urgent motive is acted upon first. Motives representing wants and desires, lower in hierarchy, remain unsatisfied at least temporarily (Maslow)⁶. Money, Vanity, Acquisitiveness, Rivalry, Comfort, Adornment, Cleanliness, Companionship, Collecting, amusement, sensual gratification construction, Aggrandizement, Mental curare, Affection, Social Achievements, Ambitions inhibitive news, Reverence, Romance, Aesthetic vastest, Sex, Limitations, Curiosity, Self preservation, Sympathy, Gratitude, Patriotism and so on (Leon Sciffman. et. al.)⁷. The behaviour that consumers display in search for purchasing using and evaluating products, services and ideas which they expect will Satisfy their needs (Terrel Williams)⁸. Many students have concentrated on finding the common factors that more or less determine the buying pattern of consumers (Alfred Oxenfeldt)⁹. A buyer is emotional creator, i.e., the buyer buys on impulse he does not have enough information about the products and does not make any effort towards economic evaluation of the products usefulness, some of the basic foundation of impulsive buying behaviours (Bass Frank)¹⁰. A non rational buyer does not plan his buying. it is logical and that this buying of the product and specially a specific brand is random or probabilistic. This means that the buyer is not working for a particular brand but picks up the

brand that is either appealing or available. This is a probabilistic switching behavior (John Will white)¹¹. The Characteristic of the buyer himself and other external elements exert some degree of influence on the buyer (Carl Slock)¹². Learning is the name given to changes in an individual's behaviour arising from experience (Edward Thorndike). The system or individual attitudes of behaviour and values that an individual exhibits set him apart from others (Assael, heury)¹³. Advertisers must recognize that an industrial or business buyer is not necessarily a rational buyer. Emotional appeals are equally important that is to make the buyer feel good about buying the product. These emotional aspects of industrial advertising should not ignore, even though rational motives will usually dominate the industrial buying process (Jamco Bettman)¹⁴.

From the above literature study evaluates that consumer preference changing periods to period, consumer preference relates to existing customer and their opinions. Motivation like branding, packaging, model likes to get new customers. Majority of the studies have concentrated on the consumer and their preference aspects. So, this study is going attempt the factor which is motivating to the consumer and attitudes of the consumer while selecting the brand and its aspects.

STATEMENT OF THE PROBLEM

In this dynamic world nothing is permanent except change. We witness changes in all aspects of modern world. It is said that necessity is the mother of invention. In the often-day, there were a lot of unsophisticated way and means of communication like birds, messenger, postal mail, etc. Today, in the era of communication novel means of communication came into existence. Postal mail has been replaced to certain extent by e-mail and landline is being replaced by hand phones called cell phones. It is reported by relevant authorities that after the invention and introduction of cell phones the rate of surrounding landline is at a decreasing rate and the number of users of cell phones is increasing even day by day. Usage of cell phones is not restricted to urban talk and educated youth.

NEED FOR THE STUDY

Consumer behaviour is the study of when, why, how, and where people do or do not buy a product. It blends elements from psychology, sociology, social anthropology and economics. It attempts to understand the buyer decision making process, both individually and in groups. It studies characteristics of individual consumers such as demographics and behavioural variables in an attempt to understand people's wants. It also tries to assess influences on the consumer from groups such as family, friends, reference groups, and society in general. Customer behaviour study is based on consumer buying behaviour, with the customer playing the three distinct roles of user, payer and buyer. This study need to understand the behaviour and preferences of mobile phone customers in the study area.

OBJECTIVES OF THE STUDY

The main objectives of this study

1. to analyze the factors which contributes to the satisfaction level of the customers of mobile phones,
2. to understand the effectiveness of the Sales Promotional Activities of mobile phone companies and offers providing the companies.
3. to examine the customer attitude towards Mobile Connection and which factor motivate to select the brands.

METHODOLOGY

The present study is an empirical research based on survey method. Through simple random sampling 80 samples were collected. Primary data were collected directly from the customers by using with the help of interview schedule. The relevant secondary data have been collected from the periodicals. The Collected data were coded, calculated and analyzed with the help of simple statistical tools percentages, chi-square test, Ranking and scaling methods used to this study.

HYPOTHESES

- HO₁: there is no significant relationship between Income and satisfaction of using mobiles
 HO₂: there is no significant relationship between gender and satisfaction of using mobiles
 HO₃: there is no significant relationship education and satisfaction of using mobiles
 HO₄: there is no significant relationship between age and satisfaction of using mobiles

SCOPE OF THE STUDY

Consumer behavior has been studied by numerous scientists including psychologists, sociologists, economists, behavior analysts and anthropologists. These scientists are attempting to understand the buyer decision making process, both individually and in groups. In this study attempting the consumer behavior and preferences towards mobile phone and its accessories analyzed consumer and problem of their lives, how the consumers searching things for their need. Also evaluation of this product and their satisfaction level, how consumer interact advertisement of the product. So this study scope has been covered in the full view of the customers and their preference.

RESULTS AND DISCUSSION

Cell phones or mobile phones are the modern gadgets which simplify the communication of all the sections of society. The researcher wanted to analyse the consumer preference towards the mobile phone connections in the study area Mukkudal. For the present study sixty respondents were selected randomly in the study area and a well equipped and valid questionnaires were distributed to them. The collected raw data were classified and arranged in a tabular form. In this chapter the collected data are analysed with proper statistical tools.

Table 1 reveals both the genders use cell phones for their communication needs. In India female population is half of the total population. Therefore the researcher wanted to know the percentage of each sex, using cell phones. The study shows all the factors which is motivating to purchase the mobile phones and its accessories to analyse the gender wise. From the above table it is concluded that 60 percent of the male population use cell phones and only 40 percent of the female population use cell phones for communication. Cell phones are mostly used by the male population than the female. Age is an important factor which determines the mobile phone usage. Students, Business people, contractors, Teachers, lawyers, Doctors, etc., are using mobile phones. 40 percent of the respondents are belonged to 20 - 30 age group. 35 percent of them are belonged to 24 - 26 age group. Only 10 percent of the respondents are come under the age group of above 27 years. Communication is must for all our day to day activities. All the people both educated and uneducated use mobile phones. Percent study is made to identify the educational status of the mobile phone users. The study reveals that literates i.e. the respondents who have college level study use mobile phones in larger level (35 percent) next to them the respondents who have higher secondary level education use mobile phones in larger level (25 percent). An interesting finding of the study is that 10 percent of the mobile users are illiterates. Occupation plays a vital role in mobile phone usage. Cell phones are used for communication purposes. The study area is filled with the people who have different occupational status. Maximum number of the cell phone users 55 percent is students. 20 percent of the cell phone users are private sector employees. Only 5 percent of the respondents are professionals. There is a direct relationship between income and consumption. Income is one of the determining factors of consumption. The researcher made an attempt to analyse the relationship between income and mobile phone usage. Marital status also the important factor of buying mobile phone and accessories, out of 80 respondents majority 60 percent of them not married. Only 40 percent of them got married, in the 40 percent majority 25 percent of them married females. Among the respondents majority 65 percent of them not earning any income that means they all are come under the student. They are getting money from their family for

the needs. 25 percent are come under the income group of below 5000 per month. Only 5 percent of them comes under the income group of 7501 -10000 and above 10000 respectively.

Cell phone market in India is oligopoly in its nature. Nearly 10 or more companies are providing cell phone service in India. The following table shows the consumer giving more preference to their network communications. From this table inferred that 35% of the consumers using airtel network, followed by 20% of the consumers having Vodafone and reliance network respectively. Though BSNL is a government of India undertaking, it has 10 percent of the cell phone users. Because compare to the government network private company's frequently providing lot of special offers. Changes are an essential one in the changing world. Everything's except the human beings are changing day by day. Law of diminishing marginal utility, technological advancement, price reduction, etc., is the factors which determine the year wise usage of the mobile phones.

Table 2 reveals that 50 percent of the respondents using the cell phone for less than one year. Followed by 30% of them using mobile phones 1 to 2 years only, Less than 20% of the respondents use the mobile phone for 2-3 years. This shows majority of the consumer are using mobile phone recently. Instrument refers to the hand set. Different company's products occupied the Indian mobile phone markets. 50% of the respondents owned Nokia handsets, followed by 30% of the respondents using the other mobiles like china, orion mobiles. Because next to the nokia mobile other mobiles giving very cheap rate and providing technological facilities like Bluetooth, GPRS, Infrared etc.

Purpose of using mobile phones in this study refers to the reason for what the mobile phones are used. Different people use cell phones for different purposes. From the table it reveals that 40% of the respondents using the cell phones for their family purpose. 25% of them use it for friendship as well as their love relationships. Only 5% of the respondents using mobile phones for making social as well as business relationships. Motivation is a psychological stimulus which urges a person to consume a particular product. The researcher wanted to know the motivational factors which motivated the consumers to consume the handset. The above table it is understood that 50% of the respondents purchased their hand sets for the quality, consumer refers quality means its not easily get repaired. 25% of the respondents are motivated by the speciality in their handsets like Bluetooth, mega pixel camera etc. 20% of them gets motivated because of the price of the cell phones.

Contributing factors refer to the factors which introduce the cell phones to the cell phone users. Table 3 examined 55% of the respondents buying the mobile phone because of the contribution to their friends. Advertisement plays a vital role in introducing the cell phones to the respondents. 40 percent of the respondents got aware of the cell phones through advertisement. Only 5% of the respondents getting aware to their co-workers. It refers to the system, which the mobile service providers given to the customers. Different service systems are followed by the service providers. 90% of the respondents having prepaid mode cards and followed by 10% of them using post paid cards. The service provider now a day's not ready to give post paid cards because number of post paid holder has not paid their dues.

Usage awareness of mobile phone customers shows in the table 4. From the table it is inferred that all the respondents using mobile phones regularly. 35% of the customers reported that they are using mobile connection with special schemes, remaining 65% of the respondents using normal schemes. The special schemes of the customers reported that 43% of them having one year validity plus free SIMs and also three year incoming free cards. Only 14% of the mobile phone customers having night free cards using booster pack. Majority 45% of the respondents feel good about their connections and 35% of them reported that the connection giving more than good facility. 20% of the respondents they were feeling moderate position of the connections.

Satisfaction level of the mobile respondents presented in the table 5. From this table 25% of the respondents having more than one connection but 75% of them using only one connection. Half of the respondents reported that they are ready to change their connection and also they were still remain the present connection respectively. In this regard 40% of the respondents i.e. 16 reported that payment of the connection not suitable for them. 30% of the respondent i.e. 12 person going to change because of number, 20% of reported that they are not getting new facilities from their service provider. The overall performance of the mobile phone connection and it accessories, 90% of the respondent satisfied with consumer facilities.

From the table 6 shows the garret ranking table from the selected sample respondents. Majority of the respondents preferred to have the mobile phone and its accessories the concern company frequently giving the special offers, from the table shows least mean scores 45.05 followed by continuous connections (45.70) shows the second rank. The sample respondents feel that provide good service to their customers also shows impact of the usage, followed by call charges (49.85), friends chat (51.6) and connection of the handset (59.15) showing the rank respectively 4th, 5th and 6th rank.

H0: THERE IS NO SIGNIFICANT RELATIONSHIP BETWEEN AGE AND SATISFACTION OF USING MOBILES

Table 7 shows the tabulation of age and satisfaction with mobile phone connection from the customers of mobile phone users. Since, the calculated value (35.56) of chi-square value is more than the table value (16.92) at 5% level of significance for 8 degrees of freedom. The null hypothesis is rejected. Therefore, it is concluded that there is a significant relationship between age and satisfaction with mobile phone connection.

H0: THERE IS NO SIGNIFICANT RELATIONSHIP BETWEEN GENDER AND SATISFACTION OF USING MOBILES

Table 8 shows the tabulation of sex and satisfaction with mobile phone connection from the customers of mobile phone users. Since, the calculated value (5.93) of chi-square value is more than the table value (3.84) at 5% level of significance for 1 degrees of freedom. The null hypothesis is rejected. Therefore, it is concluded that there is a significant relationship between gender and satisfaction with mobile phone connection.

H0: THERE IS NO SIGNIFICANT RELATIONSHIP EDUCATION AND SATISFACTION OF USING MOBILES

Table 9 shows the tabulation of educational qualifications and satisfaction with mobile phone connection from the customers of mobile phone users. Since, the calculated value (19.68) of chi-square value is more than the table value (14.07) at 5% level of significance for 7 degrees of freedom. The null hypothesis is rejected. Therefore, it is concluded that there is a significant relationship between educational qualification and satisfaction with mobile phone connection.

H0: THERE IS NO SIGNIFICANT RELATIONSHIP BETWEEN INCOME AND SATISFACTION OF USING MOBILES

Table 10 shows the tabulation of income and satisfaction with mobile phone connection from the customers of mobile phone users. Since, the calculated value (38.97) of chi-square value is more than the table value (12.59) at 5% level of significance for 6 degrees of freedom. The null hypothesis is rejected. Therefore, it is concluded that there is a significant relationship between income and satisfaction with mobile phone connection.

SUGGESTIONS

- Present study reveals that students outnumbered other cell phone users. Cell phone usage will definitely reduce the concentration on studies. Therefore both the parents and the governments should come forward to regularize the cell phone usage of the students.
- The low income group people are attracted by cell phones and they purchased it by credit system. This push them into the debt trap. Steps should be taken by the government to supply cell phones at free of cost.
- Airtel connection is preferred by most of the consumers in the study area. It is because of the various schemes introduced by Airtel. To attract the consumers all other cell phone providers should come forward to introduce consumer based services.
- Only 50 percent of the respondents are attracted by the special scheme offer. If the remaining 50 percent of the respondents are motivated, the cell phone services will be more attracted. For this the cell phone service providers should identify the needs the dissatisfied consumers.
- When we analyse the satisfaction level continuous connectivity and services provided by the cell phone companies get poor response. Therefore the mobile connection gets poor response. Therefore the mobile connection providers should come forward to develop their continuous connectivity and services.
- Present study reveals that 50 percent of the respondents in the study area wanted to change their schemes. It reflects the dissatisfaction of the consumers towards the cell phone services. Therefore cell phone companies should take essential measures to rectify the dissatisfaction of the consumers.
- Call charges should be minimized to attract the consumers. Many respondents feel that net work problem is one of the most important problem they are facing. Enough signal Towers should be established in the rural areas to solve this problems.

- Some cell phone service providers give free SMS service to their customers. This service should be given by all the service providers to attract the consumers.

CONCLUDING REMARKS

Purchasing behaviour involves complicated services of stimulus and response. These stimuli are called as motives. These motives may be expressed or unexpressed and are based upon deep seated needs or more openly felt desires when someone purchase something, the person psychologically satisfies both a need and a want. Modern purchasers want to know not only about the product features but also to know how and why the product will benefit them. They look not only for what a product can do but also what they mean. Present study is an attempt to analyse the various factors involved in the consumer preference towards mobile phone connections in Mukkudal Town Panchayat area. Important findings and suggestions are made out of the study. It reflects the nature of the consumer preference of mobile phone connections. If the mobile phone service providers consider the suggestions which are made by the researcher it will be helpful not only for the consumer but also for the service providers.

REFERENCE

- Assael, heury., (1981), "Consumer Behaviour and Marketing action", Tata McGraw Hill publishing and company
- Bass Frank M., (1974), "The theory of stochastic preference and brand switching", Journal of Marketing Research Vol. 2, No. 1, pp. 1-20.
- Bettman, Jamco R., (1979), "An information procession theory of consumer choice", Addition Wesley.
- Fredrick F., (1974), "Marketing for Manager", Dictionary for Webster
- Gary Huynh., (2008), "Creative Rebranding Techniques", Journal of Marketing Research, Vol. 2, No. 3, pp. 12-18.
- John Williams., (2002), "Entrepreneur Article on Rebranding", Entrepreneur magazine, Vol. 12, No. 1, pp. 1-3.
- Maslow A.H., (1954), "Motivation and Personality", Rebrand Profits, Vol. 1, No. 3, pp. 80-85
- Oxenfeldt, Alfred E., (1966), "Executive auction in Marketing", Wordsworth publishing.
- Ramesh Kumar., (2000), "Marketing and Branding the Indian Scenario", Entrepreneur Magazine, Vol. 1, No. 2, pp. 60-65.
- Richard Duncan., (2007), "The Dynamics of Rebranding", Rebrand Profits, Vol. 1, No. 1, pp. 1-2.
- Sciffman, Leon G. and Lesline Lazer Knuk., (1978), "Consumer Behavior", Prentice Hall.
- Slock, Carl. E. and Kenneth. J. Roering., (1976), "Essentials of Consumer Behaviour", Dryden press.
- Thorndike, Edward L.T., (1985), "The law of effect in selected Bruiting from connectionists – Psychologym", Journal of Marketing, Vol. 30, No. 2, pp. 1-12.
- Wholcast E.H., (1958), "Do hashsndsor wives make the purchase decisions", Journal of Marketing, Vol. 3, No. 2, pp. 151 – 158.
- Wight John Williams L. Winter Jr and Sherilyn K. Ziegler., (1982), "Advertising", Tata McGraw Hill publishing.
- Willians Terrel G., (1982), "Consumer Behaviour fundamental and Strategies", west publishing company.

TABLES

TABLE 1 - SOCIO – ECONOMIC PROFILE OF THE SAMPLE RESPONDENTS

S.I No	Particulars	Female	Male	Total
A. Age distribution				
(i)	Below 20 years	12 (15.0)	20 (25.0)	32 (40.0)
(ii)	21 – 23 years	0 (0.0)	12 (15.0)	12 (15.0)
(iii)	24 – 26 years	16 (20.0)	12 (15.0)	28 (35.0)
(iv)	Above 27 years	4 (5.0)	4 (5.0)	8 (10.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)
B. Educational qualification				
(i)	Illiterate	4 (5.0)	4 (5.0)	8 (10.0)
(ii)	Secondary	4 (5.0)	0 (0.0)	4 (5.0)
(iii)	Higher secondary	16 (20.0)	4 (5.0)	20 (25.0)
(iv)	Graduate	8 (10.0)	20 (25.0)	28 (35.0)
(v)	Postgraduate	0 (0.0)	4 (5.0)	4 (5.0)
(vi)	Technical	0 (0.0)	16 (20.0)	16 (20.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)
C. Occupational status				
(i)	Government employees	0 (0.0)	4 (5.0)	4 (5.0)
(ii)	Non-govt. employees	4 (5.0)	12 (15.0)	16 (20.0)
(iii)	Students	12 (15.0)	32 (40.0)	44 (55.0)
(iv)	Home maker	8 (10.0)	0 (0.0)	8 (10.0)
(v)	Any other	8 (10.0)	0 (0.0)	8 (10.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)
D. Marital Status				
(i)	Married	20 (25.0)	12 (15.0)	32 (40.0)
(ii)	Un married	12 (15.0)	36 (45.0)	48 (60.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)
E. Income of the respondents				
(i)	Not earning	20 (25.0)	32 (40.0)	52 (65.0)
(ii)	Below 5000	12 (15.0)	8 (10.0)	20 (25.0)
(iii)	5001 – 7500	0 (0.0)	0 (0.0)	0 (0.0)
(iv)	7501 - 10000	0 (0.0)	4 (5.0)	4 (5.0)
(v)	Above 10000	0 (0.0)	4 (5.0)	4 (5.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)

Note: Figures in the parentheses shows percentage of total respondents.

Source: Primary data

TABLE 2 - CONSUMER PREFERRED MOBILE PHONE DETAILS

S.I No	Particulars	Female	Male	Total
A. presently using the network				
(i)	vodafone	4 (5.0)	12 (15.0)	16 (20.0)
(ii)	bsnl	4 (5.0)	4 (5.0)	8 (10.0)
(iii)	reliance	12 (15.0)	4 (5.0)	16 (20.0)
(iv)	aircel	0 (0.0)	12 (15.0)	12 (15.0)
(v)	airtel	12 (15.0)	16 (20.0)	28 (35.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)
B. how long are you using the connection				
(i)	Less than 1 year	16 (20.0)	24 (30.0)	40 (50.0)
(ii)	1 to 2 years	12 (15.0)	12 (15.0)	24 (30.0)
(iii)	2 to 3 years	4 (5.0)	12 (15.0)	16 (20.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)
C. what instrument are you using at present				
(i)	nokia	20 (25.0)	20 (25.0)	40 (50.0)
(ii)	sony ericson	0 (0.0)	4 (5.0)	4 (5.0)
(iii)	motorola	0 (0.0)	4 (5.0)	4 (5.0)
(iv)	samsung	4 (5.0)	4 (5.0)	8 (10.0)
(v)	Any other	8 (10.0)	16 (20.0)	24 (30.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)

Note: Figures in the parentheses shows percentage of total respondents.

Source: Primary data

TABLE 3 - FACTORS INFLUENCING TO SELECTING MOBILE

S.I No	Particulars	Female	Male	Total
A. purpose of using mobile				
(i)	Business	0 (0.0)	4 (5.0)	4 (5.0)
(ii)	Home purpose	28 (35.0)	4 (5.0)	32 (40.0)
(iii)	Friendship	4 (5.0)	16 (20.0)	20 (25.0)
(iv)	Loverelationship	0 (0.0)	20 (25.0)	20 (25.0)
(v)	Social relationship	0 (5.0)	4 (5.0)	4 (5.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)
B. what factor motivate to buy				
(i)	quality	8 (10.0)	32 (40.0)	40 (50.0)
(ii)	price	8 (10.0)	8 (10.0)	16 (20.0)
(iii)	speciality	16 (20.0)	4 (5.0)	20 (25.0)
(iv)	superior tehnology	0 (0.0)	4 (5.0)	4 (5.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)
C. what factor contribute to buy				
(i)	Friends	12 (15.0)	32 (40.0)	44 (55.0)
(ii)	Advertisement	20 (25.0)	12 (15.0)	32 (40.0)
(iii)	Co-workers	0 (0.0)	4 (5.0)	4 (5.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)
D. mode of connection				
(i)	Pre paid	28 (35.0)	44 (55.0)	72 (90.0)
(ii)	post paid	4 (5.0)	4 (5.0)	8 (10.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)

Note: Figures in the parentheses shows percentage of total respondents.

Source: Primary data

TABLE 4 - USAGE OF MOBILE PHONES

S.I No	Particulars	Female	Male	Total
A. use regular				
(i)	Yes	32 (40.0)	48 (60.0)	80 (100.0)
(ii)	No	0 (0.0)	0 (0.0)	0 (0.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)
B. do you avail any special schemes				
(i)	Yes	16 (20.0)	12 (15.0)	28 (35.0)
(ii)	No	16 (20.0)	36 (45.0)	52 (65.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)
C. if yes, what special scheme				
(i)	One year validity, sms	4 (14.0)	8 (29.0)	4 (43.0)
(ii)	Three year validity	8 (29.0)	4 (14.0)	16 (43.0)
(iii)	Boster card night free	4 (14.0)	0 (0.0)	4 (14.0)
	Total	16 (57.0)	12 (43.0)	28 (100.0)
D. how do you feel about connection				
(i)	Moderate	12 (15.0)	4 (5.0)	16 (20.0)
(ii)	Good	12 (15.0)	24 (30.0)	36 (45.0)
(iii)	Very good	8 (10.0)	20 (25.0)	28 (35.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)

Note: Figures in the parentheses shows percentage of total respondents.

Source: Primary data

TABLE 5 - SATISFACTION DETAILS OF THE SAMPLE RESPONDENTS

S.I No	Particulars	Female	Male	Total
A. are you using more than one connection				
(i)	Yes	8 (10.0)	12 (15.0)	20 (25.0)
(ii)	No	24 (30.0)	36 (45.0)	60 (70.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)
C. are you going to change the present connection				
(i)	yes	12 (15.0)	28 (35.0)	40 (50.0)
(ii)	no	20 (25.0)	20 (25.0)	40 (50.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)
D. if yes, what reason				
(i)	High message cost	4 (10.0)	0 (0.0)	4 (10.0)
(ii)	No other facility	0 (0.0)	8 (20.0)	8 (20.0)
(iii)	Change mode of payment	4 (10.0)	12 (30.0)	16 (40.0)
(iv)	Change to number	4 (10.0)	8 (20.0)	12 (30.0)
	Total	12 (30.0)	28 (70.0)	40 (100.0)
E. overall are you satisfied with the present connection				
(i)	yes	32 (40.0)	40 (50.0)	72 (90.0)
(ii)	no	0 (0.0)	8 (10.0)	8 (10.0)
	Total	32 (40.0)	48 (60.0)	80 (100.0)

Note: Figures in the parentheses shows percentage of total respondents.

Source: Primary data

TABLE 6 - GARRET RANKING TABLE OF FACTORS MOTIVATE TO USE MOBILE CONNECTIONS

S.No	Particulars	Total Score	Mean Score	Rank
1	Continuous connectivity	3656.00	45.70	2
2	Provide good service	3892.00	48.65	3
3	Provide special offers	3604.00	45.05	1
4	Call charges	3988.00	49.85	4
5	Connection with handset	4732.00	59.15	6
6	Any other (free of cost friends card)	4128.00	51.6	5

TABLE 7 - AGE AND SATISFACTION WITH MOBILE CONNECTIONS

	Satisfaction with mobile phone and connections			Pearson Chi-square value	Significance
	Yes	No	Total		
Below 20	28	4	32	35.56	.000
21 – 23 years	8	4	12	Df 9 – 16.92	
24 – 26 years	28	0	28		
Above 27	8	0	8		
	72	8	80		

TABLE 8 - GENDER AND SATISFACTION WITH MOBILE CONNECTIONS

	Satisfaction with mobile phone and connections			Pearson Chi-square value	Significance
	Yes	No	Total		
Male	32	0	32	5.93	.013
female	40	8	48	Df 1 – 3.84	
	72	8	80		

TABLE 9 - EDUCATION AND SATISFACTION WITH MOBILE CONNECTIONS

	Satisfaction with mobile phone and connections			Pearson Chi-square value	Significance
	Yes	No	Total		
Illiterate	8	0	8	19.68	.006
Secondary	4	0	4	Df 7 – 14.07	
Higher secondary	20	0	20		
Degree	24	4	28		
Post graduate	4	0	4		
Technical	12	4	16		
	72	8	80		

TABLE 10 - INCOME AND SATISFACTION WITH MOBILE CONNECTIONS

	Satisfaction with mobile phone and connections			Pearson Chi-square value	Significance
	Yes	No	Total		
Below 1500	56	4	60	38.97	.000
1501 – 5000	8	4	12	Df 6 – 12.59	
5001 – 7500	0	0	0		
Above 7501	8	0	8		
	72	8	80		

EFFECTIVENESS OF CARGO HANDLING IN VISAKHAPATNAM PORT TRUST – A CASE STUDY**DR. K. HARI HARA RAJU****ASST. PROFESSOR****DEPARTMENT OF MANAGEMENT STUDIES****PYDAH COLLEGE OF ENGINEERING & TECHNOLOGY****GAMBHEERAM, VISAKHAPATNAM – 531 163****DR. D. M. SHEABA RANI****PROFESSOR****DEPARTMENT OF COMMERCE AND MANAGEMENT STUDIES****ANDHRA UNIVERSITY****VISAKHAPATNAM – 530 003****ABSTRACT**

Visakhapatnam Port is one of the leading major ports of India has been playing a vital role in fostering the country's foreign trade and economic development. Port provided immense employment opportunities for the citizens in and around the city. In this paper an attempt has been made to study the effectiveness of cargo handling in VPT. Manpower and machine power usage for handling bulk, dry and liquid cargo, respondents opinion on time consuming for loading, unloading and material handling of cargo have been tested by applying chi-square test and F-test in relation to year of establishment, operational area and type of firms. The results show that machine power usage is more than the manpower for handling bulk, dry and liquid cargo. All the respondents are taking 2-5 days of time for loading and unloading. F-values for time consuming for cargo handling and material handling system in VPT for different years of establishment and operational area are significant at 0.01 level and type of firm is significant at 0.05 level.

KEYWORDS

Cargo, Port, Visakhapatnam, Foreign Trade.

INTRODUCTION

Visakhapatnam Port Trust is one among the 12 major ports of the country. It has acted as a catalyst in the process of industrialization of its hinterland along with other ancillary industries. The port played a dynamic role in faster accelerated development in the region which contributed significantly for the national development. Visakhapatnam port is one of the leading major parts of India has been playing a vital role in fostering the country's foreign trade and economic development. Visakhapatnam was an ancient port city which had trade relations with Middle East and Rome, Ships anchored at open roads and loaded with cargo from Visakhapatnam shore by means of small boats. The construction of Harbor at Visakhapatnam was thought after the transfer of power from East India Company to the crown. Port provided immense employment opportunities for the citizens in and around the city. Port has attracted many industries in its hinterland and this industrialization, further enhanced, employment opportunities to the people of the region. Industries like ship building, old refiner, fertilizer factory, zinc smelter plant, Bharat Heavy Plates and Vessels Limited, Export processing Zone and Steel plant now owe their birth at the city of the port.

The important cargo types namely dry, bulk, liquid and container traffic is confined mainly to the Major Ports. General cargo and special bulk materials such as stones, cement, oil seed extractions, salt, etc. are handled at minor ports as break bulk. The traffic growth in the first half of 2008-09 was a little over seven per cent due to several factors such as fuel price hike, jittery commodities market and less than satisfactory growth in iron ore exports. In 2007-08, the major ports had posted 12 per cent growth at 519.314 million tonnes (mt).

CARGO HANDLING FACILITIES

For the purpose of loading and unloading cargo, shifting, tracking of the cargo, the port has fleet of versatile equipment backed by workshop facilities. This fleet consists of electric wharf cranes, mobile cranes, toplift trucks, forklift trucks, tractors and saunters, steel barges etc, with all these equipments the port is able to handle all types of cargo handling heavy lifts.

REVIEW OF LITERATURE

Here a review of literature is made on the aspects related to studies on logistics carried out in India and abroad. A diversity of logistics activities could be found on literature, such as material handling, customer service, transport, inventory, warehousing etc.

Graves (1974)¹ they introduce a multi commodity logistics network design model for optimizing annualized finished product flows from the plants to the DC their to the final customers.

Bowersox, (1978)², (Tersine, 1985)³, Lambert and Stock, (1999)⁴ studied that handling is an activity developed inside warehouses with the application of a set of handling equipment which aims: (i) to control the flows and storage of raw-materials, parts and final products that go to warehouses and that move between the several warehouses that belong to the same enterprise; (ii) to eliminate handlings that are unnecessary; (iii) to minimize the distances of moving inside warehouses; (iv) to guarantee a uniform flow without breakings; (v) to minimize losses because of wastefulness; (vi) to avoid breakings; (vii) to decrease the operational expenditures and; (viii) to decrease works' accident.

Tersine (1985)⁵ stated that the performance of the logistics activity that embraces the handling and movement of products is positively related with the global performance of the firms, in terms of costs, time, and quality.

C. J. Langley (1992)⁶ Casts the evolution of the logistics into three specific contexts; past (1950-1964); present (1965) future. Four stage in development of Logistics function; (1) cost control; (2) profit center orientation recognizes positive impact on sales; (3) view logistics as key to product differentiation; (4) principal strategy revolves around logistics.

Goldratt and Cox, (1993)⁷, Tersine, (1985)⁸, consider the handling of materials as an activity that does not contribute, strongly, for the value added. This way, its impact should be minimized, through the optimization both of the layout of the warehouses, and the products flow. This allows the firms to reduce the number of operations and movements of materials, whereas the associated cost is also reduced.

Bowersox and Closs, (1996)⁹, explained that the logistics can give an important contribution, for example, in the simplification of the flows of information and circulation of the goods and/or services, as well as in the introduction of innovative and more creative processes. Besides, efficient policies of production, marketing and sales always support the efficient use of the logistics practices.

Ratliff and Nulty, (1996)¹⁰ stated that in general terms, logistics activities are all those activities that firms appeal to support their production systems, that is, all activities related with purchase, handling, warehousing and delivery of materials and final products through the supply chain.

Mohammed Abdur Razzaque (1997)¹¹ the current trend of changes in global business is highlighting the importance of logistics in the development of Third World business and industries. Literature reveals that many of these Third World nations lack logistics facilities; the task of developing a good logistics system in these nations is quite challenging.

Schary, P.B. and T. Skjott-Larsen (1998)¹² stated that logistics management is concerned with managing a series of functional activities beginning with transportation inventory and information management but extending to all activities that involve the management of product movement.

Nevertheless, in the perspective of Prince (1998)¹³, the way how the warehouses are managed may contribute for the reduction of operational costs and execution times in logistics. Thus, the use of Integrated Warehouse Management Systems in order to improve its performance is suggested.

Armstrong, Richard (2001)¹⁴ identifies that as trucking prices are largely inelastic, other ways must be identified to reduce expenses for 3PL's. Mode shifting, end to end matching, improved carrier negotiation and shipment visibility are the other major ways. His finding is to reduce costs, aggregate expensive small shipments into larger ones. Timing, stop-offs etc. make aggregation difficult.

K.M.Mittal (2004)¹⁵ observed that flexible logistics management helps in achieving strategic goals. It also results in effective use of resources and improves operations management. In globalization era flexible logistics management can play a major role in developing corporate strategy and coping with change.

Azevedo, (2004)¹⁶ studied about the logistics activities related with the warehousing and handling activities because these activities seems to have more impact on the firm's performance.

Sanyal, (2006)¹⁷ stated that logistics costs (i.e., inventory holding, transportation, warehousing, packaging, losses and related administration costs) have been estimated at 13-14 per cent of Indian GDP which is higher than the 8 per cent of USA's and lower than the 21 per cent of China's GDP.

Ilze Atkacuna, Karolina Furlan (2009)¹⁸ analyzes how TPL firms develop value-added services and to investigate what the driving forces and barriers for developing and providing such services are. In the frame of reference, literature within service management, outsourcing, third-party logistics, value-added services, innovation and learning have been used.

OBJECTIVES OF THE STUDY

1. To examine the nature and effectiveness of cargo handling in Visakhapatnam Port Trust.
2. To offer appropriate suggestions for improvement of the effectiveness of cargo handling in Visakhapatnam Port Trust.

METHODOLOGY

The study is based on both primary and secondary data. The field work for the study was staggered over two months. The primary data for the study are collected by using one elaborate questionnaire for shipping agents which include cargo handling, manpower and machine power used for handling the cargo, time consuming for loading and unloading the cargo etc.

SAMPLING

The study has taken into consideration shipping agents under the Port Trust. Out of the total 177 shipping agents under Visakhapatnam Port Trust a sample of 71 shipping agents which constitute 40 per cent of the total shipping agents have been chosen on purposive basis.

In the second stage the researchers have selected the respondent shipping agents by using random sampling technique.

STATISTICAL TOOLS USED

The primary data have been interpreted with the help of statistical tools such as percentages, chi-square test of significance and F-test.

RESEARCH ANALYSIS AND FINDINGS

TABLE NO 1: DETAILS OF TOXIC AND DANGEROUS MATERIALS HANDLED BY THE PORT

S. no	Variables	Groups	Details of toxic and dangerous materials handled by the port					Chi- sqr Value
			Chemicals	Acid	Gaseous	All the above	Total	
1	Year of Establishment	Before 1995	15(21.1)	21(29.6)	0(0.00)	0(0.00)	36(50.7)	
		1996-2000	28(39.4)	0(0.00)	0(0.00)	0(0.00)	28(39.4)	97.9**(13.3)
		2001-2005	0(0.00)	0(0.00)	0(0.00)	7(9.9)	7(9.9)	
2	Operational area	Indian	21(29.6)	7(9.9)	0(0.00)	0(0.00)	28(39.4)	
		Foreign	0(0.00)	0(0.00)	0(0.00)	7(9.9)	7(9.9)	72.49** (13.3)
		Both	22(31.0)	14(19.7)	0(0.00)	0(0.00)	36(50.7)	
3	Type of the firm	Proprietary firm	14(19.7)	0(0.00)	0(0.00)	7(9.9)	21(29.6)	
		Partnership	15(21.1)	0(0.00)	0(0.00)	0(0.00)	15(21.1)	25.89** (13.3)
		Limited/ Pvt Ltd	14(19.7)	21(29.6)	0(0.00)	0(0.00)	35(49.3)	
	Total		43(60.6)	21(29.6)	0(0.00)	7(9.9)	71(100.0)	

**Significant at 0.01 level

Table no.1 describes the details of toxic and dangerous materials handled by the port. For this a highest majority of the respondents (60.6%) stated that chemicals followed by (29.6%) responded for acid and (9.9%) for all the above dangerous materials. It is surprising to note that port is not handling gaseous and nuclear materials. It is suggested that they should also handled gaseous and nuclear materials for rapid port development.

The calculated chi-square value for year of establishment of firm, operational area and type of firm Vs details of toxic and dangerous material handled by the port is found significant at 0.01 level. This infers that there is a significant relation between the variables and type of materials handled.

TABLE NO 2: MANPOWER USED FOR HANDLING BULK CARGO

S. no	Variables	Groups	Manpower is used for handling the bulk cargo					Chi- sqr Value
			10%-20%	21%-30%	31%-40%	More than 40%	Total	
1	Year of Establishment	Before 1995	7(9.9)	15(21.1)	7(9.9)	7(9.9)	36(50.7)	54.39** (16.8)
		1996-2000	0(0.00)	7(9.9)	21(29.6)	0(0.00)	28(39.4)	
		2001-2005	7(9.9)	0(0.00)	0(0.00)	0(0.00)	7(9.9)	
2	Operational area	Indian	7(9.9)	0(0.00)	21(29.6)	0(0.00)	28(39.4)	73.93** (16.8)
		Foreign	7(9.9)	0(0.00)	0(0.00)	0(0.00)	7(9.9)	
		Both	0(0.00)	22(31.0)	7(9.9)	7(9.9)	36(50.7)	
3	Type of the firm	Proprietary firm	7(9.9)	7(9.9)	7(9.9)	0(0.00)	21(29.6)	16.34* (12.6)
		Partnership	0(0.00)	8(11.3)	7(9.9)	0(0.00)	15(21.1)	
		Limited/ Pvt Ltd	7(9.9)	7(9.9)	14(19.7)	7(9.9)	35(49.3)	
	Total		14(19.7)	22(31.0)	28(39.4)	7(9.9)	71(100.0)	

*Significant at 0.05 level, **Significant at 0.01 level

The table no-2 infers effectiveness of cargo handling regarding manpower used for handling the bulk cargo. It is observed that (39.4%) of the respondents stated that manpower usage is in between 31%-40% followed by (31.0%) responded that 21%-30%, (19.7%) for 10%-20% and (9.9%) for more than 40%. It can be concluded that about 70 per cent of the respondent's man power usage is in between 21%-40%.

The calculated chi-square value is much greater than the table value for the variables year of establishment, operational area and types of firm. We therefore conclude that the above variables have significant relation with the manpower used for handling bulk cargo.

TABLE NO 3: MACHINE POWER USED FOR THE HANDLING OF THE BULK CARGO

S. no	Variables	Groups	Machine power used for the handling of the bulk cargo					Chi- sqr Value
			10%-30%	31%-50%	51%-60%	More than 60%	Total	
1	Year of Establishment	Before 1995	0(0.00)	7(9.9)	8(11.3)	21(29.6)	36(50.7)	18.48** (16.8)
		1996-2000	0(0.00)	0(0.00)	0(0.00)	28(39.4)	28(39.4)	
		2001-2005	0(0.00)	0(0.00)	0(0.00)	7(9.9)	7(9.9)	
2	Operational area	Indian	0(0.00)	0(0.00)	0(0.00)	28(39.4)	28(39.4)	18.48** (16.8)
		Foreign	0(0.00)	0(0.00)	0(0.00)	7(9.9)	7(9.9)	
		Both	0(0.00)	7(9.9)	8(11.3)	21(29.6)	36(50.7)	
3	Type of the firm	Proprietary firm	0(0.00)	0(0.00)	0(0.00)	21(29.6)	21(29.6)	40.22** (16.8)
		Partnership	0(0.00)	0(0.00)	8(11.3)	7(9.9)	15(21.1)	
		Limited/ Pvt Ltd	0(0.00)	7(9.9)	0(0.00)	28(39.4)	35(49.3)	
	Total		0(0.00)	7(9.9)	8(11.3)	56(78.9)	71(100.0)	

**Significant at 0.01 level

The table no 3 indicated regarding machine power used for the handling of the bulk cargo. It is observed that a highest majority of the respondents (78.9%) stated that machine power usage is more than 60% followed by (11.3%) responded 51%-60% and (9.9%) are in between 31%-50%.

The chi-square value for the variables year of establishment of firm, operational area and type of firm Vs machine power used for bulk cargo handling at port is found significant at 0.01 level.

TABLE NO 4: MANPOWER USED FOR HANDLING THE DRY CARGO

S. no	Variables	Groups	Manpower used for handling the dry cargo				Total	Chi- sqr Value
			10%-20%	21%-30%	31%-40%	More than 40%		
1	Year of Establishment	Before 1995	8(11.3)	14(19.7)	14(19.7)	0(0.00)	36(50.7)	23.75** (13.3)
		1996-2000	0(0.00)	21(29.6)	7(9.9)	0(0.00)	28(39.4)	
		2001-2005	0(0.00)	0(0.00)	7(9.9)	0(0.00)	7(9.9)	
2	Operational area	Indian	0(0.00)	21(29.6)	7(9.9)	0(0.00)	28(39.4)	23.75** (13.3)
		Foreign	0(0.00)	0(0.00)	7(9.9)	0(0.00)	7(9.9)	
		Both	8(11.3)	14(19.7)	14(19.7)	0(0.00)	36(50.7)	
3	Type of the firm	Proprietary firm	0(0.00)	14(19.7)	7(9.9)	0(0.00)	21(29.6)	41.64** (13.3)
		Partnership	8(11.3)	7(9.9)	0(0.00)	0(0.00)	15(21.1)	
		Limited/ Pvt Ltd	0(0.00)	14(19.7)	21(29.6)	0(0.00)	35(49.3)	
	Total		8(11.3)	35(49.3)	28(39.4)	0(0.00)	71(100.0)	

**Significant at 0.01 level

Table no.4 gives a picture of manpower used for handling the dry cargo. It is noted that (49.3%) of the respondents stated that they used man power in between 21%-30% followed by (39.4%) are in between 31% to 40% and (11.3%) are in between 10%-20%.

The calculated value of χ^2 is more than the table value for the variables year of establishment, operational area and type of firm Vs man power used for handling the dry cargo is found significant at 0.01 level. Hence, the above variables and manpower used for handling dry cargo are not independent.

TABLE NO 5: MACHINE POWER USED FOR HANDLING THE DRY CARGO

S. no	Variables	Groups	Machine power used for the handling the dry cargo					Chi- sqr Value
			10%-30%	31%-50%	51%-60%	More than 60%	Total	
1	Year of Establishment	Before 1995	0(0.00)	7(9.9)	7(9.9)	22(31.0)	36(50.7)	28.91** (13.3)
		1996-2000	0(0.00)	0(0.00)	21(29.6)	7(9.9)	28(39.4)	
		2001-2005	0(0.00)	0(0.00)	7(9.9)	0(0.00)	7(9.9)	
2	Operational area	Indian	0(0.00)	7(9.9)	14(19.7)	7(9.9)	28(39.4)	23.38** (13.3)
		Foreign	0(0.00)	0(0.00)	7(9.9)	0(0.00)	7(9.9)	
		Both	0(0.00)	0(0.00)	14(19.7)	22(31.0)	36(50.7)	
3	Type of the firm	Proprietary firm	0(0.00)	0(0.00)	0(0.00)	21(29.6)	21(29.6)	28.12** (13.3)
		Partnership	0(0.00)	0(0.00)	7(9.9)	8(11.3)	15(21.1)	
		Limited/ Pvt Ltd	0(0.00)	7(9.9)	7(9.9)	21(29.6)	35(49.3)	
	Total		0(0.00)	7(9.9)	35(49.3)	29(40.8)	71(100.0)	

**Significant at 0.01 level

Table no.5 portrays effectiveness of cargo handling regarding machine power used for the handling of the dry cargo. For this (49.3%) of the respondents stated that usage of machine power is in between 51%-60% followed by (40.8%) responded that they are using more than 60% and (9.9%) are in between 31%-50%. The table concludes that 90 per cent of the respondents are using above 50% of machine power for handling of dry cargo.

It shows from the above table that the chi-square values for the variables year of establishment of firm, operational area and type of firm Vs machine power used for dry cargo handling at port is found significant at 0.01 level. This indicates that there is a significant relation between variables and usage machine power for handling dry cargo.

TABLE NO 6: MANPOWER USED FOR HANDLING THE LIQUID CARGO

S. no	Variables	Groups	Manpower used for handling the liquid cargo				Total	Chi- sqr Value
			10%-20%	21%-30%	31%-40%	More than 40%		
1	Year of Establishment	Before 1995	28(39.4)	0(0.00)	8(11.3)	0(0.00)	36(50.7)	8.76* (5.99)
		1996-2000	28(39.4)	0(0.00)	0(0.00)	0(0.00)	28(39.4)	
		2001-2005	7(9.9)	0(0.00)	0(0.00)	0(0.00)	7(9.9)	
2	Operational area	Indian	28(39.4)	0(0.00)	0(0.00)	0(0.00)	28(39.4)	8.76* (5.99)
		Foreign	7(9.9)	0(0.00)	0(0.00)	0(0.00)	7(9.9)	
		Both	28(39.4)	0(0.00)	8(11.3)	0(0.00)	36(50.7)	
3	Type of the firm	Proprietary firm	21(29.6)	0(0.00)	0(0.00)	0(0.00)	21(29.6)	33.65** (9.21)
		Partnership	7(9.9)	0(0.00)	8(11.3)	0(0.00)	15(21.1)	
		Limited/ Pvt Ltd	35(49.3)	0(0.00)	0(0.00)	0(0.00)	35(49.3)	
	Total		63(88.7)	0(0.00)	8(11.3)	0(0.00)	71(100.0)	

**Significant at 0.01 level, *Significant at 0.05 level

Manpower used for handling the liquid cargo is shown in table no-6. The highest majority of the respondents (88.7%) revealed that they are using manpower in between 10%-20% followed by (11.3%) in between 31%-40%. It is surprising to note that none of the respondents used more than 40 per cent manpower.

The generated chi-square value for the variables year of establishment of firm and operational area Vs manpower used for liquid cargo handling at port is significant at 0.05 level. The other factor type of firm is significant at 0.01 level of significance.

TABLE 7: MACHINE POWER IS USED FOR HANDLING OF THE LIQUID CARGO

S. no	Variables	Groups	Machine power used for handling of the liquid cargo				Total	Chi- sqr Value
			10%-30%	31%-50%	51%-60%	More than 60%		
1	Year of Establishment	Before 1995	7(9.9)	0(0.00)	0(0.00)	29(40.8)	36(50.7)	7.54* (5.99)
		1996-2000	0(0.00)	0(0.00)	0(0.00)	28(39.4)	28(39.4)	
		2001-2005	0(0.00)	0(0.00)	0(0.00)	7(9.9)	7(9.9)	
2	Operational area	Indian	7(9.9)	0(0.00)	0(0.00)	21(29.6)	28(39.4)	11.92* (5.99)
		Foreign	0(0.00)	0(0.00)	0(0.00)	7(9.9)	7(9.9)	
		Both	0(0.00)	0(0.00)	0(0.00)	36(50.7)	36(50.7)	
3	Type of the firm	Proprietary firm	0(0.00)	0(0.00)	0(0.00)	21(29.6)	21(29.6)	7.98* (5.99)
		Partnership	0(0.00)	0(0.00)	0(0.00)	15(21.1)	15(21.1)	
		Limited/ Pvt Ltd	7(9.9)	0(0.00)	0(0.00)	28(39.4)	35(49.3)	
	Total		7(9.9)	0(0.00)	0(0.00)	64(90.1)	71(100.0)	

*Significant at 0.05 level

The table no-7 indicates the effectiveness of cargo handling regarding machine power used for handling of the liquid cargo. A highest majority of the respondents (90.1%) stated that usage of machine power is more than 60% followed by (9.9%) responded that 10%-30%.

Human beings cannot compete with machine power as such man power usage is less than the machine power and it is proved in the study. By observing the table no's 3 and 7 it can be noted that about 80 per cent of the respondents are using above 60 per cent machine power.

The calculated chi-square value for the variables year of establishment of firm, operational area and type of firm Vs machine power used for liquid cargo handling at port is significant at 0.05 level.

TABLE NO 8: RESPONDENT'S OPINION ON TIME CONSUMING FOR LOADING

S. no	Variables	Groups	Time consuming for loading				Total	Chi- sqr Value
			One day	2 – 3 days	4 – 5 days	More than 5 days		
1	Year of Establishment	Before 1995	0(0.00)	14(19.7)	22(31.0)	0(0.00)	36(50.7)	13.19** (9.21)
		1996-2000	0(0.00)	7(9.9)	21(29.6)	0(0.00)	28(39.4)	
		2001-2005	0(0.00)	7(9.9)	0(0.00)	0(0.00)	7(9.9)	
2	Operational area	Indian	0(0.00)	7(9.9)	21(29.6)	0(0.00)	28(39.4)	13.19** (9.21)
		Foreign	0(0.00)	7(9.9)	0(0.00)	0(0.00)	7(9.9)	
		Both	0(0.00)	14(19.7)	22(31.0)	0(0.00)	36(50.7)	
3	Type of the firm	Proprietary firm	0(0.00)	14(19.7)	7(9.9)	0(0.00)	21(29.6)	16.29** (9.21)
		Partnership	0(0.00)	0(0.00)	15(21.1)	0(0.00)	15(21.1)	
		Limited/ Pvt Ltd	0(0.00)	14(19.7)	21(29.6)	0(0.00)	35(49.3)	
	Total		0(0.00)	28(39.4)	43(60.6)	0(0.00)	71(100.0)	

**Significant at 0.01 level

The table no-8 demonstrates the impact of logistics management on the effectiveness of cargo handling regarding time consuming for loading. It is observed that (60.6%) of the respondents stated that time consuming for loading is 4-5 days followed by (39.4%) responded for consuming 2-3 days. It is interesting to note that the respondents are unable to complete the work within one day and they are not taking more than 5 days to complete the work.

The tested chi-square value regarding all the variables Vs time consuming for loading material at port is found significant at 0.01 level. This shows that there is a significant relation between variables and time consuming for loading cargo.

TABLE NO 9: TIME CONSUMING FOR UNLOADING

S. no	Variables	Groups	Time consuming for unloading					Chi- sqr Value
			One day	2 – 3 days	4 – 5 days	More than 5 days	Total	
1	Year of Establishment	Before 1995	0(0.00)	15(21.1)	21(29.6)	0(0.00)	36(50.7)	18.48** (9.21)
		1996-2000	0(0.00)	0(0.00)	28(39.4)	0(0.00)	28(39.4)	
		2001-2005	0(0.00)	0(0.00)	7(9.9)	0(0.00)	7(9.9)	
2	Operational area	Indian	0(0.00)	0(0.00)	28(39.4)	0(0.00)	28(39.4)	18.48** (9.21)
		Foreign	0(0.00)	0(0.00)	7(9.9)	0(0.00)	7(9.9)	
		Both	0(0.00)	15(21.1)	21(29.6)	0(0.00)	36(50.7)	
3	Type of the firm	Proprietary firm	0(0.00)	0(0.00)	21(29.6)	0(0.00)	21(29.6)	14.97** (9.21)
		Partnership	0(0.00)	8(11.3)	7(9.9)	0(0.00)	15(21.1)	
		Limited/ Pvt Ltd	0(0.00)	7(9.9)	28(39.4)	0(0.00)	35(49.3)	
	Total		0(0.00)	15(21.1)	56(78.9)	0(0.00)	71(100.0)	

**Significant at 0.01 level

Time consuming for unloading is depicted in table no 9. A highest majority of the respondents (78.9%) stated that time consuming for unloading is 4-5 days followed by (21.1%) 2-3 days. It is to be noted that none of the respondents revealed one day and more than 5 days time required for unloading.

Regarding year of establishment of firm, operational area and type of firm Vs time consuming for cargo unloading at port, the chi-square value is greater than the table value and is found significant at 0.01 level. This shows that there is a significant relation between the variables and time consuming for unloading cargo.

TABLE NO 10: RESPONDENT'S OPINION ON TIME CONSUMING FOR CARGO HANDLING

S. no	Variables	Groups	Respondents opinion about time consuming for cargo handling					Chi- sqr Value
			Good	Satisfactory	Average	Poor	Total	
1	Year of Establishment	Before 1995	7(9.9)	29(40.8)	0(0.00)	0(0.00)	36(50.7)	35.37** (9.21)
		1996-2000	0(0.00)	28(39.4)	0(0.00)	0(0.00)	28(39.4)	
		2001-2005	7(9.9)	0(0.00)	0(0.00)	0(0.00)	7(9.9)	
2	Operational area	Indian	7(9.9)	21(29.6)	0(0.00)	0(0.00)	28(39.4)	37.83** (9.21)
		Foreign	7(9.9)	0(0.00)	0(0.00)	0(0.00)	7(9.9)	
		Both	0(0.00)	36(50.7)	0(0.00)	0(0.00)	36(50.7)	
3	Type of the firm	Proprietary firm	7(9.9)	14(19.7)	0(0.00)	0(0.00)	21(29.6)	6.14** (5.99)
		Partnership	0(0.00)	15(21.1)	0(0.00)	0(0.00)	15(21.1)	
		Limited/ Pvt Ltd	7(9.9)	28(39.4)	0(0.00)	0(0.00)	35(49.3)	
	Total		14(19.7)	57(80.3)	0(0.00)	0(0.00)	71(100.0)	

**Significant at 0.01 level

Respondent's opinion on time consuming for cargo handling is shown in table no-10. A highest majority of the respondents (80.3%) revealed satisfactory opinion followed by 19.7 per cent responded that it is good. A majority of the respondents (80%) are satisfied on time consuming for cargo handling because due to the high technology and latest equipments available at port reduced the time consuming for cargo handling.

The calculated chi-square value is much higher than the table value for all the variables Vs respondent's opinion on time consuming on cargo handling and is found to be significant at 0.01 level.

TABLE NO 11: RESPONDENT'S OPINION ON EFFECTIVENESS OF MATERIAL HANDLING SYSTEM IN VPT

S. no	Variables	Groups	Effectiveness of material handling system in VPT					Chi- sqr Value
			Good	Satisfactory	Average	Poor	Total	
1	Year of Establishment	Before 1995	7(9.9)	29(40.8)	0(0.00)	0(0.00)	36(50.7)	35.37** (9.21)
		1996-2000	0(0.00)	28(39.4)	0(0.00)	0(0.00)	28(39.4)	
		2001-2005	7(9.9)	0(0.00)	0(0.00)	0(0.00)	7(9.9)	
2	Operational area	Indian	0(0.00)	28(39.4)	0(0.00)	0(0.00)	28(39.4)	35.37** (9.21)
		Foreign	7(9.9)	0(0.00)	0(0.00)	0(0.00)	7(9.9)	
		Both	7(9.9)	29(40.8)	0(0.00)	0(0.00)	36(50.7)	
3	Type of the firm	Proprietary firm	7(9.9)	14(19.7)	0(0.00)	0(0.00)	21(29.6)	6.14** (5.99)
		Partnership	0(0.00)	15(21.1)	0(0.00)	0(0.00)	15(21.1)	
		Limited/ Pvt Ltd	7(9.9)	28(39.4)	0(0.00)	0(0.00)	35(49.3)	
	Total		14(19.7)	57(80.3)	0(0.00)	0(0.00)	71(100.0)	

**Significant at 0.01 level

The table no-11 gives respondents opinion on effectiveness of the material handling system in VPT. For this a highest majority of the respondents (80.3%) stated that material handling system is satisfactory followed by (19.7%) responded that it is good. It is surprising to note that none of the respondents responded for average and poor opinion.

Regarding effective material handling system at VPT and year of establishment of firm, operational area and type of firms the calculated chi-square value are found to be significant at 0.01 level. This shows that there is a significant relation between variables and response towards effective material handling system in VPT.

TABLE NO 12: CONTROLLING IN AND OUT TIMINGS OF VESSELS BERTHING IN PORTS

S. no	Variables	Groups	Controlling of in and out timings of vessels berthing in ports				Chi- sqr Value
			Private agencies	Port authorities	Both	Total	
1	Year of Establishment	Before 1995	0(0.00)	36(50.7)	0(0.00)	36(50.7)	-
		1996-2000	0(0.00)	28(39.4)	0(0.00)	28(39.4)	
		2001-2005	0(0.00)	7(9.9)	0(0.00)	7(9.9)	
2	Operational area	Indian	0(0.00)	28(39.4)	0(0.00)	28(39.4)	-
		Foreign	0(0.00)	7(9.9)	0(0.00)	7(9.9)	
		Both	0(0.00)	36(50.7)	0(0.00)	36(50.7)	
3	Type of the firm	Proprietary firm	0(0.00)	21(29.6)	0(0.00)	21(29.6)	-
		Partnership	0(0.00)	15(21.1)	0(0.00)	15(21.1)	
		Limited/ Pvt Ltd	0(0.00)	35(49.3)	0(0.00)	35(49.3)	
			0(0.00)	71 (100.0)	0(0.00)	71(100.0)	

The table no-12 portrays regarding the control of the in and out timings of vessels berthing in ports. All the respondents (100.0%) stated that port authorities control vessels' berthing in port. The table concludes that the port authorities are playing predominant role in controlling the in and out timings of vessels berthing in port and they are not entrusting this job to any other private agencies.

F-TEST RESULTS

TABLE NO 13: THE PERFORMANCE DIFFERENCE AMONG DIFFERENT YEARS OF ESTABLISHMENT OF DIFFERENT VARIABLES ON CARGO HANDLING

Variables	Year of Establishment	N	Mean	Std. Deviation	Std. Error	F-valu	Sig.
Time consuming for cargo handling	Before 1995	36	2.19	0.40	0.07	33.77**	0.00
	1996-2000	28	2.00	0.00	0.00		
	2001-2005	7	3.00	0.00	0.00		
Material handling System in VPT	Before 1995	36	2.19	0.40	0.07	33.77**	0.00
	1996-2000	28	2.00	0.00	0.00		
	2001-2005	7	3.00	0.00	0.00		

**Significant at 0.01 level

Table no. 13 reveals about the distribution of mean performance among different years of establishment with different factors like time consuming for cargo handling and material handling system in VPT. Mean scores with regarding to the time consuming for cargo handling and material system in VPT is same for the firms which are established before 1995 is 2.19, for firms 1996-2000 mean score is 2.00 and for firms which are established between 2001-2005 the mean score is 3.00.

According to the above table the F-values for time consuming for cargo handling and material handling system in VPT is same for both the variables i.e, 33.77. It may be concluded that variables are significant at 0.01 level.

TABLE NO 14: THE PERFORMANCE DIFFERENCE AMONG DIFFERENT OPERATIONAL AREAS OF DIFFERENT VARIABLES ON CARGO HANDLING

Variables	Operational area	N	Mean	Std. Deviation	Std. Error	F-value	Sig.
Time consuming for cargo handling	Indian	28	2.25	0.44	0.08	38.79**	0.00
	Foreign	7	3.00	0.00	0.00		
	Both	36	2.00	0.00	0.00		
Material handling System in VPT	Indian	28	2.00	0.00	0.00	33.77**	0.00
	Foreign	7	3.00	0.00	0.00		
	Both	36	2.19	0.40	0.07		

**Significant at 0.01 level

The table no.14 describes about the distribution of mean performance among different operational areas respondents. With regarding the time consuming for cargo handling for Indian operational area firms the mean value is 2.25, foreign 3.00 and both types of firms 2.00. As regarding material system in VPT with respect to India, foreign and both type of firms the mean values are 2.00, 3.00 and 2.19 respectively.

The calculated F-values for time consuming for cargo handling and material handling system at VPT are 38.79 and 33.77 respectively. Hence it may be concluded that above variables are significant at 0.01 level.

TABLE NO 15: THE PERFORMANCE DIFFERENCE AMONG DIFFERENT TYPE OF THE FIRMS OF DIFFERENT VARIABLES ON CARGO HANDLING

Variables	Type of the firm	N	Mean	Std. Deviation	Std. Error	F-value	Sig.
Time consuming for cargo handling	Proprietary firm	21	2.33	0.48	0.11	3.22*	0.05
	Partnership	15	2.00	0.00	0.00		
	Limited/Pvt Ltd	35	2.20	0.41	0.07		
Material handling System in VPT	Proprietary firm	21	2.33	0.48	0.11	3.22*	0.05
	Partnership	15	2.00	0.00	0.00		
	Limited/Pvt Ltd	35	2.20	0.41	0.07		

*Significant at 0.05 level

The table no.15 concludes that the distribution of mean performance among different types of firms of shipping agents under VPT regarding time consuming for cargo handling and material handling system the means score is same for the all the types of firms. The mean score for proprietary firm is 2.33, partnership firm is 2.00 and limited/pvt ltd is 2.20.

According to the above table the F-values for time consuming for cargo handling and material handling system in VPT is same i.e 3.22. Hence they are significant at 0.05 level.

CONCLUSIONS AND SUGGESTIONS

- 60.6 per cent of the respondents handled chemicals and none of the respondents handled gaseous and nuclear material. It is suggested that they should also handled gaseous and nuclear materials for rapid port development.
- About 70 per cent of the respondent's manpower usage for handling bulk cargo is 21%-40%.
- Nearly of 80 per cent of the respondents are using more than 60% of machine power for handling bulk cargo.
- Nearly 90 per cent of the respondents are using manpower for handling the dry cargo is in between 21%-40%.
- The researchers revealed that the majority of 90 per cent of the respondents are using above 50 per cent of machine power for handling dry cargo.
- It is surprising to note that 88.7 per cent of the respondents using only 10%-20% man power for handling liquid cargo.
- It is interesting to note that 90 per cent of the respondents using more than 60 per cent of machine power for handling of the liquid cargo.
- It is to be noted that the respondents are unable to complete the work within one and they are not taking more than 5 days to complete the work.

9. It is observed in the research that none of the respondents revealed one day and more than 5 days time required for loading and unloading. All the respondents are taking 2-5days of time for loading and unloading. It is suggested that port authorities should make necessary arrangements to the respondents to complete loading and unloading in one day at least for few materials.
10. According to the research majority of the respondents 80 per cent are satisfied on time consuming for cargo handling because due to the high technology and latest equipments available at port reduced the time consuming for cargo handling.
11. Regarding respondent's opinion on effectiveness of material handling system in VPT 80.3% respondents stated satisfactory and 19.7 per cent responded good.
12. F-values for time consuming for cargo handling and material handling system in VPT for different years of establishment is same for the both the variables i.e, 33.77. It may be concluded that variables are significant at 0.01 level.
13. The calculated F-values for time consuming for cargo handling and material handling system at VPT regarding operational areas are 38.79 and 33.79 respectively. Hence, it may be concluded that the variables are significant at 0.01 level.
14. F-values for time consuming for cargo handling and material handling system in VPT for proprietary firm , partnership firm, and limited/Pvt ltd is same i.e 3.22. The variables are significant at 0.05 level.

REFERENCES

1. Geoffrion, A., and G.Graves (1974), Multicommodity Distribution System Design by Benders Decomposition. *Management Science*, 29, 5, 822-844.
2. Bowersox, Donald (1978), "Logistical Management: A Systems Integration of Physical Distribution Management and Materials Management", 2^a Ed., Macmillan Publishing Co., Inc., Nova York..
3. Tersine, Richard (1985), "Production/Operations Management: Concepts, Structure and Analysis", 2^a Ed., Prentice-Hall, Englewood Cliffs, New Jersey.
4. Lambert, Douglas and Stock, James (1999), "Strategic Logistics Management", Irwin McGraw-Hill, 3^a Edição, Boston.
5. Tersine, Richard (1985), "Production/Operations Management: Concepts, Structure and Analysis", 2^a Ed., Prentice-Hall, Englewood Cliffs, New Jersey.
6. C. J. Langley (1992), The Evolution of the Logistics Concept. From *Logistics: The Strategic Issues*, edited by M. Christopher.
7. Goldratt, E. and Cox, J. (1993), "The Goal", North River Press. 37. Greiner, L. E., "Evolution and Revolution as Organizations Grow", *Harvard Business Review*, 1972, July/August
8. Tersine, Richard (1985), "Production/Operations Management: Concepts, Structure and Analysis", 2^a Ed., Prentice-Hall, Englewood Cliffs, New Jersey.
9. Bowersox, Donald and Closs, David (1996), *Logistical Management: The Integrated Supply Chain Process*, New York, McGraw-Hill.
10. Ratliff, Donalds and Nulty, William (1996), "Logistics Composite Modelling", Technical White paper series of the Logistics Institute at Georgia Technology.
11. Mohammed Abdur Razzaque (1997), Challenges to logistics development: the case of a Third World country – Bangladesh, *International Journal of Physical Distribution and Logistics Management*, Volume:27, Issue:1, MCB UP Ltd, Page:18-38.
12. Schary, P.B. and T. Skjott-Larsen (1998), *Managing the Global Supply Chain*, 1 edition, Copenhagen, Denmark: Copenhagen Business School Press, 395.
13. Prince, T. (1998), "Third Party Warehousing", obra colectiva editada por James Tompkins e Jerry Smith, *The Warehouse Management Handbook*, 2^a Edição, Tompkins Press, USA, pp. 51-88.
14. Armstrong, Richard, *Economics* 103pl. *Traffic World*. 265 (17):23
15. K.M.Mittal (2004), Relevance of Flexibility in Logistics Management, *Supply Chain Management for Global Competitiveness*, pp.375-386.
16. Azevedo, Susana (2004), "A logística nas empresas industriais portuguesas: práticas e desempenho", Ph.D. Thesis, unpublished, University of Beira Interior, Covilhã, Portugal.
17. Sanyal, S (2006) "A Guide to Global Logistics and Freight Forwarding," *Hindu Business Line*.11 December
18. Ilze Atkacuna, Karolina Furlan (2009), Value-Added Services in Third-Party Logistics : A study from the TPL providers' perspective about value-added service development, driving forces and barriers, University essay from Högskolan i Jönköping/IHH, Centre of Logistics and Supply Chain Management.
19. Port annual reports

A STUDY ON SUPPORT OF ERP SYSTEMS FOR MARKETING IN COIMBATORE BASED INDUSTRIES

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ABSTRACT

Indian enterprises face changes in business models due to emergence of IT based practices. They implement ERP system in alignment with organisational transformation and process reengineering activities. Supporting markets with the help of necessary infrastructure and integration at the process level is an essential feature of ERP systems. The marketing module of an ERP system would enable organizations to maximize the efficiencies of marketing resources and empower marketers to acquire and develop long-term customer relationships. This study provides a comprehensive view on support of ERP systems for marketing in Coimbatore based industries. The researchers identified sixteen variables to assess the support of ERP systems for marketing. The objectives of the study are to identify the variables to be strengthened for marketing support and to suggest the industries ways to improve the weak areas. A sample of 38 medium to large scale ERP implementing industries from Coimbatore are taken for the study. Disproportionate stratified sampling is applied and five point Likert scale questionnaire is used in the study. The findings based on responses include the weighted average scores and the eigen values of variables. The results reveal that the Coimbatore based industries have adequate capability and maturity in general for marketing support. In specific, nine variables are remarkable and seven variables need attention to achieve the marketing support. The acquired results would help managers to facilitate its adoption and to prioritize its practices for marketing support. Suggestions to improve those aspects were also drafted. It would cause to ensure the successful implementation of ERP as well as to attain full support for marketing in organization.

KEYWORDS

Business Intelligence, ERP, IT Architecture, Marketing Support, Organizational Transformation

INTRODUCTION

Globalization, centralization and regulatory compliance are the key drivers for continued ERP investment among large corporations. While sales of traditional ERP applications were very healthy in 2006, many vendors saw substantial revenue growth from the acquisition of other software companies (CAGR Report 2011).⁸

In SMB segment, companies are buying new ERP systems in response to new customer requirements and the desire to participate in the global market. As ERP vendors buy and build the necessary industry functionality, their available market rapidly expands.⁸

We are now seeing many ERP vendors competing effectively in all segments. The Fortune 2000 have largely selected and deployed their ERP backbones. With the focus on standardizing IT architectures across the entire company, centralized ERP systems, extended to the entire corporation are replacing many of the midmarket plant applications.⁸

We predict an 11% CAGR for the ERP market through 2011. We don't anticipate any drastic changes to the dynamics of this market over the next five years. We also anticipate that several ERP vendors will increase revenue from manufacturing operations (AMR Research 2007).

ERP systems have been implemented to support the most critical business processes in global corporations. Market revenue of most of the industrial enterprise applications is generated by application software license sales, with ERP software leading at 35% market share. ERP is expected to strengthen its hold on the market and will likely to increase its market share to 46% by 2010. Much of ERP market growth is driven by an increasingly global business focus.

Indian enterprises also face changes in business models due to globalization, deregulation of the Indian economy and emergence of IT based business practices. They implement ERP system in alignment with organisational transformation and process reengineering activities. ERP systems promise benefits from increased efficiency to transformation of profitability.

The Indian ERP market is more than Rs. 1000 crores and growing at the healthy 30% annual growth. IDC (India) report (2000) says adoption of ERP in India is 0.9%, 6.5% and 35.6% in small, medium and large scale industries respectively. The key players in the ERP market like SAP, Oracle E Business Suite, SSA Global and Ramco Marshall are present in India. According to IDC estimates, the ERP market has been witnessing a CAGR of 70% over the last 5-6 years.⁶

TABLE 1: INDIAN ERP MARKET

Year	ERP Market
1995-96	Rs.12 Crores
1996-97	Rs.27 Crores
1997-98	Rs.62 Crores
1998-99	Rs.134 Crores
1999-00	Rs.250 Crores
2000-01	Rs.460 Crores
2005-06	Rs.508 Crores
2010-11	Rs.1000 Crores

IDC Estimates

FIGURE 1: INDIAN ERP MARKET

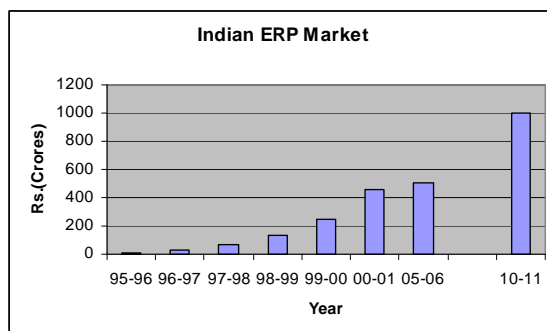
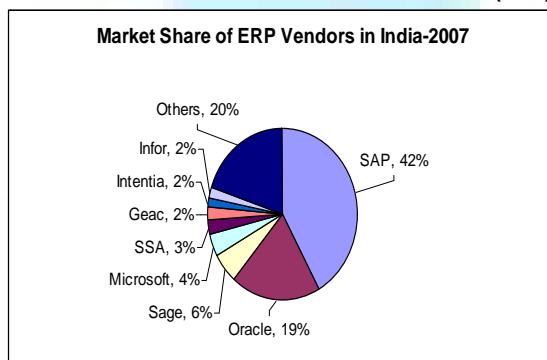


TABLE 2: MARKET SHARE OF ERP VENDORS IN INDIA (2007)

No.	ERP Vendor	Market Share
1	SAP	42%
2	Oracle	19%
3	Sage	6%
4	Microsoft	4%
5	SSA	3%
6	Geac	2%
7	Intentia	2%
8	Infor	2%
9	Others	20%
Total		100%

AMR Research, 2007

FIGURE 2: MARKET SHARE OF ERP VENDORS IN INDIA (2007)



ERP systems can help to assure competitiveness, responsiveness to customer needs, productivity and flexibility in doing business practices. The success of ERP implementation depends upon effective management, organizational change and the use of advanced technology.⁴

Improved business performance, business growth support, integrated real-time decision support, usage of legacy systems and taking advantage of the untapped midmarket are the reasons for growth of ERP market.¹ Vendors have revamped their ERP solutions to suit the needs of micro-verticals. This is paying dividends as SMBs go for these products in a big way.

SUPPORT OF ERP SYSTEMS FOR MARKETING

ERP systems can provide a competitive advantage in the competitive market place. To transform marketing strategy into marketing programmes, marketing managers must take basic decisions on marketing expenditures, marketing mix and marketing allocation. Marketing personnel guide the company's strategies and tactics. Marketers can analyse, plan, execute and measure all marketing activities.⁷

The marketing module of an ERP package would enable organizations to maximize the efficiencies of marketing resources and empower marketers to acquire & develop long-term customer relationships. With the tools and features of the marketing module, one can gain a flexible application to power marketing success.¹

The marketing module supports critical marketing process like marketing resource management, segment and list management, campaign management, e mail marketing, trade promotion management, lead management, marketing analytics, web based marketing surveys and self service portal. It will evaluate marketing efforts to determine strategies for the sales force.¹

ERP systems provide integrated marketing support systems, including lead files, contact files, order entry files and sales history files. It also provides the benefits of standard codes, a common database, standard documents, an audit trail and data integration.⁴

- Oracle E Business Suite provides marketing components setup, market campaign execution, marketing calendar and metrics.
- mySAP Marketplace provides the software to support virtual markets, allowing multiple organizations to buy, sell and conduct collaborative trading opportunities.

SCOPE

At present, manufacturing & distribution industries lead the list of ERP customers. These industries have gone for a variety of ERP packages on different platforms. All these industries have benefited substantially in improving their competitive abilities.

The changes in the packages and processes continue throughout the lifetime of an ERP system. As it evolves in parallel with the organization, the company captures the benefits from the ERP system and plans further for technology implementation and business improvement. Success in ERP management takes on a special urgency because the costs and risk of this massive technology investment challenge their potential pay-offs.

In order to gain a sustained competitive advantage, an analysis of markets at micro level is essential. The companies should apply the same approaches to support their different markets. So the strategic process needs to be based on a clear understanding of the markets and the differences within a market. This study provides a comprehensive view on support of ERP systems for marketing.

LIMITATIONS

1. Self-selection bias limits to conclude the results of the study. It must be handled prudently while applying in other industries.
2. Additional research must be carried out to validate conclusions and to add to the understanding about support of ERP systems for marketing in other industries.
3. The number of ERP experts and their responses was small since not many SMEs have formally implemented it.
4. There are other supporting factors of ERP systems for marketing, which were excluded because of difficulty in developing universally-applicable questionnaires suitable to organizations.

OBJECTIVES

- To provide a comprehensive view of support of ERP systems for marketing.
- To identify the variables those have adequate capability and maturity for marketing support.
- To identify the variables to be strengthened to achieve the marketing support.
- To suggest the industries ways to improve the weak areas towards marketing support.

RESEARCH DESIGN

Primary Data	: Coimbatore based medium and large scale industries
Secondary Data	: Industrial Directory and websites
Sample Frame	: ERP implementing industries in Coimbatore
Sampling Technique	: Disproportionate Stratified Sampling
Sample Size	: 38
Research Tool	: Five Point Likert Scale Questionnaire

COIMBATORE

The study was conducted in Coimbatore, which is the second largest city of Tamil Nadu and one of the fastest growing cities in India. There are more than 25,000 small, medium, large scale industries and textile mills. Cotton textiles, electric motors, pumps, automobile spares, iron steel and aluminium castings form major exports from Coimbatore.

It is one of the most industrialized cities in India, known as the textile capital of South India or the Manchester of the South. The result has been a strong economy and a reputation as one of the greatest industrial cities in South India.

Coimbatore based industries have ERP implementations of international packages like SAP, Oracle etc., national packages like e fusion, e chain etc. and home grown / in-house packages. There are a few ERP solution providers in Coimbatore also like Kalsoft.

DATA ANALYSIS & INTERPRETATION

PROFILE OF INDUSTRIES

TABLE 3: RESPONDENTS' AREA OF BUSINESS

Area of Business	Frequency
Manufacturing	18
Automotive	6
software/IT	5
Textiles	4
Electronics	3
Electrical	2
Total	38

Primary Data

FIG. 3: RESPONDENTS' AREA OF BUSINESS

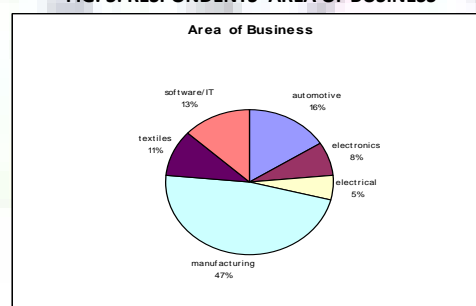


TABLE 4: RESPONDENTS' NATURE OF THE COMPANY

Nature of the Company	Frequency
independent company	28
part of bigger company	10
Total	38

Primary Data

FIG. 4: RESPONDENTS' NATURE OF THE COMPANY

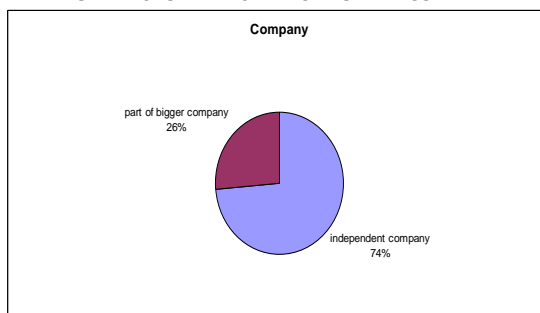


TABLE 5: RESPONDENTS' OFFICES ABROAD

Offices Abroad	Frequency
No	23
Yes	15
Total	38

Primary Data

FIG 5: RESPONDENTS' OFFICES ABROAD

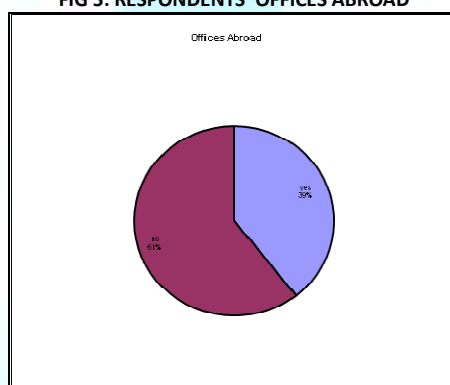
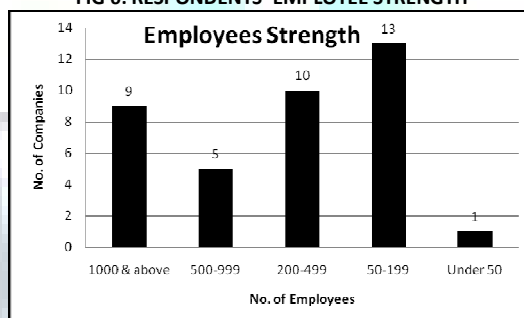


TABLE 6: RESPONDENTS' EMPLOYEE STRENGTH

Employee Strength	Frequency
1000 & above	9
500-999	5
200-499	10
50-199	13
Under 50	1
Total	38

Primary Data

FIG 6: RESPONDENTS' EMPLOYEE STRENGTH



ERP IMPLEMENTATION AND USAGE

TABLE 7: ERP IMPLEMENTATION

ERP System	Frequency
Implemented	30
Not Implemented	8
Total	38

Primary Data

FIGURE 7: ERP IMPLEMENTATION

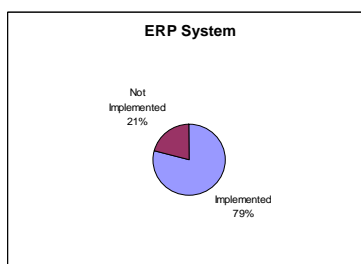


TABLE 8: ERP PACKAGES IMPLEMENTED

ERP Package	No. of Implementations
SAP	9
Home Grown	7
Oracle	6
E Chain	2
Kalsofte	2
Baan	1
E Fusion	1
IB Spin	1
MS Dynamics	1
Total	30

Primary Data

FIGURE 8: ERP PACKAGES IMPLEMENTED

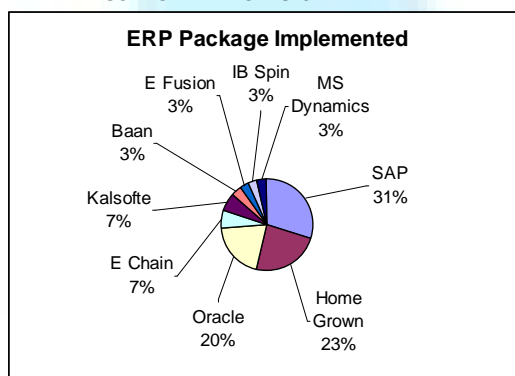


TABLE 9: ERP MODULES IMPLEMENTED (MULTIPLE RESPONSE)

ERP Modules Implemented	Frequency
Financials	28
Production & Materials	27
Sales & Marketing	25
Operation & Logistics	22
HR	15
Others	9
R&D	6
Total	132

Primary Data

FIGURE9: ERP MODULES IMPLEMENTED

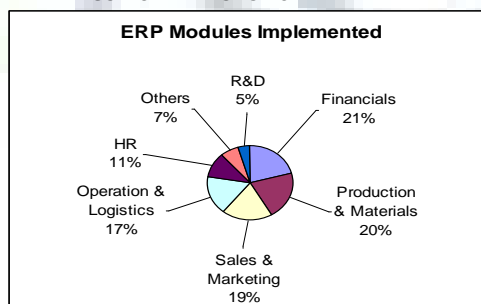
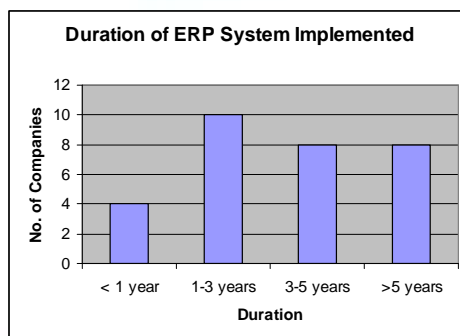


TABLE 10: DURATION OF ERP SYSTEM USAGE

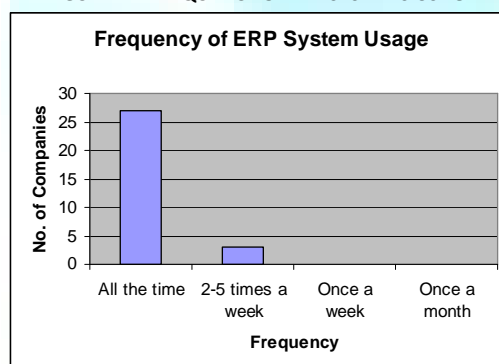
Duration of ERP System Usage	Frequency
< 1 year	4
1-3 years	10
3-5 years	8
>5 years	8
Total	30

Primary Data

FIGURE 10: DURATION OF ERP SYSTEM USAGE**TABLE 11: FREQUENCY OF ERP SYSTEMS USAGE**

Frequency of ERP System Usage	Frequency
All the time	27
2-5 times a week	3
Once a week	0
Once a month	0
Total	30

Primary Data

FIGURE 11: FREQUENCY OF ERP SYSTEMS USAGE**SUPPORT OF ERP SYSTEM FOR MARKETING**

The researchers identified the following sixteen variables to assess the support of ERP systems for marketing.

1. Intelligence generation
2. Response design & implementation
3. Risk aversion
4. Inter departmental turbulence
5. Marketing research
6. Pricing strategies
7. Promotion strategies
8. Habits of customers in each segment
9. Annual marketing plan
10. External market environment
11. Intermediaries
12. Marketing decision making
13. Retaining the competitive advantages
14. Forecasting
15. New product development
16. Market planning process

After identifying the effective variables, the research was administered by a 5 point scale questionnaire. The questionnaire was designed with a series of statements to which, respondents may enter from 1(lowest) to 5(highest) with varying degrees.

25 out of 30 companies have implemented marketing module. Assessment relies on the judgment of the respondents in these 25 companies in the context of their department or work group. The respondents need to ensure that their responses are consistent with their assumptions. The gathered data were processed and analysed using SPSS. The findings based on responses include the weighted average scores and the eigen values of variables.

WEIGHTED AVERAGE METHOD

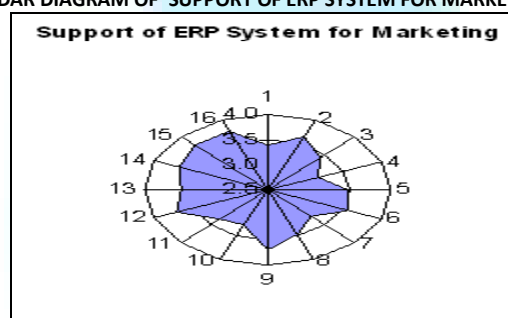
Higher the average score, more likely the support for marketing is. Based on Ruikar et al. (2006), an average score less than 2.5 is weak, indicating that the aspects need urgent attention to achieve the marketing support; an average score greater than or equal to 2.5 and less than 3.5 is me-dium, indicating that those aspects need attention to achieve the marketing support; and an average score greater than or equal to 3.5 is high, indicating that the industries have adequate capability and maturity in these aspects for marketing support.

The variables have the weighted average as follows.

TABLE 12: WEIGHTED AVERAGE OF 'SUPPORT OF ERP SYSTEM FOR MARKETING' VARIABLES

No.	'Support of ERP System for Marketing' Variables	Wt. Average
1	Intelligence generation	3.4
2	Response design & implementation	3.6
3	Risk aversion	3.4
4	Inter departmental turbulence	3.2
5	Marketing research	3.5
6	Pricing strategies	3.6
7	Promotion strategies	3.2
8	Habits of customers in each segment	3.4
9	Annual marketing plan	3.7
10	External market environment	3.3
11	Intermediaries	3.3
12	Marketing decision making	3.7
13	Retaining the competitive advantages	3.6
14	Forecasting	3.7
15	New product development	3.7
16	Market planning process	3.7
	Average	3.5

Average scores obtained are plotted on a radar diagram as illustrated in Fig.12 that summarize the overall support and its related variables. This figure highlights specific points that need attention to achieve the marketing support.

FIGURE 12: RADAR DIAGRAM OF 'SUPPORT OF ERP SYSTEM FOR MARKETING' VARIABLES**INTERPRETATION**

The above table shows that the overall support of ERP systems for marketing is 70% ($3.5/5.0 \times 100$), which indicates that the Coimbatore based industries have adequate capability and maturity in general for marketing support.

In specific, the variables with average score ≥ 3.5 , response design & implementation, marketing research, pricing strategies, market planning process, new product development, forecasting, marketing decision making, annual marketing plan and retaining the competitive advantages are remarkable in the industries to achieve the marketing support from ERP packages.

But, the variables with average score < 3.5 , internal (intelligence generation, inter departmental turbulence, promotion strategies) and external (risk aversion, habits of customers, external market environment, intermediaries) need attention to achieve the marketing support from ERP packages.

FACTOR ANALYSIS

The sixteen variables were subjected to exploratory factor analysis using principal components analysis.

TABLE.13. EIGEN VALUES OF 'SUPPORT OF ERP SYSTEMS FOR MARKETING' VARIABLES (IN DESCENDING ORDER)

No.	'Support of ERP System for Marketing' Variables	Eigen Values
1	Annual marketing plan	9.945
2	Marketing decision making	1.275
3	Forecasting	0.800
4	New product development	0.715
5	Market planning process	0.594
6	Response design & implementation	0.455
7	Pricing strategies	0.398
8	Retaining the competitive advantages	0.367
9	Marketing research	0.324
10	Intelligence generation	0.274
11	Risk aversion	0.270
12	Habits of customers in each segment	0.223
13	External market environment	0.129
14	Intermediaries	0.105
15	Inter departmental turbulence	0.086
16	Promotion strategies	0.041

Extraction Method: Principal Component Analysis

INTERPRETATION

Eigen values of the variables illustrated in Table 13 depict the same findings as found in the weighted average analysis.

SUGGESTIONS

To formulate an ERP solution, a company must first clearly understand and agree about the markets in which it wishes to be today and in the future. The industries must identify, recruit and link various marketing synergies with the management consultants to help recommend the ERP solution efficiently to the target corporate. Dedicated ERP department with well structured hierarchy is suggested to shoulder the responsibilities to support the marketing activities.

Researchers suggest to maintain the same rapport or to improve further on the aspects with average score ≥ 3.5 . The researchers recommend the following suggestions for improving the weak areas towards support of ERP systems for marketing.

Internally, some SMBs are savvy-technology users and want business intelligence (BI) tools so that they can react faster to the competition and to changing market conditions. Inter department turbulence can be reduced by information sharing amongst all departments of the company, assistance from consultants, experience sharing, opportunity to visit the places where ERP is successful and involvement at all levels will support the learning process. Promotional strategies need to be revised and effectively implemented.

Externally, risk aversion tools and techniques must be adopted. Marketing executives should collect the needs, preferences and buying habits of customers and external marketing environment more seriously. SCM practices can be tapped to improve logistics with intermediaries.

CONCLUSION

This study is done to evaluate the support of ERP systems for marketing in Coimbatore based industries especially in the SME sector. This assessment survey profile offers a valuable source of information to firms and ERP implementers, which are still lagging far behind when comes to ERP practices in Coimbatore. With regards to the sample population on which the research was conducted, researchers not only demonstrated consistent reliability, but also provided insight into ERP support for marketing.

Present research has identified 16 variables that ERP systems support marketing activities within the context. The acquired results would help managers to facilitate its adoption and to prioritize its practices for marketing support. It would cause to ensure the successful implementation of ERP as well as to attain full support for marketing in organization.

The companies should work on developing comprehensive and integrated maturity model to help practitioners implement ERP. To that end, there is a growing commitment by scholars towards empirical and conceptual research especially in ERP. The practical implications of the study are great; now practitioners have a tool they can use to assess overall ERP support for marketing.

REFERENCES**BOOKS**

- Alexis Leon, (2008), "ERP Demystified", Tata Mc Graw Hill Publishing Company Ltd., pp 19, Chap. 47
 Ellen F Monk, Bret J Wagner, (2009), "Enterprise Resource Planning", Cengage Learning, pp 20, 22, 55
 Mahadeo Jaiswal, Ganesh Vanapalli, (2009), "Text book of Enterprise Resource Planning", Macmillan Publishers India Ltd., pp 6, 7
 Mary Sumner, (2005), "Enterprise Resource Planning", Pearson Education Inc., pp 1-12, 60-66, 112, 119, 141
 Rahul V Altekar, (2009), "Enterprise Resource Planning-Theory and Practice", Prentice Hall of India Private Ltd. Chap. 7, 8
 Vinod Kumar Garg, N.K.Venkitakrishnan, (2007), "Enterprise Resource Planning-Concepts and Practices", Prentice Hall of India, pp 33, 121

JOURNAL & REPORTS

- Mohanavel S, Sudharani Ravindran, (2010), "Implementation & Analysis of Knowledge Centre", Journal of Contemporary Research in Management", Vol. 5, No.4, ISSN-0973-9785, pp. 7-24
 Simon Jacobson, Jim Shepherd, Marianne D' Aquila and Karen Carter, (2007), "The ERP Market Sizing Report-2006-2011", AMR Research, pp 1, 2, 4, 20

WEBSITES

- www.amrresearch.com
 www.apics.org
 www.computerworld.com
 www.erpfans.com
 www.erpwire.com
 www.idc.com
 www.sap.com
 www.tec.com

CUSTOMER SWITCHING IN MOBILE INDUSTRY - AN ANALYSIS OF PRE-PAID MOBILE CUSTOMERS IN AP CIRCLE OF INDIA

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ABSTRACT

Indian mobile services market has grown leaps and bounds in the last five years and has attracted the telecom majors from across the world. The recent telecom policy changes have allowed more competition through licensing new operators in a circle. With Mobile Number Portability round the corner, it is expected that customer switching will surge. So, there is a need to understand the characteristics of customers and the factors that are prompting them to switch operator in order to effectively design strategies to retain customers. The present study employs discriminant function analysis and independent-samples t-test to identify the key differentiating factors that discriminate brand loyal customers from switchers among the mobile users in AP telecom circle of India. Satisfaction of customer with network access, call tariffs, customer care, network coverage and use of mobile for voice calls or MMS are found have strong discriminating power between the loyal customers and switchers. Mobile operators in India have to invest in network and technology to improve the coverage, connectivity and speed. Improvement in the quality of basic service – the voice calls will prove to be an excellent strategy for enhancing customer loyalty.

KEYWORDS

Customer switching, Brand loyalty, Discriminant analysis.

INTRODUCTION

India's telephone network is the 3rd largest in Asia and the 12th largest in the world. Today, India has 22 private companies providing cellular services in 18 telecom circles and 4 metro cities. Ever since their introduction, cellular services have shown a fair growth with the subscriber base crossing the 723 million mark at the end of November 2010. There are 528.8 million GSM subscribers and 197.8 million CDMA subscribers all over India. The Andhra Pradesh Telecom Circle is the largest among the 22 telecom circles in India with a total subscriber base of 45.35 millions. There are seven GSM service providers and two CDMA service providers in the circle. Table 1 presents the market share of the eight players in the circle as on 31st March 2010.

TABLE 1: MARKET SHARE OF MOBILE OPERATORS IN AP TELECOM CIRCLE AS ON 30TH NOVEMBER, 2010

Mobile Operator	No. of Subscribers	Market Share (Per Cent)
AIRTEL (GSM)	15,036,616	27.19
IDEA(GSM)	7,456,531	13.48
BSNL (GSM)	5,747,508	10.39
VODAFONE (GSM)	6,822,996	12.34
AIRCEL (GSM)	1,686,674	3.05
UNINOR (GSM)	1,736,507	3.14
Etisalat DB (GSM)	4,527	0.01
Videocon (GSM)	1,909	0.00
RELIANCE (GSM+CDMA)	7,972,339	14.42
TATA (CDMA)	8,656,057	15.65
TOTAL	55,304,531	100.00

Source: www.india-cellular.com

Indian mobile services market has grown leaps and bounds in the last five years and has attracted the telecom majors from across the world. The low penetration rate of mobile phones compared to other markets like China, Japan and European countries, vast potential in the form of growing affluent-middle-class population has made India a most favored destination for both mobile phone manufacturers and service providers. The recent telecom policy changes have opened gates for more competition through allowing more number of operators in a circle. This has added fuel to the competition in the cellular market bringing the call tariffs to the lowest in the world. The fierce competition among the cellular service providers resulted in numerous tariff plans, group plans, contracts (life long validity), and top-up plans. Today, an Indian mobile customer is overwhelmed with the competing offers and service packages from the competing operators.

Customer switching behavior damages the market share and profitability of the firms. Most of the times companies design competent strategies to attract new customers ignoring existing customers. Service marketers should know that retaining existing customers is crucial than acquiring new customers (Berry, 1980). Continuing customers increase their spending at an increasing rate and help in increasing operating efficiencies of the firm (Reichheld and Sasser, 1990).

Hence losing the existing customer will reflect loss from high-margin sector of the firm. Costs associated with acquiring new customer can add up to five times the cost of efforts that enable the firm to retain a customer (Peters, 1988).

Marketers often pay attention to identify the characteristics of the brand-loyal customers so that they can directly focus their marketing and promotional strategies on those consumers. Brand switching may occur in case of new product introduction and dissatisfaction on usual brand. Consumers can find a better substitute brand that can fulfill their needs. Some marketers will target on brand switchers because they think that brand switchers have higher market potential (Schiffman & Kanuk, 2000).

Increasing competition, entry of new players, promotion schemes and low switching cost are posing challenges to the survival of mobile operators in India. Customer retention has become a challenge for the mobile operators. In addition to that, the Telecom Regulatory Authority of India (TRAI) is in the process of finalizing the procedure for Mobile Number Portability (MNP) which will allow the customer to retain the same mobile number across the operators. This is expected to open floodgates for the customer switching in both pre-paid and post-paid segments. There is a need to understand the characteristics of customers and the factors that are prompting them to switch operator in order to effectively design strategies to retain customers to enhance profitability. This paper aims to explore the key discriminating factors between switchers and non switchers in the pre-paid segment.

Review of literature reveals a variety of reasons for which the customers switch between brands. Customer switching in banking industry has highlighted perception of service quality as main reason (Rust and Zahorik, 1993). In insurance industry, overall dissatisfaction of the insured (Crossby and Stephens, 1987) is found to be the reason for switching. Retail stores loose their customers due to service encounter failures (Kelly, Hoffman, and Davis, 1993). Brand name (Aaker, 1996), price (Cadogan & Foster, 2000), promotion (Czerniawski & Maloney, 1999), and service quality (Mittal & Lassar, 1996) are the factors that stimulate brand loyalty. Customers' reasons for switching services were classified into eight general categories – pricing, inconvenience, core service failure, service encounter failure, response to service failure, competition, ethical problems, and involuntary switching (Susan M. Keaveney, 1995). Customer switching is industry specific, limits the generalization and need to adopt broader perspective (Berry and Parasuraman 1993).

Time or money constraints, lack of alternatives, switching costs or habit may also affect loyalty (Bitner 1990). Convenience, price and availability might enhance customer satisfaction and ultimately effect behavioral intentions (Cronin and Taylor 1992).

Jungmi Oh, Susan S. Fiorito (2002) applied multiple discriminant analysis to identify the significance of buying behavior, self-image, and demographics for profiling brand loyal customers and non-brand loyal customers. Tanniru Rao (2007) employed discriminant analysis to test the possible use of brand loyalty for market segmentation. Consumer's shopping patterns, general characteristics of the product usage, and the element of price in purchase decision are taken to discriminate between loyal and disloyal groups.

RESEARCH METHODOLOGY

The present study employs the methodology adopted by Mei-mei Lau, Man-tsun Chang, et. al. (2006) to explore the brand loyalty behavior on sportswear and examine the key brand loyalty factors. Discriminant function analysis and independent-samples t-test were performed to identify the key differentiating factors that discriminate brand loyal customers from brand switchers among the mobile users in AP telecom circle of India. 1000 respondents from 10 cities of three regions of State of Andhra Pradesh, India were interviewed through a structured, pre-test questionnaire by the student enumerators during a two month period starting from January 2010. Care was taken to see that the sample represented all socio, economic and demographic groups of mobile customers. The trained student enumerators were instructed to meet approximately equal numbers of loyal customers as well as switchers.

FACTORS CONSIDERED FOR THE STUDY

The following factors have been considered for the study as they are likely to impact customer switching behavior in the mobile industry.

Customer demographics - variables like age, gender, income, occupation and education influence the information processing, attitude, purchase decision and thereby extent of loyalty. Hence, these factors were included for analysis.

Purpose of mobile - whether personal or work related. If the mobile is for personal use there is a chance that the customer may switch as it causes minimum disturbance when due to change in the mobile number. In case of work related use, the inconvenience due to mobile number change may be substantial and discourage the customer from switching.

Use of mobile - for voice calls, SMS, MMS and accessing internet. Usage pattern reflects the involvement of a customer with the mobile phone and may also the switching behavior.

Usage rate - monthly bill. A heavy user may be more interested in exploring the alternatives to minimize the overall cost and may be likely to switch on identifying more suitable plans than a low user.

Investment on the mobile handset – customer preference for low-end, medium range or high-end mobile phone depicts his interest toward mobile phone as a means of self expression and keen interest in the value added services. Hence, this may discriminate loyal and disloyal customers.

Customer Satisfaction - towards various service quality parameters such as network coverage, network access, call tariffs, customer care (Call Center), recharge options, disturbance due to promotional calls and promotional messages from the operator.

RESULTS AND DISCUSSION

The sample comprises 53 per cent loyal customers who have never changed their mobile service provider and 47 per cent switchers. 68 per cent of the switchers changed their mobile operator once, 23 per cent twice and 9 per cent thrice and more.

TABLE 2: STRUCTURE MATRIX

Factor	Function
Satisfaction with Network Coverage	0.611
Satisfaction with Call Tariff	0.532
Satisfaction with Network Access	0.376
Satisfaction with Customer Care	0.344
Used for accessing internet ^a	0.314
Satisfaction with offers ^a	0.280
Used for Voice Calls	-0.266
Satisfaction with VAS ^a	0.247
Satisfaction with recharge options ^a	0.246
Used for MMS	0.237
Satisfaction towards promotional calls ^a	0.218
Usage rate ^a	0.115
Age	-0.714
Education ^a	0.740
Used for SMS	-0.062
Purpose of Mobile	0.055
Income ^a	0.054
Occupation	-0.045
Investment on mobile device ^a	0.043

Note: Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function.

^a This variable not used in the analysis.

Stepwise discriminant analysis was used in this study to generate a discriminant function between the two groups of customers – the switchers and loyal customers. Variables were added and removed based on Wilk's Lambda. The discriminant loadings were reported under structure matrix in Table 2, and the factors were ranked from highest to lowest by the size of the loadings – indicating their discriminant power.

Then the independent variables were screened by the stepwise procedure, and the variables found significant were included in the function. Variables - age, occupation, used for voice calls, used for SMS, used for MMS, purpose of mobile, satisfaction with customer care, satisfaction with network coverage, satisfaction with call tariffs and satisfaction with network access were included for the discriminant function. All the variables were highly significant at the level of $p < 0.000$. The discriminant function was highly significant at $p < 0.000$.

Classification results indicated that 85.5 per cent of the respondents were correctly classified into two groups. The accuracy for loyal customers is 83.8 per cent whereas 87.4 per cent of the switchers were accurately classified. Classification accuracy is very good.

The standardized canonical discriminant coefficients shown in Table 3, indicate that customer satisfaction towards call tariffs and network coverage have highest discriminating power as they have the higher absolute values of function coefficients.

TABLE 3: STANDARDIZED CANONICAL DISCRIMINANT FUNCTION COEFFICIENTS OF TWO GROUPS ACCORDING TO THE DISCRIMINATING FACTORS

Factor	Standardized Canonical Discriminant Function Coefficients
Age	-.117
Occupation	-.283
Used for Voice Calls	-.294
Used for SMS	-.241
Used for MMS	.160
Purpose of mobile	.225
Satisfaction with Customer Care	.306
Satisfaction with Network Coverage	.477
Satisfaction with Call Tariffs	.591
Satisfaction with Network Access	.332

Independent-samples t – test was used to examine the difference between means of variables for the two groups – the loyal customers and switchers. This test is performed to confirm the findings from discriminant function analysis. It is observed that six variables namely, used for voice calls, used for MMS, satisfaction with customer care, satisfaction with network coverage, satisfaction with call tariff, satisfaction with network access shown significant differences among the two groups at 95 per cent level of confidence. Table 4 summarizes the results of independent-samples t-test. The other variables had insignificant differences. Hence, it is concluded that satisfaction levels towards network access, call tariffs, customer care, network coverage and use of mobile for voice calls or MMS have the strong discriminating power between the loyal customers and switchers.

TABLE 4: RESULTS OF INDEPENDENT SAMPLES TEST

Factor	Group Means		t-value	Sig. (2 tailed)
	Loyal Customers	Brand Switchers		
Age	3.01	2.76	2.313	0.210
Occupation	1.20	1.12	1.400	0.162
Used for Voice Calls	3.91	3.64	7.948	0.000
Used for SMS	2.43	2.28	1.919	0.055
Used for MMS	0.45	0.85	-7.275	0.000
Purpose of mobile	1.29	1.34	-1.713	0.086
Satisfaction with Customer Care	2.13	2.75	-10.449	0.000
Satisfaction with Network Coverage	1.81	2.90	-18.589	0.000
Satisfaction with Call Tariffs	1.83	2.91	-16.590	0.000
Satisfaction with Network Access	2.16	2.85	-11.424	0.000

It is found from the results of independent samples t-test that customers who use their mobile mostly for voice calls only are less likely to switch. The loyal customers are found to be relatively more satisfied with network coverage, call tariffs, customer care services, and network access. The customers who generally use their mobile phones for sharing MMS are found to be more likely to switch. This seems obvious as MMS service requires sophisticated and costly mobile

device as well customers who perceive mobile as an entertainment gadget are more likely to involve in active search for better service and price offers and may also have an attitude for variety seeking. Customer in this segment is more likely to switch than a plain-vanilla customer who uses mobile for just voice calls.

CONCLUSIONS

Switching is quite high in the pre-paid customer segment due to low switching costs and competitive tariff plans. With entry barriers easing and mobile number portability around the corner, there is a high probability for switching especially in the pre-paid segment. As network coverage, tariff plans, service play a vital role in retaining customers; the mobile operators should employ a number of strategies to manage the challenges.

New levels of customer interaction at various stages are necessary to ensure customer intimacy and loyalty. Providing information on different plans, value added services, provision and activation of additional services, and customer friendly environment at all points of interaction are necessary to ensure customer delight.

Network coverage and access are the key factors that influence the customer retention. Hence, investment in network and technology should go on to improve the geographic coverage, seamless connectivity and speed. Improvement in the quality of basic service – the voice calls will prove to be an excellent strategy for enhancing customer loyalty.

REFERENCES

- Aaker David, (1996), *Building strong brands*, Free Press, New York. ISBN 0-02-900151-X
- Berry Leonard L., (1980), *Services marketing is different*, Business, 30 (May-June), 24-29.
- Berry Leonard L., and Parasuraman, (1993), *Building a new academic field – the case of services marketing*, J. Retailing, 69 (spring), 13-60.
- Brian D. Foster and John W. Cadogan, (2000). *Relationship selling and customer loyalty: an empirical investigation*, Marketing Intelligence and Planning, 18(4), pp. 185-199.
- Cherniawski, R.D. and Maloney, M.W., (1999), *Creating brand loyalty: the management of power positioning and really great advertising*, New York: AMACOM, American Management Association. ISBN: 0-8144-0501-0
- Crosby, Lawrence A., Stephens Nancy., (1987), *Effects of relationship marketing on satisfaction, retention and prices in the life insurance industry*, J. Marketing Res., 24 (November), 404-411.
- Jungmi Oh, Susan S. Fiorito, (2002), *Korean women's clothing brand loyalty*, J. Fashion Marketing and Management, Vol.6(2), 206-222
- Kelly, Scott W., Douglas Hoffman, and Mark A. Davis, (1993), *A typology of retail failures and recoveries*, J. Retail., 69 (Winter), 429-452.
- Mei-mei Lau, Man-tsun chang, Ka-leung Moon, and Wing-sun Liu, (2006), *The Brand Loyalty of Sportswear in Hong Kong*, Journal of Textile and Apparel Technology and Management, Volume 5, Issue 1, Winter 2006. [Online]. Available at: http://www.tx.ncsu.edu/jtatm/volume5issue1/Articles/Lau/Lau_Full_169_05.pdf [Accessed 28 November 2009].
- Peters, Tom., 1988, *Thriving on chaos: Handbook for management revolution*, New York: Alfred A. Knopf. ISBN: 0-394-56061-2
- Reichheld Frederick F, and W. Earl Sasser, Jr., (1990), *Zero defections: quality comes to services*, Harvard Bus. Rev., 68 (September-October), 105-111.
- Rust, Roland T. and Anthony J. Zhorik. (1993), *Customer satisfaction, customer retention, and market share*, J. Retail., 69 (summer), 193-215.
- Schiffman L.G. and Kanuk L.L., (2000), *Consumer Behavior*, 9th Edition, Prentice Hall, Upper Saddle River, New Jersey. ISBN: 8177589997
- Susan M. Keaveney, (1995), *Customer switching behavior in service industries: An exploratory study*, J. Marketing, Vol. 59, No. 2, pp. 71-82
- Tanniru R. Rao, 1973. *Is brand loyalty a criterion for market segmentation: discriminant analysis*, Decision Sciences Journal 4(3), June, 395-404, DOI: 10.1111/j.1540-5915.1973.tb00564.x

LOCATION INTELLIGENCE, THE MERGING OF GEOGRAPHIC INFORMATION SYSTEMS (GIS) AND BUSINESS INTELLIGENCE (BI)

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ABSTRACT

Today's decision makers are required to make many different kinds of decisions, decisions that are accurate. To make accurate decision, managers need inputs from disparate departments at a single point. To be effective and efficient decision makers need the right kinds of tools. One such tool is Business Intelligence (BI), which transforms data from an organization's disparate operational data, into a common environment (data warehouse) for turning data into information, information into knowledge, knowledge into strategies for profitable business activities. Typical BI systems handle the 'who', 'what' and 'when' but the "where" is underexploited or sometimes unexploited. Geographic Information Systems (GIS) enables the analysis of the "where" because eighty percent of company's data has location component. Further visualization helps the analyst interrogate the data and acts as an excellent means of explaining the information to a broader audience. Thus the need for a more complete operational picture of the business has led to the merging of GIS with BI systems. Location Intelligence is the ability to take organizational data and apply location to allow effective decision-making. GIS enhances BI analytics by exposing the influence of geography on behaviour, activities and processes. Adding maps to the reporting output of BI allows decision maker to easily visualize the geographically influenced behaviour, activities, trends and processes, communicate the same within the organization for improved analysis and decision making.

KEYWORDS

Business Intelligent (BI), Decision Making, Geographic Information Systems (GIS), Location Intelligence, Spatial data.

INTRODUCTION

Information Technology (IT) is revolutionizing the way in which we live and work. It is changing all aspects of our life and lifestyle. The digital revolution has given mankind the ability to treat information with mathematical precision, to transmit it with high accuracy and to manipulate it at will. Today's decision makers relies on informal commitments and networks to establish goals, a flexible arrangement of teams and individuals working in task force, and a customer orientation to achieve coordination among employees. The new decision maker appeals to knowledge, learning and decision making of individual employee to ensure proper operations of the firm. Information technology makes this style of management possible.

The traditional means of presenting data to users has been columnar reports, either printed or viewed on the screen as an excel sheet, or as simple histograms or as pie charts. Can a simple histogram or a pie chart handle the complex, interrelationship of multidimensional data? Can a manager really report and communicate all the necessary information content with just a bar graph or a pie chart? The answer is a "definite no".

Location is a critical component in almost every business transaction. Although a lot of data have a location dimension, whether it be customers, stores, warehouses or other assets, this information is rarely exploited in traditional BI analysis. To gain maximum value from the ever-increasing volumes of data, companies need to make use of the location element to gain deeper business insight in order to improve competitiveness and business performance. Moreover, by excluding geographic (spatial) information in the analysis, any data made available for analysis is artificially constrained; thus decision making is compromised.

Typical BI Systems handle the who, what, when and how but the where is vastly underexploited or sometimes unexploited. Spatial data enhances the who by creating new informational content as well as directly enabling the analysis of where. Further interrelationships that might otherwise be difficult to explain are often readily understood when visually presented. Visualization helps the analyst interrogate the data, acts as an excellent means of explaining the information to a broader audience, including company's executives and customers.

It is the visualization of spatial relationships that delivers accurate, high impact informational content, enabling decision makers to gain a fast understanding of the critical issues that lie beneath the surface of the obvious data. In this paper we try to understand the role of GIS in BI systems.

WHAT IS BUSINESS INTELLIGENCE (BI)?

Business intelligence is defined as the processes, technologies and tools needed to turn data into information, information into knowledge, knowledge into plans that drive profitable business action - Data Warehouse Institute. Gartner (2006) defines Business Intelligence as the use of information that enables organizations to best decide, measure, manage and optimize performance to achieve efficiency and financial benefits.

There have been some graphic elements visible in business intelligence systems like business graphics, typically charts, which are now common components in any reports. The whole idea of full business intelligence is to have lots of data in a central repository, or warehouse, so that this data can be used effectively to drive profit and better systems.

Franklin (1992) says as about eighty percent of an organization's data can be associated with a geographic location (spatial component); this can include customer or competitor locations, store locations and sales territories. Thus today's business problems need geography (space) to be taken into account. To gain deeper insights of the business and gain competitive advantage decision makers have to take care of the location component present in the data. For example the following are daily business questions that arise in the minds of the decision maker:

1. Where are my customers located?
2. How big is my market area?
3. What is my share of the market area?
4. Which market offers the greatest potential for growth?

LINKING INTERNAL AND EXTERNAL DATA FOR COMPLETE VIEW OF BUSINESS

Businesses operate within an internal and external environment. Understanding the bigger picture of what the internal and external environment look like and how they relate to each other is critical to make correct strategic and tactical decisions. GIS is pivotal in linking the gap between internal and external data assets. Vector and raster topographical maps, aerial photographs, census and other demographic data become extremely valuable business information if analyzed together with internal data in a common framework.

SEEING IS BELIVING

Reporting is a mainstay of BI with "dashboards" currently gaining in popularity. The dashboard is a familiar graphic tool for business users to access key performance indicators, and can be used to better understand what has happened, when and why. Enhancing these dashboards with mapping visualization also offers businesses the opportunity to bring spatial analysis to a wider audience, making it a true tool for all business users. No other reporting format can match a map's ability to condense information and compare multiple variables of a problem. GIS enhances management reports and "dashboards" with insightful maps and graphics that take less time to evaluate and are easier to understand.

FASTER ANSWERS TO QUERIES

To gain competitive advantage over competitors decision makers should have the right kind of information. Information is of value in the business environment if it reaches the right decision maker, at the right time and in an easily understood format. GIS has the ability to locate more data and information faster by tying many internal and external data sets together through location. In effect the GIS enhanced BI system becomes a true "one stop information shop"

IMPROVING DATA QUALITY AND CREDIBILITY

Due to the vast amounts of data stored by companies on almost every conceivable aspect of their business operations, it is maybe inevitable that errors sometimes occur which degrades the usefulness and credibility of information. With many data types being used, some of these errors may be difficult or even impossible to detect in tabular database formats. Often it is only when this data is pulled into a GIS through a process like geo-coding and mapped or spatially analyzed that some of these errors can be detected.

CONCLUSION

Map makers have always known that a map is not just a tool for showing how to get from here to there. GIS is a technique for organizing and embedding knowledge in a manner readily understood by all. But the typical BI tools implemented in organization are far more simplistic. Many BI systems place the burden of discovery and information insight on the user with little help from excel sheets, columnar reports and pie charts.

With GIS technology it is now possible to integrate GIS into BI to support both traditional and spatial data (locational data). Value affecting data such as demographics and geographically influenced risks can easily be updated in GIS. Data visualization evolves into a means of transforming data quickly into information, information into knowledge, knowledge into strategies for profitable business activities. Thus we can conclude that merging of GIS into BI systems provide an effective tool for decision makers to analysis and present the finding on a map which is more realistic and makes understanding of the solution much better than compared to traditional methods of presenting outputs on graphs and charts. Top companies around the world have made GIS and the related spatial analysis a top priority. However the Indian market is still at a nascent stage, major growth can be achieved if the government decides to follow progressive policies similar to other countries with respect to sharing of spatial data.

REFERENCES

1. Gonzales, Michael, "More than pie charts", Intelligent Enterprise.
2. Gonzales, Michael L "IBM Data Warehousing", Wiley Publishing.
3. Desiree Diamond "Integrating Spatial Intelligence and Business intelligence", Position IT Nov-Dec2007.
4. Michael L, "Spatial Business Intelligence, the spatial and visual components for effective BI", IBM Data Warehousing
5. J. Ronald Eastman "Idrisi for Windows", Student Manual, Version 1.0 May 1995.
6. Rudi Posthumus, "GIS as a tool in business intelligence", Position IT.
7. "GIS and Business Intelligence", AT Blinquiries@esri.com
8. Ian Clarke, Jennifer Rowley, "SDSS in Retail Location Planning", International Journal of Retail and Distribution Management, Vol 23, pp 4-10.
9. Beaumont "GIS and market analysis", Geographic information systems Vol2 pp139-51.
10. Vinod Sambrani, "Business graphics- A new approach to decision making", Ph.D Thesis.
11. ESRI White Paper, "GIS and Business Intelligence-The Geographic Advantage", at www.esri.com
12. Brendan McGuigan, "What is Business Intelligence", at www.wisegGeek.com
13. "What is Business Intelligence", at www.wikipedia.com
14. Location Intelligence, the mashup of GIS and Business Intelligence- www.theserverside.com/discussions/thread.tss?thread_id=51293
15. Business Intelligence and Location Intelligence- A Perfect Fit, http://beta.gisdevelopment.net/images/pdf/mme07_chris.pdf
16. E-Spatial why GIS? www.espatial.com/saas/documents/Why_GIS_2pager.pdf
17. Building Geospatial Business Intelligence Solutions with Free and Open Source Components <http://geosoa.scg.ulaval.ca/fr/index.php>
18. Putting BI on map www.it-director.com/enterprise/technology/content.php?cid=8891

MANAGEMENT OF NON-CONVENTIONAL ENERGY: THE MISSION OF NEDCAP**M. MADHAVI****ASSOCIATE PROFESSOR AND HEAD****DEPT OF MANAGEMENT****AURORA'S PG COLLEGE****HYDERABAD****N. RAMANUJA****ASST. PROFESSOR****DEPARTMENT OF BUSINESS ADMINISTRATION****PVPS INSTITUTE OF TECHNOLOGY****VIJAYAWADA****ABSTRACT**

India is a country rich in natural resources as well as in population. In order to cater to the needs of ever increasing population, we have to conserve our natural resources by utilizing them carefully. Energy resources are considered to be the most needed resources for the existence of mankind. The conventional energy resources like gas, oil and coal are used everywhere starting from the household chores to industrial activities. As the conventional resources are subject to depletion by nature and cannot be regenerated immediately, there is a rummage around for alternative sources of energy. The government of India has recognized the need for the development and promotion of non-conventional energy resources like solar energy, wind-energy, bio-mass energy etc to conserve conventional resources. Establishment of Non conventional Energy Development Corporation of Andhra Pradesh Limited (NEDCAP) is a milestone in this endeavor. The authors through this article have tried to highlight the importance of non-conventional energy resources and the role of NEDCAP in promoting these sources. This paper also discussed various sources of non-conventional energy and highlighted the efforts of NEDCAP in conservation of conventional sources of energy. The paper is organized into four parts, the first part gives an introduction to the study, the objectives and methodology, the second part gives an account of the non-conventional sources of energy and emergence of NEDCAP as a nodal agency of AP, the third part elaborates the efforts of NEDCAP in promoting non-conventional energy and the fourth part encapsulates a discussion on the study and conclusion..

KEYWORDS

Hydal Power, NEDCAP, Non-conventional Energy, Solar Energy, Wind Energy.

INTRODUCTION

The conventional energy resources are continuously registering a diminishing balance with the population explosion and industrialization-taking place all around the globe. India is the second largest in the world in the statistics of population and considered to be sixth in the consumption of energy as per a study conducted by the Government of A.P. In view of the existence of a large gap between the requirements of the population and the availability of conventional sources of energy there is a need for development of a sustainable resource based alternative for conventional energy resources. The conventional energy resources are the natural resources like coal, oil and gas. With the rapid developments taking place in industrial sector, the need for energy is also increasing constantly. It has become inevitable to supplement the exhaustible resources with renewable resources to cater to the needs of future generations effectively. Fortunately, India is gifted with large amount of sustainable non-conventional energy resources like solar power, wind and biomass along with small hydro power and industrial and domestic wastes. These resources are natural, cost free, available abundantly and readily usable for the generation of energy in different forms. Moreover these are pollution free and hence can be used to produce clean form of energy without any wastage apart from being renewable. So there is a need for the development of non-conventional energy resources in the country.

OBJECTIVES OF THE STUDY

The following objectives were formulated while initiating the study

1. To study the sources of non-conventional energy resources available as alternate sources of energy.
2. To study the role of NEDCAP in promoting non-conventional energy in the state of Andhra Pradesh.
3. To understand the practical problems prevailing in the promotion of alternate sources of energy.
4. To provide some solutions to the problems faced in the conservation of energy and for promotion of non-conventional energy effectively.

METHODOLOGY

The entire study is based on descriptive research or analysis. The data has been collected from both primary and secondary sources. The primary source of data includes conversations with NEDCAP officials and secondary data was gathered from various sources like text books, journals, news papers and websites of NEDCAP. The data gathered was analyzed by understanding the critical elements and arranging that in a chronological order. After that some critical comments were made on the problems faced by NEDCAP in promoting renewable energy, for which some alternative paths of actions have been suggested.

NON-CONVENTIONAL ENERGY RESOURCES

As the demand for power and energy is increasing rapidly and depletion of natural resources is taking place with the same pace, the emergence of environmental friendly and pollution free non-conventional energy resources has become a viable alternative. The non-conventional energy resources like solar energy through thermal as well as photovoltaic systems, wind energy, bio mass, hydal energy and industrial and household wastes will help the economy to a great extent in enhancing the power generation capacity and supplementing the energy needs of different sectors. The following is a brief presentation of the renewable sources of energy.

SOLAR ENERGY

India has a locational advantage in receiving abundant radiant energy from the sun as it is located in the equatorial sun belt of the earth. Majority of the Indian continent is bestowed with clear sunny weather in all most 280-300 days of a year. Daily solar energy incident over India varies from 4-7 KWH per square meter depending on the region. Solar energy can be used in two ways:

SOLAR THERMAL CONVERSION: Conversion of solar energy into heat using devices of steel, copper, aluminum is called solar-thermal conversion. A solar thermal device captures and transfers the heat energy available in the solar radiation. The energy generated can be used for varied applications in the household and industrial sectors like water heating systems, air heating systems, cooking and other household utilities.

SOLAR PHOTOVOLTAIC CONVERSION: This is the conversion of solar energy into electricity using semi conductors and their hybrids to convert the solar energy into Direct Current form of electricity for the application of DC and AC. The electricity thus generated can be used to needs of home lighting, street lighting and running motor pumps etc. The direct current form of solar energy is a major technical consideration for SPV application.

WIND ENERGY

The evolution of windmills to convert wind power into energy, using wind turbines dates back to the beginning of the century. Denmark was the first country to install the first windmill for the generation of electricity. Later many countries entered into the field of wind energy. India started operations during 1983-84. The technology involves generation of electricity using turbines, which converts mechanical energy from the wind mills and is mainly used for pumping water from bore wells, open wells etc. However, average wind speed is major technical consideration to harness wind energy depending upon the climatic conditions and geographical locations of the project.

BIO MASS AND OTHER BIO ENERGY SYSTEMS

Bio mass is yet another renewable source of energy with potential to generate power to the extent of more than 50% of the requirements our country. Indian economy is predominantly an agricultural based economy with the availability of huge quantities of biomass available in the form of husk, straw, shells of coconuts and of wild bushes etc. Bio mass resources include large quantities cattle dung and other organic wastes. The biomass resources can be used for production of thermal energy or electricity. It can also be used to produce gas that may be used for combustion and to run gas engines.

SMALL HYDRO POWER

Hydropower is tapped from running waterfalls, canals and other water streams containing relatively small quantities of water but with some force of falling. The force of falling and flowing water can be converted into electricity by using turbines. This is a cheaper and abundant source on energy in our country. It is estimated that nearly 15,000 MW of power can be generated with the potential of the small hydro projects in the country. This power can be used to meet the requirements of the vicinity areas of the water streams like agro processing and milling.

INDUSTRIAL AND OTHER WASTES

These projects utilize the municipal and industrial wastes which have a problem for their disposal. The cleanliness of urban and industrial areas can be achieved by utilizing these wastes as raw material to generate power. Wastes from the household, agricultural and industrial sectors are utilized to produce electricity. Industrial wastes from sago manufacturing units; sugar manufacturing units, poultrys and others can be effectively used to produce power. This is a source of cheaper and renewable energy source available in India. Production of gases can also be undertaken using the wastes.

INITIATIVES FOR CONSERVATION OF ENERGY

Realizing the potential for energy from renewable sources, the government has set up the Ministry of Non-conventional Energy Sources (MNES) in 1992, which is now called MNRE. The Prime Minister directly controls the activities of the ministry. MNRE activities include promotion of renewable energy technologies, creating an environment conducive to promote renewable energy technologies and assessment of renewable energy resources. Various sources of renewable energy are identified and policies are developed to supplement the conventional energy resources under the auspices of the ministry. Nodal agencies with different names have been established in different states to achieve the primary objective of supplementing the energy needs of the states.

NON-CONVENTIONAL ENERGY DEVELOPMENT CORPORATION OF ANDHRA PRADESH LIMITED (NEDCAP)

The nodal agency for the development of non-conventional energy of Andhra Pradesh is popularly called NEDCAP. Initially the name is Agro Pump sets & Implements Ltd., (APIL) for implementing non-conventional energy programmes sponsored by both the State and Central Governments. The corporation was incorporated on 21.10.1969 and has been renamed as NEDCAP on 10-5-1986. The vision and mission statements of the organization are as mentioned under.

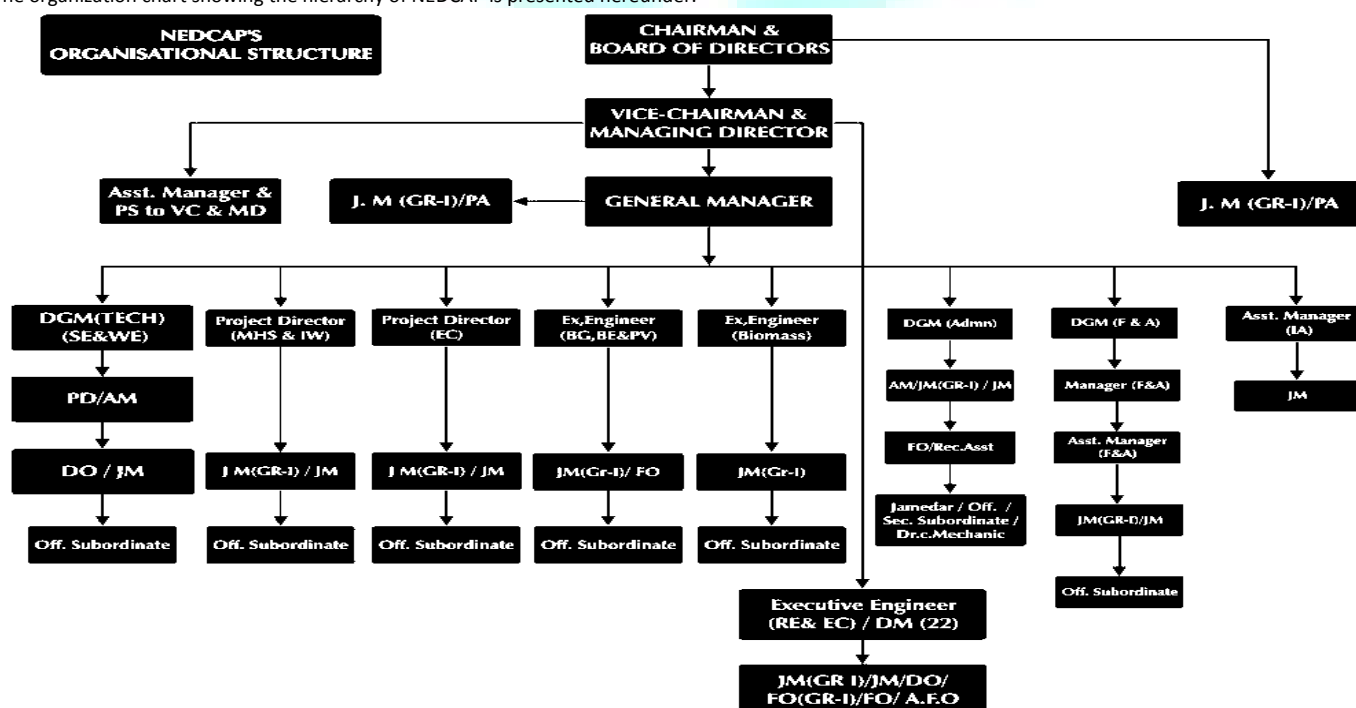
The vision of NEDCAP is to be a pioneer institute in the area of promotion of Non-conventional / Renewable energy projects with state-of-art technologies coupled with experts and technocrats to present highly competitive and efficient products to the consumer."

The mission is to promote, develop, encourage, popularize and carry out consultancy, field research and experiments for implementation of Non-conventional / Renewable energy projects and gadgets sponsored by both State and Central Governments.

The primary objectives of the Corporation are

- To survey, develop and implement renewable energy programmes of the State and Central Governments.
- To generate electricity through renewable sources like wind and solar energy on a decentralised manner.
- To conserve the sources of energy in rural areas.
- To import and adopt viable technology and machinery in the areas of Non-Conventional energy sources and ensures post installation service.
- To impart training and to promote research and development in the field of Non-conventional energy sources.
- To provide technical consultancy services in implementation of power projects through renewable energy sources.

The organization chart showing the hierarchy of NEDCAP is presented hereunder.



Source: www.nedcap.org.in

INITIATIVES OF NEDCAP

To achieve the above mentioned objectives, NEDCAP has initiated many programmes in different areas of non-conventional energy sources. The programmes are continuously monitored and necessary support is extended to individuals, non-profit making organizations, commercial and industrial organizations working in various projects associated with renewable energy resources. The following are some highlights of the promotion measures initiated by NEDCAP.

PROMOTION OF SOLAR ENERGY

Government of Andhra Pradesh has issued GOs under reference Nos. G.O.Ms.No.302 M.A. dated : 03.08.2004 and G.O.Ms.No.506 MA dated: 03-12.2004 of Municipal Administration & Urban Development (M) Department making mandatory for installation of Solar Water Heating Systems at proposed construction of hospitals, nursing homes, hotels, guest houses, lodges and multi-storied buildings of stilt + 5 floors or 15 meters and above height provision shall be made in their plans. NEDCAP is taking all necessary initiatives in the implementation of the programme. It is providing subsidized loans with banks at concessional rates of interests.

Type of Users	Rate of interest applicable
Domestic users	2%
Institutional users not availing accelerated depreciation	3%
Industrial and commercial users availing depreciation	5%

Source: www.nedcap.gov.in

Along with the provision of loans at concessional rates of interest, NEDCAP is also providing capital subsidies for those organizations which are not availing the facility of soft loans depending on the type of the organization and the area used for collecting the solar energy. The subsidies are Rs. 1100 per square meter of the collector area for registered non-profit making organisations and Rs.825 per square meter of the collector area for registered commercial establishments. Further it is providing an incentive of Rs. 100 per square meter for motivators and agents working in the field of attracting potential buyers of the solar water heaters.

PROMOTION OF WIND ENERGY

Based on the studies conducted through wind monitoring exercise, it is found that the southern part of Andhra Pradesh has got wind potential for setting up of wind farms. The areas in Anantapur, Cuddapah, Kurnool and parts of Nellore and Chittoor district have been identified with relatively better potential sites to set up wind power projects. In the master plan to assess the potentiality in southern part of A.P. it is estimated that there is a potential of about 2100 MW capacity. NEDCAP has established 2.25 MW wind farm project at Kondamedapally, Kurnool dist. and 2.50 MW wind farm at Narasimhakonda, Nellore district under demonstration scheme of MNRE. To encourage investment and to promote wind power projects in Andhra Pradesh, the Govt. of Andhra Pradesh has announced a comprehensive policy and incentives to set up wind power projects in private sector. NEDCAP is the single window clearance agency to sanction projects up to 20 MW capacity in the State and so far 100.12 MW capacity of projects by 30 developers at Ramagiri, Kadavakallu, Tallimadugula in Anantapur District and on Tirumala Hills, Chittoor district, was commissioned. The total installed capacity is 107.37 MWs as on March, 2008.

NEDCAP extends the following services to the wind farm developers to set up projects in private sector

- Clearance of projects.
- Selection of suitable sites for the proposed projects.
- Providing data related to the speed of the wind and related parameters.
- Guidance on suitable equipment needed, its erection and commissioning of the project.
- Guidance on inter-facing of the project.
- Co-ordination with the revenue department on the land allotment to the proposed projects.
- Necessary technical assistance to the projects sanctioned and to the ones commissioned.

A total of 0.25% of the project cost subject to a minimum Rs.1.50 lakhs / MW is payable to NEDCAP towards sanction fee of the project.

PROMOTION OF BIOMASS UTILIZATION

After identifying the abundant availability of bio mass in the state of Andhra Pradesh NEDCAP has started implementing the Biogas programme since 1982-83. The initial stages of implementing the programme, 4 cum 6 cum capacity KVIC model biogas plants were erected. It has been observed that KVIC models of biogas plants are comparatively associated with high initial costs along with periodical maintenance. Since, 1990-91, the Corporation is promoting the Deenabandhu model as it is less expensive and more efficient. The programme gained momentum and the same model is continued. The Corporation till now has installed around 2.50 lakhs biogas plants in the state so far. Under the biomass programme rural energy programmes are designed and implemented.

RURAL ENERGY PROGRAMME

Sl.No.	Description	Nos. Installed
1	Family Size Biogas Plants for cooking	2.8 Lakhs
2	Improved Chulhas	27.28 lakhs

Source: www.nedcap.gov.in

NATIONAL PROJECT ON BIOGAS DEVELOPMENT

Basing on the studies conducted and on the success of the plants already installed in Andhra Pradesh, there is huge demand/potential for the establishment of Biogas Plants in Andhra Pradesh. The estimated potential of family size biogas plants is 10.90 lakhs. So far 2.84 lakh family-size biogas plants have been installed in the state.

PROMOTION OF INDUSTRIAL WASTE BASED PROJECTS

NEDCAP is authorized by the A.P. State Government vide. G.O. Ms. No. 253, E & F (RES) Department, dated 15-11-94 to sanction the Municipal Solid Waste/Industrial Waste based Power projects of capacity up to 20 MW. Andhra Pradesh is having a number of Industries which generate effluents. These effluents are to be treated to have value added products. The waste generated from Industries like sago, starch, palm oil, distilleries, dairy, vegetable wastes and poultry etc can be treated to generate Electricity. The following table presents the total capacity of the power generation projects undertaken in the industrial waste management area.

	Type of Project	Capacity
i)	Municipal Solid Waste Projects	107 MW
ii)	Municipal Liquid Waste	16 MW
	Total	123 MW
iii)	Industrial Waste Projects	135.0 MW

Source: www.aponlineltd.org

It is estimated that there is a huge potential of 40 MW from municipal solid wastes in the cities of Hyderabad, Vijayawada, Visakhapatnam, Guntur. Two projects aggregating to a capacity of 12.6 MW are under implementation at Hyderabad and Vijayawada cities. It is estimated that there is still an untapped potential of 135 MW from industrial wastes including poultry, distilleries and others industries operating in the state. Out of this potential projects with a capacity of 1.50 MW have been commissioned.

SMALL HYDRO POWER

The activity of power generation from small hydro power has been transferred from AP TRANSCO wing which was previously known as APSEB to NEDCAP vide G.O.Ms.No.37 dated 01-02-1999 of Energy (Power I) Department, Government of AP. The assessed Hydro Power potential is 1000 MW (approx). The status report on Small Hydro Power projects is shown in the table.

Status of small hydro power projects as on 31-03-2008

S.No.	Description	No. of projects	Capacity in MW
1	No. of projects sanctioned	47	146.603
2	No. of projects commissioned	31	92.353
3	No. of projects under progress	05	7.150
4	No. of projects – Financial closure not completed	11	47.100
5	Detailed project reports referred to Irrigation Dept. for issuance of No Objection Certificate	125	305.500

Source: www.nedcap.gov.in

The total no. of projects sanctioned are 47 in number with a capacity of 146.603 MW. The capacity utilized so far is 92.353 MW through 31 projects commissioned under private sector participation. The number of Projects, which are in progress, is 16 with a capacity of 54.250 MW. The proposals and detailed project reports referred to Irrigation Department for issuance of No Objection Certificate are aggregating to a total capacity of 305.500 MW.

DISCUSSIONS ON THE OBSERVATIONS

Andhra Pradesh is one of the pioneering states in the country in encouraging the non-conventional energy based power projects. The State Government has authorized the nodal agency NEDCAP to sanction NCES based power projects of capacity up to 20 MW in private sector also along with the public sector participation. The cumulative installed capacity as on 31.10.2003 is 473.09 MW which is about 4.6 % of the total installed capacity in the state. During the year 2002-03, 1287.55 Mega Units of power was fed into the State grid which is 3.65 % of the total volume of power generated in the state. The Non Conventional Energy based power projects have the following advantages

- Environmental friendly and produce green power with less costs and free raw material.
- Every KWH of power generated from NCES will eliminate 1 KG of Carbon emission into the atmosphere which is relatively very less when compared with conventional sources like coal, oil and natural gas.
- Non Conventional Energy Sources are abundantly available and are renewable with in no period of time.
- Low gestation period is another advantages with the projects commissioned under the utilization of non-conventional sources.
- Also concerned with conserving the rapidly depleting reserves of fossil fuels.
- Supportive in creating rural employment and self employment opportunities.
- Ready to lend a hand in improving the economic and living conditions of the rural population.

CHALLENGES FACED BY NEDCAP

1. The most important source of renewable energy is solar energy. As India is having abundant potential for capturing solar energy, the scope of using the solar power as alternate source is very large. But, the cost of erecting solar energy equipments like solar lanterns, solar voltaic cells and solar heaters is hindering the promotion of solar energy. Solar appliances are less popular in major parts of the country.
2. Another hindering block in the development of non-conventional energy is the maintenance of projects. Projects like bio-mass utilization are doing well in the season when agricultural waste is available abundantly, but at times of scarcity, the maintenance is becoming a setback. Another problem faced is the storage of agricultural wastes. If proper care is not taken in storing the agricultural wastes they may convert the surroundings unhealthy.
3. Hydal power projects are also highly dependent on conducive environment. At times, because of cyclones and other unforeseen changes in the environment, the equipment set for the use of hydal power gets damaged and becomes ineffectual. The cost of the equipment is high and replacing the equipment every time is not practically feasible. It is also observed that the cost of transmission of power produced through these projects is relatively high when compared to other forms of energy.
4. Wind energy is also highly dependent on the environment. When wind energy ranges from normal to the desired level, the production of energy is optimum, but when there are winds with high velocity they may damage the power producing equipment causing a loss to the project. Similarly in some of the areas, the wind mills were unable to generate the estimated capacity of energy due to low velocity of the winds than expected velocity and thus causing a loss to the establishment or the agency.
5. Industrial waste based projects should also be handled with utmost care as there every possibility for polluting the environment in the utilization of wastes. Sometimes the gases released during some chemical treatments are accidentally released into the surroundings causing havoc among the population of the vicinities.

SOME SUGGESTIONS

1. It is observed that establishment of solar heaters and other equipment is associated with huge costs. In house hold sector the users can form into a group and share the expenditure of erecting the equipment and maintenance of the same. In industries also the users can form into clusters and share the expenses. This can be an alternative solution for bearing the costs rather than bearing them alone.
2. Regarding the storage of agricultural waste, farmers can make use of the idle lands and nearby vicinities without causing any disturbance to the households. The government can come forward and suggest some amicable solutions with the help of officials of agricultural and forestry departments.
3. The hydal power projects have to be aware of the information passed from the department meteorology to protect the equipment from damage. They can have continuous contacts with the department officials to be aware of the changes taking place in the environment.

4. Wind mills can also be effectively used by sharing the cost of equipment between the establishing organisations and end users of the energy produced. The project managers should also be aware of the changes taking place in the day to day by being updated with the latest weather reports to protect their projects from damage.
5. Along with promotion of non-conventional energy, conservation of natural sources of energy like water, oil, coal and fossil fuels should be highlighted. More awareness can be created among the households and industrial users for conservative use of energy in their daily chores. It should be clearly indicated in the industries where there is a possibility for wastage that “ **Energy Saved is Energy Produced.**”
6. Another lacuna observed is the lack of promotion for the non-conventional forms of energy sources and their utilization. If the government and non-government agencies adopt appropriate strategies for the promotion of renewable energy , it will help in escalating the number of industrial and household users. Each and every piece of information given by the government for promotion of renewable source should reach the potential users by apt promotional strategies.

CONCLUSION

The importance of non-conventional energy resources is gaining impetus in the country as well as in the state. India is now one of the countries that are implementing various programmes on the utilization and promotion of non-conventional energy resources. Rightly identifying the need of the hour for conservation of energy resources, the Planning Commission of India in its Integrated Energy Policy Report (IEPR) has highlighted the need to develop domestic supply options and diversification of energy sources. The projections of the report state that non-conventional sources may account for 5 to 6 per cent of India's total energy mix by 2031-32. As the Nodal agency of the state of Andhra Pradesh, NEDCAP is taking all the necessary initiatives to promote the use of renewable sources of energy like solar, wind, biomass, industrial wastes etc, as evident from the above discussion. Private participation is also solicited in some of the areas like power generation and solar heating systems. To become more effective in the promotion, NEDCAP can also undertake promotional and publicity campaigns for individuals, NGOs, commercial and non-commercial institutions, elaborating the importance of the conservation of conventional sources of energy and the need for supplementing them with non-conventional sources. To finish with, it is rightly said that “**Save Nature and Enjoy the Future.**”

REFERENCES

BOOKS AND JOURNALS

- Anagha Shukre (2009), “The Power of Sun: An Empirical study on the rural consumer buying behaviour of Solar products in Rajasthan”, Abhigyan, Vol:XXVII, No:1, pp44-53.
- Annual Reports, (2005-2006), Ministry of New and Renewable Energy Sources.
- Datt and Mahajan (2010) “Indian Economy”, Chapter-8, S.Chand & Company Limited, 62nd Revised Edition, pp117-126.
- Kandula Subramaniam (2009) “A Power(ful) Decision” Business world, 27th April, p.23.
- Kandula Subramaniam (2009) “Rupee-Greenback toss up” Business world, 4th May, p.26.
- Meera Mohanthy (2010) “Clearing the Air” Business World, 13th Dec, p.13.
- Oyewole(2001), “Social costs of Environmental Justice associated with the Practice of Green Marketing” Journal of Business Ethics, Vol:29, No:3, pp.239-252.
- Rajender P. and Thiruvengalachari D. (2009) “Some perspectives of Energy Performance in Small Scale Units” Prakasha Vol:6, No:1, pp 45-58.
- “RIL Focusing on strong execution” The Financial Express, February, 2010.
- Varma C.V.J. and. Gupta N D. “Non-Conventional Energy Development in India, An Overview” www.nedcap.gov.in viewed on 16th March, 2010.
- Shahi V.S.(2008) “Tapping the Hydro-electric potential of the North-Eastern region” ASCI Journal of Management, Vol37, No:2 pp79-88.

WEBSITES

- www.aponline.gov.in viewed on 30th Sep, 2010.
- www.mnre.gov.in viewed on 26th Aug, 2010.
- www.undp.org viewed on 16th Nov, 2010.
- www.unido.org viewed on 15th Aug, 2010.
- www.worldbank.org viewed on 15th Aug, 2010.

RISK MANAGEMENT STRATEGIES AND PRACTICES USING MARKOWITZ THEORY AT KARVY STOCK-BROKING LIMITED

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ABSTRACT

Investing in securities is one of the ways where an individual mostly like to adopt as a source of income, because securities are those which may give more returns and they are also more risky. This paper gives information about how to manage Portfolio and a study is done on securities by taking 2 sectors with two companies with their annual returns. This paper also explains the selected portfolios is yielding a satisfactory and constant return to the investor.

KEYWORDS

Portfolio Risk, Return On Portfolio, Risk Management,

INTRODUCTION

A portfolio is a collection of investments held by an institution or a private individual. In building up an investment portfolio a financial institution will typically conduct its own investment analysis; a private individual may make use of the services of a financial advisor or a financial institution which offers portfolio management services. Holding a portfolio is part of an investment and risk-limiting strategy called diversification. By owning several assets, certain types of risk (in particular specific risk) can be reduced. The assets in the portfolio could include stocks, bonds, options, warrants, gold certificates, real estate, futures contracts, production facilities, or any other item that is expected to retain its value.

Portfolio management involves deciding what assets to include in the portfolio, given the goals of the portfolio owner and changing economic conditions. Selection involves deciding what assets to purchase, how many to purchase, when to purchase them, and what assets to divest. These decisions always involve some sort of performance measurement, most typically expected return on the portfolio, and the risk associated with this return (i.e. the standard deviation of the return). Typically the expected returns from portfolios, comprised of different asset bundles are compared.

The unique goals and circumstances of the investor must also be considered. Some investors are more risk averse than others. Mutual funds have developed particular techniques to optimize their portfolios holdings.

Thus, portfolio management is all about strengths, weaknesses, opportunities and threats in the choice of debt vs. equity, domestic vs. international, growth vs. safety and numerous other trade-offs encountered in the attempt to maximize return at a given appetite for risk.

OBJECTIVES

To find out optimal portfolio, which gave optimal return at a minimize risk to the investor.

1. To see whether the portfolio risk is less than individual risk on whose basis the portfolios are constituted
2. To see whether the selected portfolios is yielding a satisfactory and constant return to the investor and to analyze and select the best portfolio.

RESEARCH METHODOLOGY

1. Market prices of the companies have been taken for the years of different dates, A final portfolio is made at the end of the year to know the changes (increase/decrease) in the portfolio at the end of the year.

SOURCES OF DATA

The primary data information is gathered from Karvy finpolis by interviewing Karvy executives. The secondary data is collected from various financial books, magazines and from stock lists of various newspapers and Karvy.

PERIOD OF THE STUDY

The present study it covers the last 5 years information about the portfolio performance evaluation using Markowitz theory, from the period of 2004-2009. Study was taken up to 45 days.

ASPECTS OF PORTFOLIO MANAGEMENT

Basically portfolio management involves

1. A proper investment decision making of what to buy & sell

2. Proper money management in terms of investment in a basket of assets so as to satisfy the asset preferences of investors.
3. Reduce the risk and increase returns.

PROCESS OF PORTFOLIO MANAGEMENT

The Portfolio Program and Asset Management Program both follow a disciplined process to establish and monitor an optimal investment mix. This six-stage process helps ensure that the investments match investor's unique needs, both now and in the future.



RISK

Risk refers to the probability that the return and therefore the value of an asset or security may have alternative outcomes. Risk is the uncertainty (today) surrounding the eventual outcome of an event which will occur in the future. Risk is uncertainty of the income/capital appreciation or loss of both. The higher the risk taken, the higher is the return. But proper management of risk involves the right choice of investments whose risks are compensation.

RETURN

Return-yield or return differs from the nature of instruments, maturity period and the creditor or debtor nature of the instrument and a host of other factors. The most important factor influencing return is risk return is measured by taking the price income plus the price change.

PORTFOLIO RISK

Risk on portfolio is different from the risk on individual securities. This risk is reflected by in the variability of the returns from zero to infinity. The expected return depends on probability of the returns and their weighted contribution to the risk of the portfolio. **Return On Portfolio**

Each security in a portfolio contributes returns in the proportion of its investment in security. Thus the portfolio of expected returns, from each of the securities with weights representing the proportionate share of security in the total investments.

RISK – RETURN RELATIONSHIP

The risk/return relationship is a fundamental concept in not only financial analysis, but in every aspect of life. If decisions are to lead to benefit maximization, it is necessary that individuals/institutions consider the combined influence on expected (future) return or benefit as well as on risk/cost. The requirement that expected return/benefit be commensurate with risk/cost is known as the "risk/return trade-off" in finance.

MARKOWITZ MODEL

THE MEAN VARIANCE CRITERION

Dr. Harry M. Markowitz is credited with developing the first modern portfolio analysis model in order to arrange for the optimum allocation of assets with in portfolio. To reach these objectives, Markowitz generated portfolio with in a reward risk context. In essence, Markowitz model is a theoretical framework for the analysis of risk return choices. Decisions are based on the concept of efficient portfolios.

Markowitz model is a theoretical framework for the analysis of risk, return choices and this approach determines an efficient set of portfolio return through three important variable that is,

1. Return
2. Standard Deviation
3. Coefficient of correlation

Markowitz model is also called as a "Full Covariance Model". Through this model the investor can find out the efficient set of portfolio by finding out the trade off between risk and return, between the limits of zero and infinity. According to this theory, the effect of one security purchase over the effects of the other security purchase is taken into consideration and then the results are evaluated. Markowitz had given up the single stock portfolio and introduced diversification. The single stock portfolio would be preferable if the investor is perfectly certain that his expectation of highest return would turn out to be real. In the world of uncertainty, most of the risk averse investors would like to join Markowitz rather than keeping a single stock, because diversification reduces the risk.

A portfolio is efficient when it is expected to yield the highest return for the level of risk accepted or, alternatively the smallest portfolio risk for a specified level of expected return level chosen, and asset are substituted until the portfolio combination expected returns, set of efficient portfolio is generated.

ASSUMPTIONS

The Markowitz model is based on several assumptions regarding investor behavior:

1. Investors consider each investment alternative as being represented by a probability distribution of expected returns over some holding period.
2. Investors maximize one period-expected utility and possess utility curve, which demonstrates diminishing marginal utility of wealth.
3. Individuals estimate risk on the basis of variability of expected return.
4. Investors base decisions solely on expected return and variance of return only.
5. For a given risk level, investors prefer high returns to lower returns. Similarly for a given level of expected return, investors prefer less risk to more risk.

Under these assumptions, a single asset or portfolio of assets is considered to be "efficient" if no other asset or portfolio of assets higher expected return with the same expected return.

THE SPECIFIC MODEL

In developing this model, Markowitz first disposed of the investor behavior rule that the investor should maximize expected return. This rule implies non-diversified single security analysis portfolio with the highest expected return is the most desirable portfolio. Only by buying that single security portfolio would obviously be preferable if the investor were perfectly certain that this highest expected return would turn out to be the actual return. However, under real world conditions of uncertainty, most risk adverse investors join with Markowitz in discarding the role of calling for maximizing the expected returns. As an alternative, Markowitz offers the "expected returns/variance" rule.

Markowitz has shown the effect of diversification by regarding the risk of securities. According to him, the security with the covariance, which is either negative or low amongst them, is the best manner to reduce risk. Markowitz has been able to show that securities, which have, less than positive correlation will reduce risk without, in any way, bringing the return down. According to his research study a low correlation level between securities in the portfolio will show less risk. According to him, investing in a large number of securities is not the right method of investment. It is the right kind of security that brings the maximum results. Henry Markowitz has given the following formula for a two-security portfolio and three security portfolios.

$$\sigma_p = \sqrt{(x_1)^2 (\sigma_1)^2 + (x_2)^2 (\sigma_2)^2 + 2(x_1)(x_2)(r_{12})(\sigma_1)(\sigma_2)}$$

$$\sigma_p = \sqrt{(x_1)^2 (\sigma_1)^2 + (x_2)^2 (\sigma_2)^2 + (x_3)^2 (\sigma_3)^2 + 2(x_1)(x_2)(r_{12})(\sigma_1)(\sigma_2) + 2(x_1)(x_3)(r_{13})(\sigma_1)(\sigma_3) + 2(x_2)(x_3)(r_{23})(\sigma_2)(\sigma_3)}$$

σ_p = Standard deviation of the portfolio return

x_1 = proportion of the portfolio invested in security 1

x_2 = proportion of the portfolio invested in security 2

x_3 = proportion of the portfolio invested in security 3

σ_1 = standard deviation of the return on security 1

σ_2 = standard deviation of the return on security 2

σ_3 = standard deviation of the return on security 3

r_{12} = coefficient of correlation between the returns on securities 1 and 2

r_{13} = coefficient of correlation between the returns on securities 1 and 3

r_{23} = coefficient of correlation between the returns on securities 2 and 3

MEASURING THE EXPECTED RETURN AND STANDARD DEVIATION OF A PORTFOLIO

The expected return on a portfolio is the weighted average of the returns of individual assets, where each asset's weight is determined by its weight in the portfolio.

The formula is:

$$E(R_p) = [W_a X E(R_a)] + [W_b X E(R_b)]$$

Where

E = is stands for expected

R_p = Return on the portfolio

W_a = Weight of asset n where n may stand for asset a, b...etc.

R_a = Return on asset n where n may stand for asset a, b...etc

The portfolio standard deviation (σ_p) measure the risk associated with the expected return of the portfolio.

$$\text{The formula is } \sigma_p = \sqrt{w_a^2 \sigma_a^2 + w_b^2 \sigma_b^2 + 2w_a w_b r_{ab} \sigma_a \sigma_b}$$

The term r_{ab} represents the correlation between the returns of investments a and b. The correlation coefficient, r , will always reduce the portfolio standard deviation as long as it is less than +1.00.

PORTFOLIO DIVERSIFICATION

Diversification occurs when different assets make up a portfolio. The benefit of diversification is risk reduction; the extent of this benefit depends upon how the returns of various assets behave over time. The market rewards diversification. We can lower risk without sacrificing expected return, and/or we can increase expected return without having to assume more risk. Diversifying among different kinds of assets is called asset allocation.

The diversification can either be vertical or horizontal.

In **vertical diversification** a portfolio can have scripts of different companies within the same industry. In **horizontal diversification** one can have different scripts chosen from different industries.

An important way to reduce the risk of investing is to diversify your investments. Diversification is akin to *"not putting all your eggs in one basket."*

For example: If portfolio only consisted of stocks of technology companies, it would likely face a substantial loss in value if a major event adversely affected the technology industry.

There are different ways to diversify a portfolio whose holdings are concentrated in one industry. We can invest in the stocks of companies belonging to other industry groups. We can allocate our portfolio among different categories of stocks, such as growth, value, or income stocks. We can include bonds and cash investments in our asset-allocation decisions. We can also diversify by investing in foreign stocks and bonds.

Diversification requires us to invest in securities whose investment returns do not move together. In other words, the investment returns have a low correlation. The correlation coefficient is used to measure the degree to which returns of two securities are related. As we increase the number of securities in our portfolio, we reach a point where likely diversified as much as reasonably possible. Diversification should neither be too much or too less. It should be adequate according to the size of the portfolio.

THE FOUR PILLARS OF DIVERSIFICATION

1. The yield provided by an investment in a portfolio of assets will be closer to the Mean Yield than an investment in a single asset.
2. When the yields are independent - most yields will be concentrated around the Mean.
3. When all yields react similarly - the portfolio's variance will equal the variance of its underlying assets.
4. If the yields are dependent - the portfolio's variance will be equal to or less than the lowest

PORTFOLIO ANALYSIS

Portfolio analysis includes portfolio construction, selection of securities, revision of portfolio evaluation and monitoring the performance of the portfolio. All these are part of subject of portfolio management which is a dynamic concept. Individual securities have risk-return characteristics of their own. Portfolios, which are combinations of securities may or may not take on the aggregate characteristics of their individual's parts.

Portfolio analysis considers the determination of future risk and return in holding various blends of individual securities. As we know that expected return from individual securities carries some degree of risk. Various groups of securities when held together behave in a different manner and give interest payments and dividends also, which are different to the analysis of individual securities. A combination of securities held together will give a beneficial result if they are grouped in a manner to secure higher return after taking into consideration the risk element.

There are two approaches in construction of the portfolio of securities. They are

1. Traditional approach
2. Modern approach

TRADITIONAL APPROACH

Traditional approach was based on the fact that risk could be measured on each individual security through the process of finding out the standard deviation and that security should be chosen where the deviation was the lowest. Traditional approach basically deals with two major decisions. They are

- a. Determining the objectives of the portfolio
- b. Selection of securities to be included in the portfolio

MODERN APPROACH

Modern approach theory was brought out by Markowitz and Sharpe. It is the combination of securities to get the most efficient portfolio. Combination of securities can be made in many ways. Markowitz developed the theory of diversification through scientific reasoning and method.

KARVY CONSULTANTS LIMITED

Karvy Consultants Limited was started in the year 1981, with the vision and enterprise of a small group of practicing Chartered Accountants. Initially it was started with consulting and financial accounting automation, and carved inroads into the field of registry and share accounting by 1985. Today, Karvy has access to millions of Indian shareholders, KARVY, is a premier integrated financial services provider, and ranked among the top five in the country in all its business segments, services over 16 million individual investors in various capacities, and provides investor services to over 300 corporates, comprising the who is who of

Corporate India. KARVY covers the entire spectrum of financial services such as Stock broking, Depository Participants, Distribution of financial products - mutual funds, bonds, fixed deposit, equities, Insurance Broking, Commodities Broking, Personal Finance Advisory Services, Merchant Banking & Corporate Finance, placement of equity, IPOs, among others. Karvy has a professional management team and ranks among the best in technology, operations and research of various industrial segments.

DATA ANALYSIS & INFERENCES

CALCULATION OF AVERAGE RETURN OF COMPANIES

Average return = $\sum R/N$

Table-1: RANBAXY LABORATORIES

Year	Opening share price (P0)	Closing share price (P1)	(P1-P0)	(P1-P0)/ P0*100
2004-2005	1100.10	1251.40	151.30	13.75
2005-2006	1252.00	362.35	-889.65	-71.06
2006-2007	364.40	391.85	27.45	7.53
2007-2008	393.00	349.15	-43.85	11.16
2008-2009	350.00	340.95	-9.05	-2.59
TOTAL RETURN				-41.21
AVERAGE RETURN ($\sum R/N$)			-41.21 / 5	-8.242

INTERPRETATION

In the year 2004-05 the returns were 13.75 and in the year 2008-09 the returns were fell down to -2.59. The average return of the Ranbaxy laboratories is -8.242

Table-2: CIPLA

Year	Opening share price (P0)	Closing share price (P1)	(P1-P0)	(P1-P0)/ P0*100
2004-2005	1339.00	317.25	-1021.75	-76.31
2005-2006	320.00	443.40	123.40	38.56
2006-2007	445.00	250.70	-194.30	-43.66
2007-2008	253.40	239.30	-14.10	-5.56
2008-2009	240.00	218.15	-21.85	-9.10
TOTAL RETURN				-96.07
AVERAGE RETURN ($\sum R/N$)			-96.07 / 5	-19.20

INTERPRETATION

In the year 2004-05 the returns of CIPLA were -76.31 where in the year 2008-09 the returns were -9.10. The average return was -19.20 for the period of 2004 to 2009.

Table-3: ING VVSYA

Year	Opening share price (P0)	Closing share price (P1)	(P1-P0)	(P1-P0)/ P0*100
2004-2005	560.00	585.75	25.75	4.60
2005-2006	585.00	162.25	-422.75	-72.26
2006-2007	164.50	157.45	-7.05	-4.29
2007-2008	159.00	185.15	26.15	16.45
2008-2009	186.50	227.00	40.5	21.71
TOTAL RETURN				-33.79
AVERAGE RETURN ($\sum R/N$)			-33.79 / 5	-6.76

INTERPRETATION

In the year 2004-05 the returns were 4.60 and in the year 2008-09 the returns were 21.71. The average return of ING VVSYA is -6.76 for the period 2004-2009.

TABLE-4: ICICI

Year	Opening share price (P0)	Closing share price (P1)	(P1-P0)	(P1-P0)/ P0*100
2004-2005	299.70	370.75	71.05	23.71
2005-2006	374.85	584.70	209.85	55.98
2006-2007	586.25	890.40	304.15	51.88
2007-2008	889.00	950.25	61.25	6.89
2008-2009	950.20	675.85	-274.35	-28.87
TOTAL RETURN				109.59
AVERAGE RETURN ($\sum R/N$)			109.59 / 5	21.92

INTERPRETATION

In the year 2004-05 the returns were 23.71 where as in the year 2008-09 the returns were come down to -28.87. The average return for the period 2004 to 2009 was 21.92.

CALCULATION OF STANDARD DEVIATION

Standard Deviation = $\sqrt{\text{Variance}}$

Variance = $\frac{1}{n-1} (\sum d^2)$

Table-1: RANBAXY LABORATORIES

Year	Return (R)	Avg. Return (R^-)	$d=(R-R^-)$	D^2
2004-2005	13.75	-8.24	21.99	483.56
2005-2006	-71.06	-8.24	-62.82	3946.35
2006-2007	7.53	-8.24	15.77	248.69
2007-2008	11.16	-8.24	19.40	376.36
2008-2009	-2.59	-8.24	5.65	31.92
TOTAL				$\sum d^2=5086.88$

Variance = $1/n-1 (\sum d^2) = 1/5-1 (5086.88) = 1271.72$
 Standard Deviation = $\sqrt{\text{Variance}} = \sqrt{1271.72} = 35.66$

INTERPRETATION

The standard deviation i.e. risk of the Ranbaxy is 35.66 and the variance is 1271.72.

TABLE-2: CIPLA

Year	Return (R)	Avg. Return (R^-)	$d=(R-R^-)$	D^2
2004-2005	-76.31	-19.21	-57.1	3260.41
2005-2006	38.56	-19.21	57.77	3337.37
2006-2007	-43.66	-19.21	-24.45	597.80
2007-2008	-5.56	-19.21	13.65	186.32
2008-2009	-9.10	-19.21	10.11	102.21
TOTAL				$\sum d^2=7484.11$

Variance = $1/n-1 (\sum d^2) = 1/5-1 (7484.11) = 1871.03$
 Standard Deviation = $\sqrt{\text{Variance}} = \sqrt{1871.03} = 43.26$

INTERPRETATION

The standard deviation of the CIPLA is 43.26 and its variance is 1871.03

Table-3: ING VYSYA

Year	Return (R)	Avg. Return (R^-)	$d=(R-R^-)$	D^2
2004-2005	4.60	-6.76	11.36	129.05
2005-2006	-72.26	-6.76	65.5	4290.25
2006-2007	-4.29	-6.376	2.47	6.1009
2007-2008	16.45	-6.76	23.21	538.70
2008-2009	21.71	-6.76	28.47	810.54
-6.76				$\sum d^2=5774.64$
TOTAL				

Variance = $1/n-1 (\sum d^2) = 1/5-1 (5774.64) = 1443.66$

Standard Deviation = $\sqrt{\text{Variance}} = \sqrt{1443.66} = 37.99$

INTERPRETATION

The standard deviation of ING VYSYA is 37.99 with a variance of 1443.66.

Table-4: ICICI

Year	Return (R)	Avg. Return (R^-)	$d=(R-R^-)$	d^2
2004-2005	23.71	21.92	1.79	3.2041
2005-2006	55.98	21.92	34.06	1160.08
2006-2007	51.88	21.92	29.96	897.60
2007-2008	6.89	21.92	-15.03	225.90
2008-2009	-28.87	21.92	-50.79	2579.62
TOTAL				$\sum d^2=4866.40$

Variance = $1/n-1 (\sum d^2) = 1/5-1 (4866.40) = 1216.6$

Standard Deviation = $\sqrt{\text{Variance}} = \sqrt{1216.6} = 34.87$

INTERPRETATION

The standard deviation of the ICICI is 34.87 and the variance is 1216.6.

CALCULATION OF CORRELATION BETWEEN TWO COMPANIES

Covariance (COVab) = $1/(n-1) (\sum dx.dy)$

Correlation of coefficient = $\text{COVab} / \sigma_a * \sigma_b$

TABLE-1: RANBAXY & CIPLA

YEAR	Dev. Of RANBAXY (dx)	Dev. Of CIPLA (dy)	Product of dev. (dx)(dy)
2004-2005	21.99	-57.1	-1255.629
2005-2006	-62.82	57.77	-3629.11
2006-2007	15.77	-24.45	-385.57
2007-2008	19.40	13.65	264.81
2008-2009	5.65	10.11	57.12
TOTAL			$\sum dx. dy = -4948.37$

COVab = $1/(5-1)(-4948.37) = -1237.09$

Correlation of coefficient = $-1237.09/(35.66)(43.26) = -0.80$

INTERPRETATION

It is founded that the correlation of the RANBAXY & CIPLA is -0.80.

TABLE-2: ING VYSYA & ICICI

YEAR	Dev. Of ING VYSYA (dx)	Dev. Of ICICI (dy)	Product of dev. (dx)(dy)
2004-2005	11.36	1.79	20.3344
2005-2006	65.5	34.06	2230.93
2006-2007	2.47	29.96	74.0012
2007-2008	23.21	-15.03	-348.84
2008-2009	28.47	-50.79	-1445.99
TOTAL			$\sum dx. dy = 530.44$

$$\text{COVab} = 1/(5-1)(530.44) = 132.61$$

$$\text{Correlation of coefficient} = 132.61/(37.99)(34.87) = 0.10$$

INTERPRETATION

The correlation of the ING VYSYA and ICICI is 0.10.

CALCULATION OF PORTFOLIO WEIGHTS

Deriving the minimum risk portfolio, the following formula is used:

$$W_A = \frac{(\sigma_B)^2 - r_{AB}(\sigma_A)(\sigma_B)}{(\sigma_A)^2 + (\sigma_B)^2 - 2r_{AB}(\sigma_A)(\sigma_B)}$$

Where,

X_A is the proportion of security A

X_B is the proportion of security B

σ_A = standard deviation of security A

σ_B = standard deviation of security B

r_{AB} = correlation co-efficient between A&B

RANBAXY & CIPLA

$$X_A = \frac{(43.26)^2 - (-0.80)(35.66)(43.26)}{(35.66)^2 + (43.26)^2 - 2(-0.80)(35.66)(43.26)}$$

$$= 0.55$$

$$X_B = 1 - X_A$$

$$= 1 - 0.55$$

$$= 0.45$$

ING VYSYA & ICICI

$$X_A = \frac{(34.87)^2 - (0.10)(37.99)(34.87)}{(37.99)^2 + (34.87)^2 - 2(0.10)(37.99)(34.87)}$$

$$= 0.45$$

$$X_B = 1 - X_A$$

$$= 1 - 0.45$$

$$= 0.55$$

CALCULATION OF PORTFOLIO RISK

For two securities

$$\sigma_P = \sqrt{\sigma_A^2(X_A)^2 + \sigma_B^2(X_B)^2 + 2r_{AB}\sigma_A\sigma_B X_A X_B}$$

Where,

σ_P = portfolio risk

X_A = proportion of investment in security A

X_B = proportion of investment in security B

R_{12} = correlation co-efficient between security 1 & 2

σ_A = standard deviation of security 1

σ_B = standard deviation of security 2

FOR THREE SECURITIES

$$\sigma_P = \sqrt{\frac{(\sigma_A)^2(X_A)^2 + (\sigma_B)^2(X_B)^2 + (\sigma_C)^2(X_C)^2 + 2(X_A)(X_B)(r_{AB})(\sigma_A)(\sigma_B) + 2(X_A)(X_C)(r_{AC})(\sigma_A)(\sigma_C) + 2(X_B)(X_C)(r_{BC})(\sigma_B)(\sigma_C)}{2}}$$

RANBAXY & CIPLA

$$\sigma_P = \sqrt{(0.55)^2(35.66)^2 + (0.45)^2(43.26)^2 + 2(-0.80)(35.66)(43.26)(0.55)(0.45)}$$

$$= \sqrt{152.74}$$

$$= 12.36$$

ING VYSYA & ICICI

$$\sigma_P = \sqrt{(0.45)^2(37.99)^2 + (0.55)^2(34.87)^2 + 2(0.10)(37.99)(34.87)(0.45)(0.55)}$$

$$= \sqrt{725.6381}$$

$$= 26.94$$

CALCULATION OF PORTFOLIO RETURN

$R_P = W_1R_1 + W_2R_2$ (for two securities)

$R_P = W_1R_1 + W_2R_2 + W_3R_3$ (for three securities)

Where,

W_1, W_2, W_3 are the weights of the securities

R_1, R_2, R_3 are the Expected returns

RANBAXY & CIPLA

$$R_P = (0.55)(-8.24) + (0.45)(-19.21)$$

$$= -13.1765$$

ING VYSYA & ICICI

$$R_P = (0.45)(-6.76) + (0.55)(21.92)$$

$$= 9.014$$

FINDINGS**PHARMACEUTICAL INDUSTRY**

The expected returns of RANBAXY and CIPLA are -8.242 and -19.21 respectively and their standard deviations are 35.66 and 43.26 respectively. In this combination both RANBAXY & CIPLA are yielding negative returns but the risk of the CIPLA is 7.6 more than RANBAXY.

BANKING INDUSTRY

The expected returns of ING VYSYA and ICICI are -6.76 and 21.92 respectively. And their standard deviations are 37.99 and 34.87. In this combination the risk of both companies nearly same but the ICICI is yielding more returns i.e. 21.92 than ING VYSYA.

PHARMACEUTICAL INDUSTRY

The combination of RANBAXY and CIPLA is yielding a negative return of -13.17% with a standard deviation of 12.36%. This combination is having lowest risk.

BANKING INDUSTRY

The combination of the ING VYSYA and ICICI are yielding a return of 9.014% with a standard deviation of 26.94%. This combination yields the 2nd highest returns in the portfolio and having the highest risk in the portfolio.

PHARMACEUTICAL INDUSTRY

The combination of the RANBAXY and CIPLA are having a correlation of -0.80.

BANKING INDUSTRY

The combination of ING VYSYA and ICICI are having a correlation of 0.10.

SUGGESTIONS

1. Select your investments on economic grounds. Public knowledge is no advantage.
2. Buy stocks in companies with potential for surprises.
3. Take advantage of volatility before reaching a new equilibrium.
4. Listen to rumors and tips, check for yourself.
5. Don't put your trust in only one investment. It is like "putting all the eggs in one basket". This will help lesson the risk in the long term.
6. The investor must select the right advisory body which has sound knowledge about the product which they are offering.
7. Professionalized analysis is the most important feature to the investors. Professionalized research, analysis which will be helpful for reducing any kind of risk to overcome.

CONCLUSIONS FOR PORTFOLIO RISK, RETURN & INVESTMENTS

When we form the optimum of two securities by using minimum variance equation, then the return of the portfolio may decrease in order to reduce the portfolio risk.

RANBAXY & CIPLA

As per the calculations RANBAXY bears a proportion of 0.55 whereas CIPLA bears a proportion of 0.45. The standard deviations of the companies are 35.66 for RANBAXY and 43.26 for CIPLA. This combination yields a return of -13.1765 and a risk of 12.36 respectively. The investors shall not invest in this combination as there is negative return and there is not much difference in their standard deviation.

ING VYSYA & ICICI

In this situation optimum weights of ING VYSYA and ICICI are 0.45 and 0.55 respectively. The portfolio risk is 26.94, which is lesser than the individual risks of two companies and this combination is yielding a return of 9.014. Hence, it is recommended to invest the major proportion of the funds in ICICI, in order to reduce the portfolio risk.

BIBLIOGRAPHY**BOOKS**

- Donald E. Fischer, Ronald J. Jordan, SAPM, 1999, Sixth Edition, *Portfolio Analysis*, page no: 559-588.
 Punithavathy Pandian, *Security Analysis & Portfolio Management*, 2007, Portfolio Markowitz Model, page no: 329-349.
 Prasanna Chandra, *Investment Analysis & Portfolio Management*, 2006, Second edition, Portfolio Return & Risk, page no: 244-251.

WEBSITES

www.geojit.com
 www.investopedia.com
 www.capitalmarket.com
 www.bse.com
 www.karvy.com
 www.utvi.com

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EMPLOYEES' EMPOWERMENT THROUGH TRAINING SYSTEM IN BANKING SECTOR: AN EMPIRICAL ANALYSIS (WITH SPECIAL REFERENCE TO SELECTED BANKS IN RURAL ODISHA)

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ABSTRACT

In the last two decades, employee relations in bank have marked by frequent branch level work stoppages, adoption of restrictive practices, union supremacy. Employee's empathy, alienation and distrust between management and unions, employees' indiscipline, chaotic environment, archaic, unfriendliness and in some cases hostility at the counters. Banks require a process of transformation by bringing in transformation shifts in the mind set, outlook and perspective of their employees with visionary appeal. Employees require flexibility, horizontal networks, high trust relationship, adaptability to change and uncertainty, innovation and empowerment. In the present paper an attempt is made to understand the perception level of employees toward training system in banks. For this purpose various hypotheses considered and scores assigned depending upon the perception level. In the field experience whatever we come across tried to present here.

KEYWORDS

Empowerment, Training, Perception, Total Score, Least score & Ideal score.

INTRODUCTION

Training aims to change behavior at the work place in order to stimulate efficiency and higher performance standards. It is concerned with work-based learning. In turn, learning is seen as a form of behavioral change (Alan and Chloe 1990). Training has been usefully defined as "the systematic development of the attitude, knowledge and skill and behavior pattern required by an individual in order to perform adequately a given task or job (Glossary of training terms, 1971). Participative Management is one of the most popular and most commonly practiced management styles in modern organizations. Employee empowerment is one of the reflections of this modern approach to man management. It invariably leads to a positive change within organisation. Empowered employees are more motivated as compared to those who just follow the given lines. Employee empowerment creates sense of belongingness and ownership toward the parent organisation. Empowered employee feel more confident and try to give their best to the institution. It generally results into higher level of customer satisfaction. Higher level of customer satisfaction results into a bigger sales volume resulting into improved profitability. Every business aims at earning profits. Profits and customer value go hand in hand. In order to give maximum value to a customer, the service provider is required to develop a sound understanding of the customer expectations. Once the customer expectations are known, legitimate freedom of action along with input of employee in the service or product creates a more favourable environment for the success of a business venture. Banks are no exceptions to it.

OBJECTIVE OF THE STUDY

- To examine the existing system of training.
- To know the trainees perception.

LIMITATIONS OF THE STUDY

- The study is restricted to the selected rural branches of various banks.
- The sample is limited; it may not represent scenario of all employees.
- The period of study conducted for the period of 3 months i.e. Dec2010-February 2011.

SAMPLING PLAN

In support to the objective of the research there is a primary research through questionnaire administration method in the field through stratified random sampling method and to analyze the data. Out of 150 questionnaires served 98 responded which includes 37 female respondents. The response rate was 65.33%

RESPONDENTS' PERCEPTION WITH REGARD TO EMPLOYEES' EMPOWERMENT THROUGH TRAINING SYSTEM/ HYPOTHESES

To measure the perception level of the participants with regard to employees' empowerment through training system the various variables identified are training programme gives positive impact on the growth of the bank, there is no significant difference between training programmes in different banks, training programme increases the attrition rate of the employees, quality training can improve by providing state of art infrastructure facilities and knowledgeable resource persons, training program provides value addition to the career and personal life of the employees, training programmes have

immense role to play in increasing the productivity and efficiency of the employee, higher level of employee empowerment leads to higher level of customer satisfaction and increased profits, there is direct relationship between training and employee empowerment, revamping the training system will lead to more growth and social economic development of the region in particular and bank in general, outsourcing of training increases costs and reduces effectiveness, training needs are identified by continuous communication with employees, feedback constitutes essential part of training programme, up gradation of training skills is necessary for relevant output, trainer's training is necessary for a result oriented approach and training motto should be inventing methods for igniting minds. In this regard we have taken five point scale and assigned as +3,+2,+1,0 and -1 for the responses of the respondents " Completely agree", " Agree", " Neutral", " Disagree" and " Completely disagree" respectively. Final scores for each feature are calculated by multiplying the number of response by the weights of the corresponding response.

CALCULATION OF RESPONDENTS' PERCEPTION: IDEAL AND LEAST SCORES

Ideal scores are calculated by multiplying the number of respondents in each category with (+3) and product with total number of attributes. Least scores calculated by multiplying the number of respondents in each category with (-1) and the product with number of attributes in the questionnaires.

IDEAL SCORE AND LEAST SCORES OF RESPONDENTS

Category	Equation	Ideal score	Equation	Least score
Male respondents	$61 \times 3 \times 15$	2745	$61 \times -1 \times 15$	-915
Female respondents	$37 \times 3 \times 15$	1665	$37 \times -1 \times 15$	-555

FINDINGS OF THE STUDY

Findings of the study are as under. The tables are formed on the basis of questions contained in the questionnaires.

RESPONSE OF THE RESPONDENTS			
Various attributes	Aggregate Score		
	Rural respondents		
	Male	Female	
Do you agree that training programme gives impact on the growth of the banks?	128	78	
Do you agree that there is no significant difference between training programme in different banks?	107	75	
Do you agree that training programmes increases the attrition rate of the employees?	112	79	
Do you agree that quality training can improve by providing state of art infrastructure facilities and knowledgeable resource person?	103	68	
Do you agree that training programme provides value addition to the career and personal life of the employees?	117	78	
Do you agree that training programmes have immense role to play in increasing the productivity and efficiency of the employee?	113	86	
Do you agree that higher level of employee empowerment leads to higher level of customer satisfaction and increased profits?	121	74	
Do you agree that there is direct relationship between training and employee empowerment?	113	68	
Do you agree that the training system will lead to more growth and socio economic development of the region?	114	78	
Do you agree that outsourcing of training increases costs and reduces effectiveness?	108	79	
Do you agree that training needs are identified by continuous communication with the employees?	118	77	
Do you agree that feedback constitutes essential part of training programme?	127	66	
Do you agree that up gradation of training skills is necessary for relevant output?	117	71	
Do you agree that trainers' training is necessary for result oriented approach?	138	77	
Do you agree that training motto should be inventing methods for igniting minds?	128	78	
Total score	1762	1129	
Ideal score	2745	1665	
Least score	-915	-555	
No. of respondents	61	37	

Source: Annexure A & B

INTERPRETATION

In the present case the total score of the male respondents is 1762 and for the female respondents it is 1129. The ideal score for the same are 2745 and 1665 respectively. The percentages of ideal score are 64.19 and 67.81. However, in no case the total score comes near to the least score. This reflects the various hypotheses considered are holds good for the study. So it is important to note that training system plays an important role for the effective empowerment of the banking employees.

CONCLUDING NOTE

Human Resource Management is meant to integrate all personal activities with each other and strategically with organizational objectives. Essentially, it first serves the organizational interest and in that context, it is an investment rather than a cost to the organization. The utilization of all other resources directly depends on efficient utilization of human resources. Every organization needs to have well-trained and experienced people to perform the activities that have to be done. In the banking sector jobs have become more complex now a day especially in rural area. The importance of employee training has increased many folds. In a rapidly changing society employee training is the most important factor for survival and the growth of the organizations. In a quickly changing banking environment knowledgeable and viable workforce is pre requisite for growth and survival of the banks. In the banking sector, employee's behavior plays a vital role in improving the productivity of an organisation. By incorporating personality development programmes such as role play, group discussion and business games the superior and subordinate relationship can be strengthened. Banks should take necessary steps in such a way that employees should feel training is essential to enhance the productivity and customer satisfaction to meet the present business challenges in India.

REFERENCES

- Gresley K (2005). Employees Perception of Empowerment. J.Empl Relat., 27(4): 354-368.
 Hoare RJ, Butcher K (2008), Chinese Cultural Values Affect Customer Satisfaction/ Loyalty, .International Journal of Contemporary Hospital Management 20(2): 156-171.
 Morrison RS, Jones L, Fuller B (1997). The relationship between leadership styles and empowerment on job satisfaction, Journal of Nursing Administration 27(5): 27-34.
 B.R.Virmani and Premila Selh(1985): Evaluation Management, Training and Development, Vision Books Pvt. Ltd.
 Bajpai, Naval & Srivastava Deepak(2004), Sectoral Comparison of factors influencing job satisfaction in Indian Banking Sector. Singapore Management Review, Vol7, No.6.pp 118-122.

ANNEXURE

Annexure –A (61)						
Attributes	Respondents of Rural male bank employees					
	Completely agree	Agree	Neutral	Disagree	Completely disagree	Score
	+3	+2	+1	0	-1	
Do you agree that training programme gives impact on the growth of the banks?	33	11	10	4	3	128
Do you agree that there is no significant difference between training programme in different banks?	28	12	7	6	8	107
Do you agree that training programmes increases the attrition rate of the employees?	31	8	10	5	7	112
Do you agree that quality training can improve by providing state of art infrastructure facilities and knowledgeable resource person?	27	10	8	10	6	103
Do you agree that training programme provides value addition to the career and personal life of the employees?	32	9	8	7	5	117
Do you agree that training programmes have immense role to play in increasing the productivity and efficiency of the employee?	28	10	13	6	4	113
Do you agree that higher level of employee empowerment leads to higher level of customer satisfaction and increased profits?	33	9	8	7	4	121
Do you agree that there is direct relationship between training and employee empowerment?	30	10	8	8	5	113
Do you agree that the training system will lead to more growth and socio economic development of the region?	27	13	11	6	4	114
Do you agree that outsourcing of training increases costs and reduces effectiveness?	25	16	6	9	5	108
Do you agree that training needs are identified by continuous communication with the employees?	26	18	7	7	3	118
Do you agree that feedback constitutes essential part of training programme?	29	17	8	5	2	127
Do you agree that up gradation of training skills is necessary for relevant output?	28	16	5	8	4	117
Do you agree that trainers' training is necessary for result oriented approach?	34	10	16	1	0	138
Do you agree that training motto should be inventing methods for igniting minds?	32	12	11	3	3	128

Source: Compiled from field survey

Annexure –B (37)						
Attributes	Respondents of Rural female bank employees					
	Completely agree	Agree	Neutral	Disagree	Completely disagree	Score
	+3	+2	+1	0	-1	
Do you agree that training programme gives impact on the growth of the banks?	17	10	8	1	1	78
Do you agree that there is no significant difference between training programme in different banks?	19	8	5	2	3	75
Do you agree that training programmes increases the attrition rate of the employees?	21	7	3	5	1	79
Do you agree that quality training can improve by providing state of art infrastructure facilities and knowledgeable resource person?	18	6	4	7	2	68
Do you agree that training programme provides value addition to the career and personal life of the employees?	22	5	3	6	1	78
Do you agree that training programmes have immense role to play in increasing the productivity and efficiency of the employee?	23	7	4	2	1	86
Do you agree that higher level of employee empowerment leads to higher level of customer satisfaction and increased profits?	22	4	3	5	3	74
Do you agree that there is direct relationship between training and employee empowerment?	19	5	4	6	3	68
Do you agree that the training system will lead to more growth and socio economic development of the region?	20	7	5	4	1	78
Do you agree that outsourcing of training increases costs and reduces effectiveness?	19	11	3	1	3	79
Do you agree that training needs are identified by continuous communication with the employees?	21	8	2	2	4	77
Do you agree that feedback constitutes essential part of training programme?	17	6	5	7	2	66
Do you agree that up gradation of training skills is necessary for relevant output?	18	7	5	5	2	71
Do you agree that trainers' training is necessary for result oriented approach?	20	4	9	4	0	77
Do you agree that training motto should be inventing methods for igniting minds?	23	5	2	4	3	78

Source: Compiled from field survey

PERFORMANCE OF SUSTAINABLE LOGISTIC PRACTICES OF SMES IN DELHI**SANJEEV KUMAR****RESEARCH SCHOLAR****DEPARTMENT OF MECHANICAL ENGINEERING****INDIAN SCHOOL OF MINES UNIVERSITY****DHANBAD – 826 004****SOMNATH CHATTOPADHYAYA****ASSOCIATE PROFESSOR****DEPARTMENT OF ME & MME****INDIAN SCHOOL OF MINES UNIVERSITY****DHANBAD – 826 004****VINAY SHARMA****ASSOCIATE PROFESSOR****DEPARTMENT OF PRODUCTION ENGINEERING****BIRLA INSTITUTE OF TECHNOLOGY****MESRA – 835 215****ABSTRACT**

With growing worldwide awareness of environmental protection, eco/sustainable logistics has become an important issue for almost every enterprise and will determine the sustainability in the long term. The work presented in this paper is based on the case study in the field of manufacturing industry. Consumers and legislation have pushed industries to re-design their logistic method in order to mitigate negative environmental impacts. Concern for the environment has led many industries to define policies that protect the environment within which they operate. This environmental concern is reflected in all the activities of the product life cycle, both in those of direct logistics as well as reverse logistics. In order to set up environmentally friendly practices, industries must maintain collaborative relations both upstream and downstream. Many authors have proposed quantitative models taking those changes in the logistics environment into account. Furthermore, work can contribute for a better 'green image' in industry. Various green legislations are forcing industries to take back their used, end-of-life products, or products under warranty to minimize wastes and conserve resources. The objective in the design of logistic networks has changed, therefore, from cost minimization only, to cost and environmental impact minimization. The objective of this paper is to develop a framework for the design and evaluation of sustainable logistic, in which profitability as well as environmental impacts are also balanced.

KEYWORDS

Environmental impact, logistic, SMEs, Sustainable supply chain.

INTRODUCTION

reening the supply chain is increasingly a concern for many business enterprises and a challenge for logistics management in the 21st century. Of particular concern is how to arouse organizational environmental awareness and put environmental activities into practice in the logistics activities of their supply chains. In the past years, consumers, enterprises and governments have increased their attention towards the environment. Now a day's society is also more aware of environmental damage caused by human actions due to increased exposure in the media on e.g. global warming and depletion of natural resources. Improvement in environmental quality does not come for free. Industries invest more in the assessment and reduction of the environmental impact of their products and services. (J. Quariguasi Frota Neto, G. Walther, J. Bloemhof, J.A.E.E. van Nunen, T. Spengler, 2009) [3]. Implementation of legislation, social responsibility, corporate imaging, environmental concern, economic benefits and consumer awareness are forcing manufacturers not only to provide more environmentally friendly products but also to take back used products at its end of life. Products can also be returned for reasons such as customer dissatisfaction and warranty. Such products can be sorted for reuse, remanufacture, recycle and disposal. Reuse of used products by some value addition is not a new concept. (Akshay Mutha, Shaligram Pokharel, 2009) [1]. In recent years, consumers and governments have been pressing industries to reduce the environmental impact of their products and processes. The members of the European Union (EU), for instance, have committed themselves to develop, implement and enforce legislation that makes producers responsible for the collection, treatment, recycling and environmentally safe disposal of all electrical and electronic equipment (J. Quariguasi Frota Neto, J.M. Bloemhof-Ruwaard, 2008) [4]. A number of Indian industries have also pro-actively acted in favor of a more sustainable development. Their assertive approach toward the environment has helped them to reap the benefits of an environment-friendly image, e.g. to gain or retain environment-conscious consumers, to comply with the sometimes cumbersome and blurry current legislation, and to anticipate necessary changes to cope with future legal environmental standards. In the environment of global economy, enterprises must configure and utilize worldwide resources to keep the advantages of competition. How to source products from the most appropriate manufacturing facility, how to keep the balance between inventory, transportation and manufacturing costs, and how to match supply and demand under uncertainty are concerned by each industry. It is impossible to realize the strategic goal without a well developed and realizable logistics system. High efficient international logistics system will become the core competence for an enterprise to control cost, reach high-level consumer service, and hence realize global business successfully. The importance of logistics network design, and the need for the coordination of production and distribution decisions, has long been evident. Facility location, as the decision at the strategic level in logistics system, plays an important role. Some strategic decisions concerned by facility location include selecting the right suppliers, determining the appropriate number of facilities such as plants and warehouses, determining the location of each facility, determining the size of each facility, determining sourcing requirements, i.e., assigning activities to the facilities, determining distribution strategies, i.e., the flows of raw materials and finished products in the network. (Lothar Schulze, and Li Li, 2009) [5]. Green is rapidly becoming a measuring stick for supply chain success. The "greening" of the supply chain will have strong and increasing effects on both strategic and tactical aspects of supply chain management. Industries must act now to begin their green supply chain initiatives, and they must also take action to address the growing range of threats to the continuous operation of their supply chains. (The State of Logistics Outsourcing 2008) [6]. Also the assessments presented here are based on parts of the data and information collected through the execution of the Competitive Strategies and Best Practices Benchmarking Questionnaire (logistic design based) from small & medium size manufacturing industry.

OBJECTIVE OF PAPER

- To understand the concept and present scenario of eco-logistic practices of SMEs in Delhi as well as India.
- Contribution to the effective design of sustainable logistic networks balancing environment and also profit to manufactures and suppliers.

LITERATURE REVIEW

Sustainable logistics in India is as yet in its infancy and is currently an under researched area. Sustainable logistics is a key element in the development of environmentally conscious supply chain design. Transportation contributes to global climate change through emissions of carbon dioxide, methane & hydrocarbon, nitrous oxide and water vapour discharged by aircraft. Though transparent to sunlight, these reflect long-wave radiation normally emitted back into space by the earth. This may raise the temperature of the atmosphere. Eco-logistics is a form of logistics which is calculated to be environmentally and often socially friendly in addition to economically functional. In general logistic involves the movement of products from every step between raw materials and end consumer of a finished product. In case of eco-logistics, all the issues which pertain to regular logistics still apply, in addition to friendly environment factor. Logistic management encompasses several processes i.e. inbound and outbound transportation management, warehousing, inventory management, management of third party logistics service providers, sourcing and procurement, packaging and assembly and customer service (Francesco Ciliberti, Pierpaolo Pontrandolfo, Barbara Scozzi, 2008) [7]. Logistics is concerned with the efficient flow of raw materials, of work in process inventory, and of finished goods from supplier to consumer. In addition to transportation, logistics entails inventory control, warehousing, material handling, order processing, and related information activities involved in the flow of products. How these activities are managed and organized determines the quantity and quality of transportation demanded and the nature of the commercial relationships between shippers and transportation service providers. Freight transport in many economies due mainly to the flexibility and speed that the movement of freight by road offers when compared railway, marine. (Paul Ryan) [8]

SUSTAINABLE

Sustainability is capable of being continued with minimal long-term effect on the environment. Sustainable development is concerned with the development of a society where the costs of development are not transferred to future generations, or at least an attempt is made to compensate for such costs. [Pearce 1993]. As a result, this all encompassing definition of sustainability raised and pointed many questions:

- Effect on economic or cost of product.
- Resources require for next and future generations.
- Negative and positive effect on next and future generations.
- Substitute of depletable resources for future etc.....

METHODOLOGY

Given the large number of small & medium enterprises (especially in Delhi – capital of India), a survey was conducted among industries in the different sector in order to gather the necessary information to carry out the work of this research study. The primary information that allowed us to carry out the necessary analyses was gathered by means of a structured survey directed at the industries under study in Delhi. The Competitive Strategies and Best Practices Benchmarking Questionnaire were developed. The questionnaire consists of total 07 items. The model aims to explore possible near future developments in the competitive strategies of the industries by addressing their competitive priorities, logistics objectives and action plans. Item Reverse logistics considered in stock planning, Amount of goods delivered on time, Reducing the use of packaging considered, Packaging material recollection planned, Environmental issues considered in the design of logistic, Collection and distribution of products recycled, reused considered, Use of recyclable/reusable shipping and packaging materials all serve for the assessment of where the industry stands in terms of its practices and outcomes in the context of business excellence and best sustainable logistics practices. Information is collected through the 7 questionnaire. Performance and outcome measures are asked to be reported as point values. Majority of the qualitative information is collected by asking the respondent to respond to statements. Industries performance strategies will depend upon their aggregate score. All the measurement items are organized into a survey questionnaire administered to firms. The target respondents of our survey were requested to indicate, using a five-point Likert scale (1- not considering it, 2- planning to consider it, 3- considering it currently, 4 - initiating implementation, 5- implementing successfully) 'OR' 1 – Poor, 2 – Average, 3 – Good, 4 – Very good, 5 – Excellent.

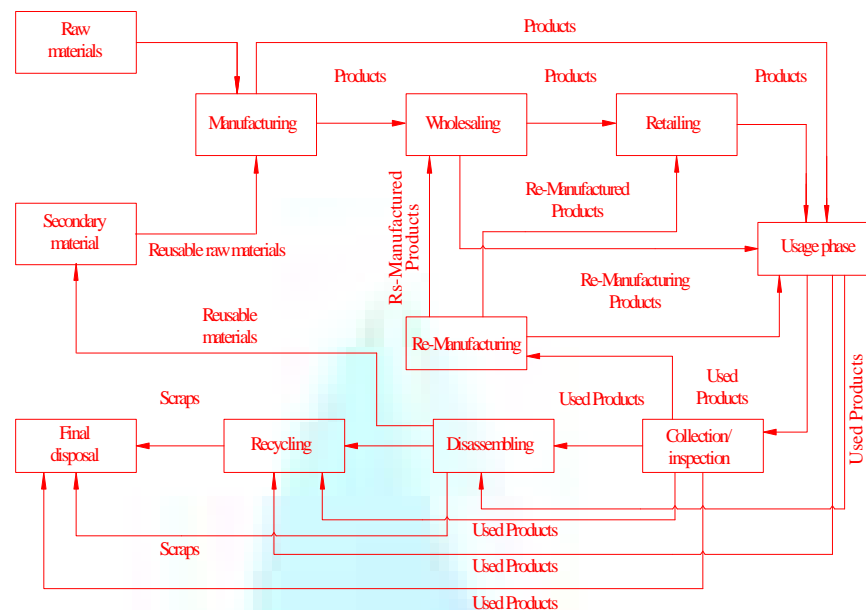
LOGISTIC NETWORK IN TERMS OF THE ENVIRONMENT AND COSTS

Logistics is that "part of the supply chain processes that plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information from the point of consumption in order to meet consumers' requirements." In short, industries depend on their logistics system to move materials among supply chain partners. Logistics covers a wide range of business activities, including:

- Transportation
- Warehousing
- Material handling
- Packaging
- Inventory management
- Logistics information systems. (Cecil C. Bozarth, Robert B. Handfield, 2008) [2].

A logistics network is a connected system of suppliers, distributors, transporters, third-party logistics providers (3PLs), ports, customs and customers on a mission to best mate supply with demand. In a logistic network, a number of actors will influence business costs and corresponding environmental impact. Suppliers, manufactures, consumers, logistic operators, as well as third parties operating in testing, refurbishing, recycling and energy production for the end-of-life products are the main players. These players perform majority of the activities impacting business and the environment. In general terms, the activities performed in a logistic network are related to manufacturing, transportation, usage and end-of-life products' destination. Fig. 1 depicts these activities. The decisions regarding these activities will, therefore, determine the network costs and environmental impact. These decisions are strategic (e.g. location of factories), tactical (e.g. the destination of products end-of-life) as well as operational (e.g. the choice of suppliers, third parties, etc.). Furthermore, it is clear that choosing the right activities in modeling specific logistic networks is crucial. Literature into logistic network design is mostly divided in two approaches: minimizing costs (or maximizing profits) and minimizing environmental impact. (J. Quariguasi Frota Neto, J.M. Bloemhof-Ruwaard, 2008) [4]

FIGURE: 1 (SOURCE: (J. QUARIGUASI FROTA NETO, J.M. BLOEMHOF-RUWAARD, 2008) [4]



MAIN ACTIVITIES INFLUENCING COSTS AND ENVIRONMENTAL IMPACT IN LOGISTIC NETWORKS:

Type of factor	Variables
Transportation	Transport from supplier to manufacturer and vice versa
	Transport from supplier to consumers and vice versa
	Transport from supplier to end-of life facilities and vice versa
	Transport from manufacturers to consumers and vice versa
	Transport from manufacturers to end-of-life facilities and vice versa
	Transport from consumers to end-of- life facilities and vice versa
Manufacturing	Manufacturing at suppliers
	Manufacturing at manufacturers
Product use	Product use by consumers
Testing	Testing
End-of-use alternatives	Re-use
	Refurbishing
	Recycling
	Energy production

STRENGTHS AND WEAKNESSES OF THE MAJOR TRANSPORTATION:

(Cecil C. Bozarth, Robert B. Handfield, 2008) [2], (The environmental effects of freight www.google.com) [7].

TABLE: 1

Transportation mode	Strengths	Weaknesses	Effect on environment
Highway	Flexibility to deliver where and when needed. Often the best balance among cost, flexibility, and reliability/speed of delivery.	Neither the fastest nor the cheapest option.	The environmental impacts of trucking have received a great deal of attention, particularly in comparison with the impacts of rail. Trucking poses threats to the environment from two major quantifiable sources, air pollution and noise. In addition, the use of trucks contributes to land-use related environmental stresses and to the environmental impacts of accidents.
Water	Highly cost effective for bulky items. Most effective when linked to a multimodal system.	Limited locations. Relatively poor delivery reliability/speed.	Shipping poses threats to the environment both on inland waterways and the ocean. These problems come from six major sources; routine discharges of oily bilge and ballast water from marine shipping; dumping of non-biodegradable solid waste into the ocean; accidental spills of oil, toxics or other cargo or fuel at ports and while underway; air emissions from the vessels power supplies; port and inland channel construction and management; and ecological harm due to the introduction of exotic species transported on vessels.
Rail	Highly cost effective for bulky items. Can be most effective when linked to a multimodal system.	Limited locations, although less so than water. Better reliability/speed of delivery than water.	Railway travel is generally held up as a less environmentally damaging mode of land transportation than trucking. Data on air pollution certainly confirm this. For noise it is somewhat less evident, but rail may be less harmful in that respect as well.
Air	Quick mode of delivery. Flexible, especially when linked to the highway mode.	Often the most expensive mode on a per-pound basis.	While air cargo accounts for a very small portion (less than one percent) of world-wide freight, it is growing rapidly. Moreover, with increasing concern about global warming, concern about aircraft emissions has grown. Air freight therefore warrants consideration beyond its current importance as a means of transport.

ENVIRONMENTAL IMPACT

The environmental impact of the total stress is determined by the nature of the receiving environment. Ambient characteristics such as physical ecosystem characteristics, density of the human population affected, and whether the receiving ecosystem is considered critical or includes endangered species will determine both the physical impact of the stress and willingness to pay to prevent it.

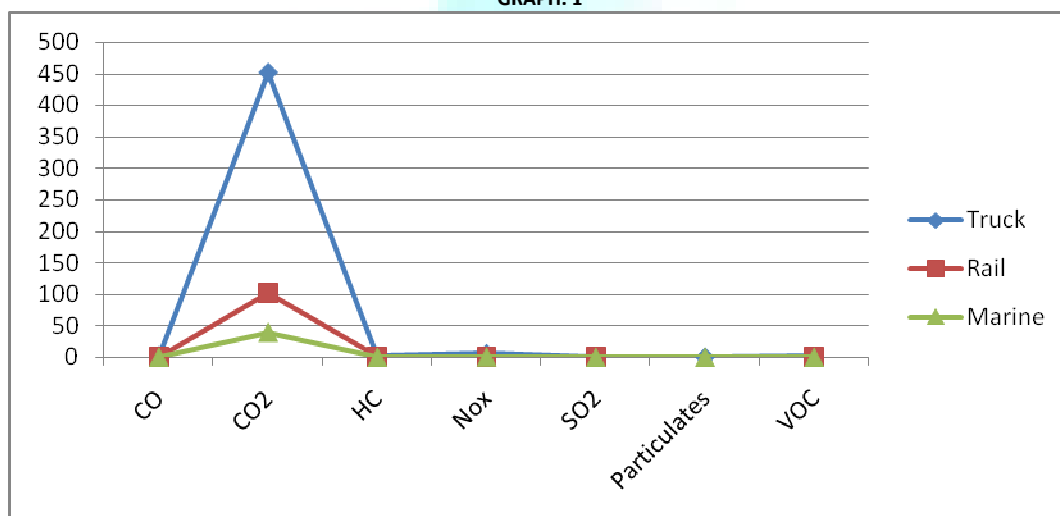
As the table: 2 & graph: 1 below shows, despite substantial variation among the estimates within each transport mode, trucks are clearly much more polluting than rail or boats. This applies across all pollutants. The data suggest that rail may be more harmful than marine transport; however this is much less clear. (www.google.com.)[7]

(Source: The environmental effects of freight www.google.com) [7].

TABLE: 2

Pollutant	Truck	Rail	Marine
CO	0.25 - 2.40	0.02 - 0.15	0.018 - 0.20
CO ₂	127 - 451	41 - 102	30 - 40
HC	0.30 - 1.57	0.01 - 0.07	0.04 - 0.08
NO _x	1.85 - 5.65	0.20 - 1.01	0.26 - 0.58
SO ₂	0.10 - 0.43	0.07 - 0.18	0.02 - 0.05
Particulates	0.04 - 0.90	0.01 - 0.08	0.02 - 0.04
VOC	1.10	0.08	0.04 - 0.11

GRAPH: 1



(Graphical result of Table: 2)

BEST PRACTICES BENCHMARKING QUESTIONNAIRES

Best Practices Benchmarking Questionnaire were developed. The questionnaire consists of seven questions.

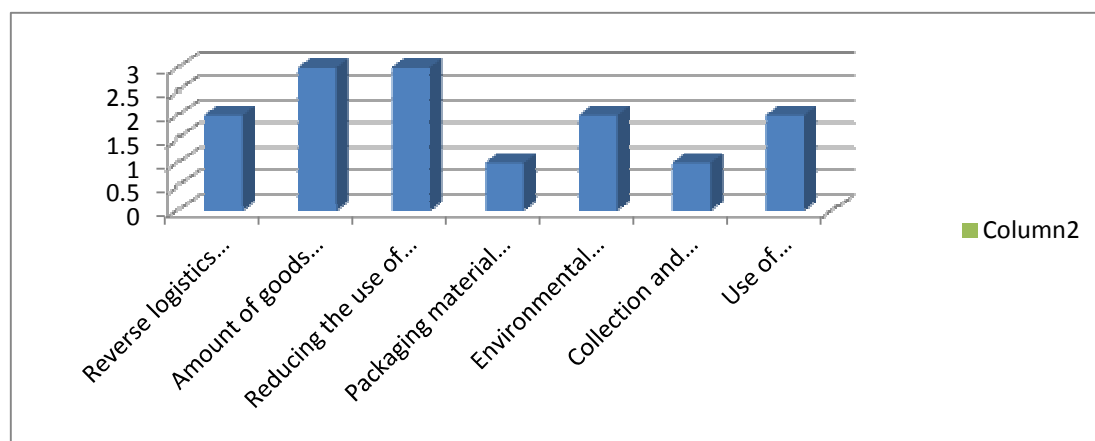
(5 for excellent, 4 for very good, 3 for good, 2 for average, 1 for poor)

PERFORMANCE OF SMEs

TABLE: 3

Sl. No.	Description	Score/1	/2	/3	/4	/5
1	Reverse logistics considered in stock planning					
2	Amount of goods delivered on time					
3	Reducing the use of packaging considered					
4	Packaging material recollection planned	✓				
5	Environmental issues considered in the design of logistic.					
6	Collection and distribution of products recycled, reused considered	✓				
7	Use of recyclable/reusable shipping and packaging materials					

GRAPH: 2



(GRAPHICAL RESULT OF TABLE: 3)

CONCLUSION & FURTHER RESEARCH

This paper has attempted to summarize the environmental impacts of freight, in order to provide information concerning the impacts of trade liberalization on the environment through transport of goods. The concern of consumers, industries and governments with the environment has steadily increased in the last years. Cleaner process, re-use of products and components, and recycling are examples of initiatives to reduce environmental impact in logistic networks. Industries aiming to decrease the environmental impact of their logistic networks should, then, look for good trade-offs between environmental impact and costs. In this paper review the main activities influencing the environment and costs in logistic network, namely: transportation, product use, and end-of-use alternatives. This review has attempted to summarize the environmental impacts of freight, in order to provide information concerning the impacts of trade liberalization on the environment through transport of goods. The focus has been on describing the major mechanisms through which freight transportation can affect the environment, and identifying ways to quantify those links on a per-unit of good basis. (The environmental effects of freight, www.google.com) [7]. some clear conclusion can be drawn by comparing the detail in this paper (table: 1&2). As the table 1&2 shows, trucks are clearly more polluting than train or marine. The table: 1&2 also shows rail transport is more pollutant than marine. Also from the survey of the industry (table: 3), the score is not up to the mark. Industries should more concentrate their strategy on packaging material recollection planned, environmental issues considered in the design of logistic, collection and distribution of products recycled, reused considered etc. This will automatically improve the score card and thereby performance. Further research on the most relevant phases for improving eco-efficiency (i.e. in a logistics network, transportation, manufacturing, end-of-use etc.) has to be carried out.

Though the paper deals with environmental effect, yet there is scope for further research on environmental costs, assessing eco efficiency, balance between environment & business concern.

REFERENCES

- [1] Akshay Mutha , Shaligram Pokharel, 2009, Strategic network design for reverse logistics and remanufacturing using new and old product modules, Computers & Industrial Engineering, 56, pp 334–346
- [2] Cecil C. Bozarth, Robert B.Handfield, 2008, Introduction to operations and supply chain management, pp 337-342
- [3] J. Quariguasi Frota Neto , G. Walthier , J. Bloemhof , J.A.E.E. van Nunen ,T. Spengler, 2009, A methodology for assessing eco-efficiency in logistics networks, European Journal of Operational Research, 193, pp 670–682
- [4] J. Quariguasi Frota Neto, J.M. Bloemhof-Ruwaard, 2008, Designing and evaluating sustainable logistics networks, Int. J. Production Economics, 111, pp 195–208
- [5] Lothar Schulze, and Li Li, 2009, A Logistics Network Model for Postponement Supply Chain, IAENG International Journal of Applied Mathematics, 39:2, IJAM_39_2_03
- [6] The State of Logistics Outsourcing 2008 third-party logistics, Results and findings of the 13th annual study: www.google.com. The environmental effects of freight, Organization for economic co-operation and development: www.google.com.
- [7] Francesco Ciliberti, Pierpaolo Pontrandolfo, Barbara Scozzi, 2008, Logistics social responsibility: Standard adoption and practices in Italian companies, Int. J. Production Economics 113, 88–106
- [8] www.goole.com , Paul Ryan, Sustainable logistics: Towards the development of environmentally conscious supply chain.

ENHANCING TEACHING IN RURAL INDIA BY TECHNOLOGY INTERVENTION

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ABSTRACT

There is an immediate need for the use of apposite technology to enhance learning in rural classes in India. The children of the country find the classes uninteresting with banal methodology. It is the dire need of the time to motivate them by exposing them with interactive modules. This paper aims to share the technological modules developed in our Institute- Birla Institute of Technology and Science, Pilani to cater to the demand of the rural students of nearby villages. These modules will include films used for teaching different concepts, Audio video material for enhancement of English Skills, Advertisements for nurturing creativity, etc. The study will further try to gauge the difference in learning pace by traditional method of teaching and after the intervention of technology.

KEYWORDS

Technology, teaching methodology, audio video material.

INTRODUCTION

English has become the global language in this world. In our country English is important for a number of reasons. India is a land of diversity with a rich linguistic variation not only across regions but also within regions in form of dialects. English has emerged as a common language and provides a framework to communicate across cultures. When we look at the present educational scenario in India then we find that majority of Indians in rural areas pursue the primary and secondary education from government schools. These schools are a linchpin of the Indian educational system, accounting for majority of Pre-Primary, Primary Schools and Secondary Schools. But, still nearly 42 million children in the age-group 6-14 years, do not attend school. Only 47 out of 100 children enrolled in class I reach class VIII, putting the dropout rate at 52.79 per cent. Systemic factors like lack of teachers (especially female), non-availability of quality teachers in remote, rural, hilly and tribal areas, high teacher absenteeism, large scale teacher vacancies inadequate school infrastructure, and inadequate allocation of resources on education to meet the expenditure, irregular classes and overcrowded classrooms have diminished the quality of teaching and reduced interest among the students for education. One more reason is the evasion of technology in the curriculum as a pedagogical aid through which we can bring dynamic result. Viewing the current educational scenario there is a dire need for the intervention of technology in the English language classroom. Therefore, this study discusses the technological modules developed in our Institute- Birla Institute of Technology and Science, Pilani to cater to the demand of the rural students of nearby villages. Moreover, this study also brings forth the results from a questionnaire survey of sixty students from class 5th-8th to gauge the difference in learning pace by traditional method of teaching and after the intervention of technology.

WHY TECHNOLOGY?

Motivation or, more accurately, the lack of interest is a consistent problem for teachers now a day. It is proved by the researchers that for learning to occur, a certain degree of motivation and interest should be in place. Otherwise, all efforts to teach students to speak, write, and read simply go down the drain. Little wood (1984, 53) explains that "motivation is the critical force which determines whether a learner embarks on a task, how much energy he devotes to it, and how long he perseveres". Nevertheless, students in classrooms are often there because they have to be, not because they want to be. Technology is one tool through which we can grab the attention of the students and thus detain them in the classroom. When the students in our class seemed unmotivated, we noticed that most of the text book based activities left them flustered and bored. Although we had given them a lot of interactive classroom activities but still failed to enhance their retention power. At this juncture we realized that a mechanistic and all-too-common reductive abstraction of teaching from human experience and multidisciplinary perspectives can be overcome in part through the use of new technologies as teaching devices. In fact with the help of technology as a teaching tool, we can free students from the constraints of the linear, purely word based report. Different applications of technology can incorporate rich panoply of visual and auditory devices, as well as provide numerous pathways to make the classroom more interactive⁸. Viewing the high potentialities of technology for pedagogical purpose and we turned to technology enabled teaching as a means to motivate students and to generate interest in the classroom. The various kinds of technology applications which we have exploited for pedagogical purpose have been discussed below.

TECHNOLOGY APPLICATIONS: AS A CLASSROOM TOOL FOR GLOBAL EDGE

Before discussing the advantages of using technology for enhancing employability, it is important not to refer to technology as if we were dealing with a single, homogeneous tool, as if all technology were the same. Different technology based tools render different advantages for learning. There isn't one technology best suited for learning but rather an array of technological tools that can be harnessed to that end, although the tools themselves will continue to change very rapidly. More specifically, there are three important technological platforms that provide tools to enhance English Language skills at primary level: movies, audio video aids and advertisements. These applications of technology and their role in improving English Language skills have been discussed below.

FILMS IN THE ENGLISH CLASSROOM

Nowadays students need to be exposed to a wide variety of resources from audio to printed material. Although this output seems to fulfill their needs and prepare them for the outside world, teachers always keep searching for more motivating sources. So, introducing movies into our classroom is a challenge most language teachers must face. In fact movies can be an interesting source for teaching English especially to rural children. While showing the movies instructor should divide the lesson into three stages.

In the initial stage teacher can introduce plot, various characters and the setting of the film. At this stage they can incorporate some prediction based activities with help of different clippings of the movie. Such type of activities will generate their interest in learning.

At the second stage we can introduce the characters and plot of the movie in a detailed manner. Here, we can offer the students problem solving activities with the help of various movie clippings. Just show the students some clipping and ask them to solve the problem. Such type of activities will kill two birds by one stone. On the one hand, it will enhance their problem solving skill on the other hand it will improve their English. Apart from this, an instructor can incorporate some more exercise such as filling blanks, multiple choice question, true or false questions at this stage.

At the final stage when the students comprehend the plot and the various characters of the movie thoroughly we can ask them to role-play their favorite character in the movie. Similarly, an instructor can organize group debates based on the moral of the plot. As far as writing is concerned, an instructor can give the students a written homework assignment and ask students to describe their favorite character.

Such types of movie based exercises bring creativity, variety and dynamics in the classroom; which is essential especially to learn a second language.

AUDIO VIDEO MATERIAL FOR ENHANCEMENT OF ENGLISH SKILLS

The new era assigns new challenges and duties on the modern teacher. The traditional methods on teaching English have been drastically changed with the remarkable entry of technology in the arena of teaching. Technology provides so many options which can be used not only to make the teaching interesting but also to make teaching more effective and productive in terms of students' improvement. Audio-video materials can be proved to be the best recourses which can be utilized for the enrichment of modern teaching styles. The greatest advantage of these types of materials is that it satisfies both visual and auditory senses of the students. It gives an unparalleled chance to the teacher to create a virtual world in the classroom itself.

Audio video devices enhance the interest of students, especially students of quite young age. Language skills – listening, speaking, reading and writing – can be developed by the appropriate use of the audio-video materials. For example, there are various techniques that can be used to improve listening with the help of audio-video materials. A teacher can use recordings of expert speakers to improve their listening. Moreover, he can also use movies or some interesting video clips in which the target language is a medium of conversation. This can give a good chance to the learners to listen to the speakers of target language along with the visual presentation of the story. They will listen to the characters with interest and this interest will generate good understanding of the target language.

Moreover, the improvement in the students' pronunciation of the target language can be brought about by the appropriate use of audio-video materials. For example, in our language lab we often use the software called Sky Pronunciation with the help of which they can easily understand the right kind of pronunciation of consonants, vowels, diphthongs and the like. The software checks the right kind of pronunciation in the usage of language by the students and correcting their pronunciation. With a sustained practice of this software they imbibe the right kind of pronunciation in their routine conversation of the target language. This technique can be far better than the teaching of all sorts of theoretical elements of phonetics. Indeed, the teaching of phonetics can be enriched with such type of audio-video materials.

Hence, it is seen that audio-video aids are a kind of panacea to almost all the problems that a teacher come across in his or her efforts of making the teaching more effective. They are very effective at all the levels of teaching irrespective of different subjects and categories, provided that a teacher knows what kind of material he is supposed to select from web and knows how to use it.

ADVERTISEMENT: A PEDAGOGICAL TOOL

TV advertisements provide a host of pedagogical possibilities for any language class. One 30-second ad brings authentic linguistic and cultural content that can be integrated into various communicative activities. A commercial is not just a 30-second ad; it's a story, a scene, a cast of characters, a dialogue, an array of emotions and even a bit of humor. Such type of material can be exploited for pedagogical purpose. They will naturally react to the situation while empathizing with the characters and experiencing an emotional and often humorous side of English. These advertisements can be exploited not only to teach grammar but also figures of speeches. Students are also motivated to improve and modify the content while using the specific context as a framework for such co-creating and expanding. The reservoir of both the print and television advertisements is created and then several concepts are taught in the classroom. For example, while teaching the concept of creativity, the advertisements are shown and students have to find out why the advertisement is able to create an impact on the viewer. When they see these advertisements they also get the idea of designing the ad campaigns themselves. Similarly, advertisements can be an interesting tool to teach paralinguistic features such as pronunciation, articulation, intonation, etc. This technique borrows much from the methodology of using films in language education where listening and observing serve as foundational skills that naturally lead to discussion, critical thinking, role play, and writing activities.

LEARNERS PERCEPTION TOWARDS TECHNOLOGY

As mentioned earlier this study examines the perceptions of college students towards technology enabled learning to gauge the difference in learning pace by traditional method of teaching and after the intervention of technology. A questionnaire was administered to sixty English language learners of nearby government and private school in Pilani. The results shows positive attitude towards English course delivered through technology. In response to the question, technology enabled learning is better in comparison to traditional teaching methods, majority (98%) of the students have given their consent. According to the rural students advertising is also one of the technology applications which help in grasping English language in an interesting way. When students were asked about the various audio - visual aids and their cooperation in understanding various concepts, almost all the students (100%) have given their approval. Only 5 % students were disagree with the statement that in technology enabled learning they cannot learn according to their own pace. However, majority of the students found technology enabled learning environment quite interesting where they can learn according to their own pace. Implications are that technology has a beneficial role to play in the curriculum and may have potential to facilitate effective language learning.

CONCLUSION

A hundred years ago, the very idea that a motion picture can be used for pedagogical purpose was treated with ridicule and scorn. But in this 21st it is heartening to see the growth in the use of technology in India and boom in the IT industry that has opened new avenues for educational sector. The impact of this boom on the educational sector has in turn revolutionized the academic culture in India. Although education is involved with a number of technological improvements, it takes very long time for all the educators to gain mastery in their applications. It is one thing to confine technology to isolated labs and quite another to make it a potent force in transforming an entire education system. In order to exploit pedagogical benefits of technology we have to articulate a coherent, technology integrated on-going program. Such program often requires sustained long term effort. Each technology has its advantages and limitations and no one technology is useful for all types of learning. While selecting the technology for pedagogical purpose, the criteria to be kept in mind are availability, accessibility, acceptability, economics and validity of the media. In fact, technology can not be developed and implemented in a vacuum. A lot of pedagogical and psychological factors work behind its successful execution. The dream of our nation to bring our students into the 21st century and face the challenges of global corporate world will change into reality only after the efficient integration of technology in the curriculum.

REFERENCES

1. Ahoja A., *English to meet the needs of Globalized job market*. 2007 Oct [cited 2009 March 18] Available from: <http://www.mernews.com/catFull.jsp?articleID=127152html>.
2. Venkataiah N., "overview of Educational Technology". Educational Technology. Ed. Venkataiah N. APH Publishing Corporation: New Delhi, 2008: 1-18.
3. Symposium on Educational Technology and Schools in India, 20-22nd August, 2008, Bangalore
4. Yamak Adra, Student Documentaries: A language Learning Tool. English teaching forum. 2008 : 20-25.
5. Littlewood, W. 1984. Foreign and Second Language Learning: Language acquisition research and its implications for the classroom. Cambridge: Cambridge University Press.
6. Thornburg David, *Multimedia Encourages New Learning Styles* [cited 2010 Jan 25]. Available from: www.newhorizons.org
7. Blake Robert J., *Technology, Multimedia, and Second Language Learning* [cited 2010 Jan 22]. Available from: <file:///H:/Technology,%20Multimedia,%20and%20Second%20Language%20Learning.htm>
8. Champoux Joseph E., Film as a teaching resource. *Journal of Management Inquiry* 1999 8(2): 240-251.
9. What is the importance of aids in teaching? [cited Jan 23] Available : wiki.answers.com/...
10. McCasland Philip, *Using TV Commercials as Language Teaching Tools*, 2009 Dec [cited Jan 19]. Available From: jalt.org/events/akita-chapter/09-12-12
11. Movies in the English classroom, 2008 Jan [cited Aug 28]. Available from: www.teachingenglish.org.uk > Try > Tips - Cached - Similar

RETURN MIGRATION TRENDS OF SOFTWARE PROFESSIONALS AND ITS IMPACT ON SOCIO-ECONOMIC DEVELOPMENT OF INDIA

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ABSTRACT

In past few years the links between return migration of highly skilled professionals has been getting attention not only by sending country but also by various national and international organizations. This paper discusses the trends of software professional return migrants and its impact on the socio-economical status of India. In this paper we explained the type and nature of return migration, and the reasons of return migration from United States (U.S) to India. The paper also includes the recommendation for further action to be taken by host country to have more positive impact of these return migrants and also to motivate other migrants to come back to homeland.

KEY WORDS

Return Migration, Software Service Export, Skilled Labour Migration.

INTRODUCTION

Return migrant is one who has worked for at least one year in a country other than his/her usual residence and has returned back to India, either temporarily or permanently. These migrants can include those persons also who are constantly traveling between India and abroad but their permanent residency is in India. In recent years there has been growing interest in exploring the dynamics and links between return migration of highly skilled Indian professionals (IT, R&D and Education sectors) and development not only by sending country but also by various national and international intergovernmental and non-governmental organizations (NGOs), migrant associations and the private sector. The reason of this attention towards return migration is due to the positive impact on the economy of parent country. They also bring additional skill learnt abroad which increases their productivity at home. The additional productivity they gain from their experience abroad can have a profound impact on the resulting brain drain obtained. But the benefits that highly skilled return migrants can provide for their countries of origin have been both grossly underestimated and largely neglected by most sending countries governments. The Indian government, for example, is slowly realizing and seeking ways to exploit the potential benefit Non-Resident Indians (NRIs) and Persons of Indian Origin (PIOs), a group numbering over twenty million globally, can have on Indian's economic development and growth. Return migration, whether temporary or permanent, can contribute to reducing the negative impacts of human capital outflows for countries of origin. Return migration may not only replenish and enrich the human capital of origin but it can also contribute to the transfer of technology and of scientific, technical and economic expertise as well as political, social and cultural exchanges. Other potential benefits of return migration result from capital inflow and productive investment associated with returnees.

According to Migration and Remittances Factbook 2011 of World Bank, 11.4 million people from India went abroad in 2010 and 5.4 million came into the country, making India number 10 in the global list of nations attracting the most immigrants and number 2 in Asia. There is extremely limited data on the return migration except when it is on an organized basis because no country has a monitoring system to capture return of nationals who have been employed abroad.

TYPES AND NATURE OF RETURN MIGRATION

Benefits of return migration depend on a number of factors such as the type and nature of return migration, which obviously affect the impact and can be discussed as:

- **Motives or intentions:** According to Cerase 1974, there are four categories of reasons: (a) failure (b) conservatism (c) retirement and (d) innovation. The last category – return of innovation – is the most relevant to the development of the homeland.
- **Time pattern:** Occasional returns, seasonal returns, temporary returns and permanent returns (King 2000).
- **Timing of return:** The timing of return is crucial for several reasons. If people return after a reasonable period of time, they are better equipped because of additional qualifications and skills, work experience, accumulated resources, and social capital (networks and linkages with those back in the host country). A person who returns after a brief spell abroad may not be able to offer much benefit to the home country in the form of diverse forms of the capital (human, financial and social).
- **Nature of return:** Assisted or voluntary.

Having explored the type and nature of return migration now let us see the factors that are most important for different type of migrants, looking at the age, professional experience and skill set, and the characteristics of the countries they come from. Table 1 shows the motivational factors driving the particular type of return migration.

TABLE 1: FACTOR DRIVING RETURN MIGRATION

Motivational Factor	Particular relevance to which type of migrants
1. <i>General improvement of the situation in the homeland (e.g economic, political):</i> The push factor that motivated the migrant to depart has declined in significance	Relevant to most skilled migrants
2. <i>Feeling of belonging to one's culture and society:</i> Some migrant's high degree of attachment and their desire to develop their country makes them want to return	Skilled migrants from low-income countries who tend to feel a great sense of commitment to their country's development; young professionals and students with no family ties in the destination country.
3. <i>The intention to leave for a short period, usually to achieve a specific objective:</i> To return after completing contract or once a goal has been reached (e.g mortgage investment, tuition fees or a new business in homeland).	Highly skilled migrants (e.g consultants) holding a short-term contract, entrepreneurs, and those who leave family including spouses and children behind.

RETURN MIGRATION TRENDS OF SOFTWARE PROFESSIONALS TO INDIA

The software industry is the motor, driving the upswing in the Indian technology sector. By almost any standards, the growth of India's software exports has been phenomenal which is attributed to the growing respect for Indian software industry in the international market continued rise in the offshore services, quality services, timely delivery, entry into new market, Y2K data conversion business, international linkages and also due various steps taken by the government to promote software export such as simplifying procedures, tax concessions, establishment of software technology parks, more liberal investment policies, as well as a number of comparative advantages India possesses such as 2nd largest pool of scientific and skilled manpower which is also English speaking, low cost of labor, investment friendly economic climate and policy, location time difference with the western world enabling round the clock development, building up of national level institutions.

According to RBI Monthly Bulletin and NASSCOM, 2010, exports of software and IT-enabled services (ITES) increased to US\$ 46.3 billion in 2008-2009 as compared to US \$ 40.3 billion during 2007-2008 as shown in table 2 and figure1. With the continued buoyancy in software exports, on an average, they constituted about 44 percent of total services exports of India during 2001-02 to 2008-09. The Indian IT-BPO industry, which experienced exceptional growth benefiting from growing globalization, has emerged over time as a key sector of the economy in terms of contribution to the growth, export earnings, investment, employment and overall economic and social development.

TABLE 2: SOFTWARE SERVICES EXPORT IN INDIA (IN US \$ MILLION)

Year	IT Services Exports	ITES-BPO Exports	Total Software Services Exports
1995-96	754	--	754
1999-2000	3397	565	3962
2000-01	5411	930	6341
2001-02	6061	1495	7556
2002-03	7100	2500	9600
2003-04	9200	3600	12800
2004-05	13100	4600	17700
2005-06	17300	6300	23600
2006-07	22900	8400	31300
2007-08R	29400	10900	40300
2008-09PR	33,600	12700	46300

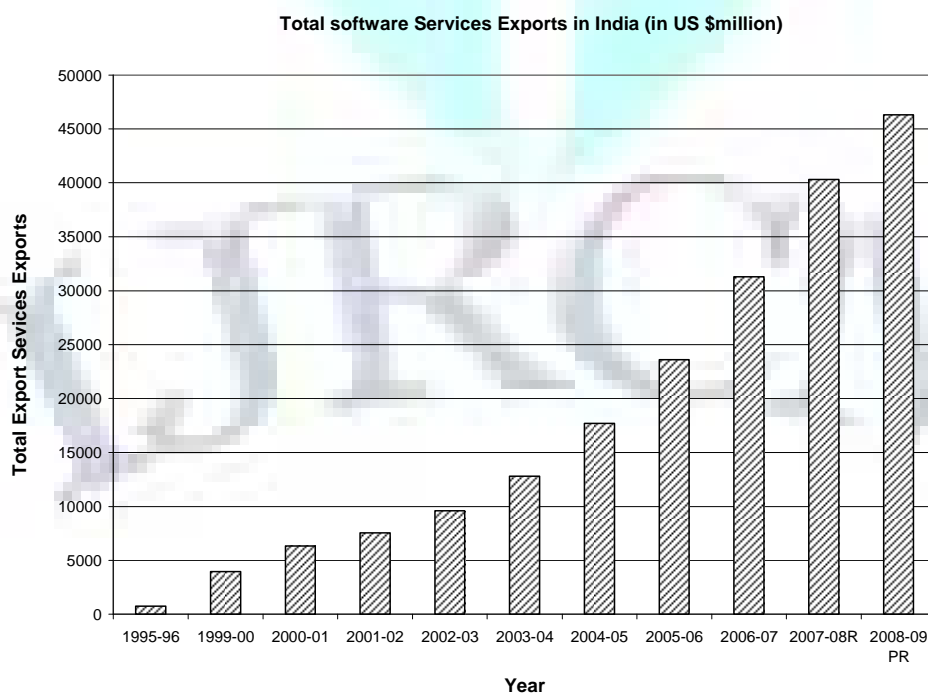
R: Revised

PR: Partially Revised

BPO: Business Process Outsourcing

Source: NASSCOM and RBI Monthly Bulletin March 2010

FIGURE 1: TOTAL SOFTWARE EXPORTS IN INDIA (IN US \$ MILLION) FROM 1995-96 TO 2008-2009 (AS PER THE DATA GIVEN IN TABLE2)

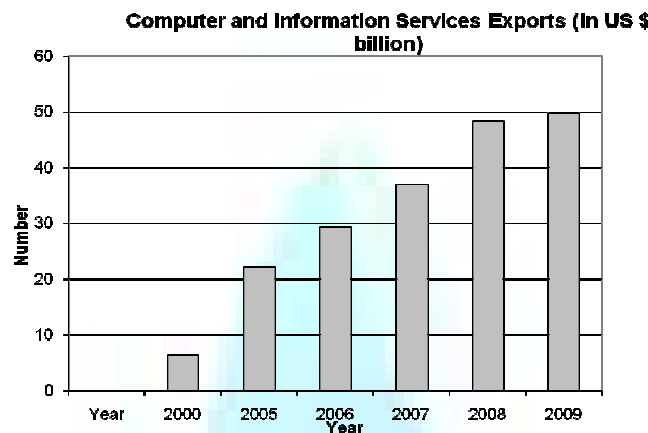


Despite the global economic and financial crisis and related pressures on external demand, exports of the software and IT-enabled services exhibited a steady growth of around 15 percent during 2008-2009. As reported in balance of payments statistics year book 2009, India has continued to be ranked first in the

exports of computer and information services in the international economy since 2005. According to a recent NASSCOM report titled "IT-BPO sector in India-strategic review 2010", software export revenues are around US\$ 49.7 billion in 2009-2010, registering a growth of about 7 percent over the previous year, and contributing about 67 percent of the total IT-BPO revenues.

India topped the list accounting for more than half of global market in technology and business process outsourcing (around US\$ 47 billion global sourcing revenue). NASSCOM expects IT services to grow by 4.2 percent in 2011 as companies coming out of recession tend to harness the need for information technology to create competitive advantage.

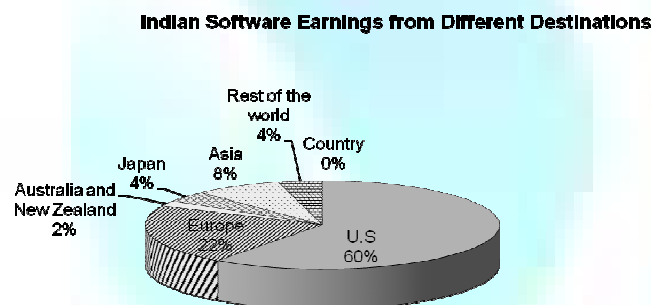
FIGURE 2: VARIATION OF COMPUTER AND INFORMATION SERVICES EXPORTS (IN US \$ BILLION) OF INDIA FROM 2000 TO 2009.



(Source: RBI Monthly Bulletin March 2010)

The software relationship between India and the US is particularly significant. Just as Indian is becoming the largest supplier of software labor to the US both in terms of body shopping and of online labor, the US has turned out to be the largest source of the foreign exchange earnings for India as shown in the figure 3.

FIGURE 3: INDIAN SOFTWARE EARNINGS FROM DIFFERENT PARTS OF THE WORLD.



According to a spokesperson for the National Association of the software and service companies (NASSCOM) "if the Indian software engineers were to go back home, the U.S IT industry would collapse the next morning". The success of IT in India is attributed due to a combination of the two factors, one being economic and other political (Heeks 1996, Bajpai and Shastri 1998). Success due to the economic factor is based upon: 1. the competitive advantage of the Indian IT economy resulting from a combination of low labor costs (which are approximately a quarter of level); 2. a high level of qualification of the employees.

The political factors which include the changes in government policies are the sector factor for the economic boom of IT in India. These are: 1. the fundamental change from the self-reliance strategy to an open market economy at the beginning of the 1990s (Wagner 1997); 2. the subsidization of IT as one of the five key sectors within the Indian national economy (since the mid-1980s). In addition to these two factors, a third factor connected to the social migration may be responsible for the success of IT in India. A large portion of top-level management positions in the Indian software sector is filled by Indians who left the country and emigrated (mainly to the USA) in the 1960s, 1970s and 1980s (former brain drain Indians). At the beginning of the 1990s, after the introduction of the Indian economic liberalization policy many of these elites built up networks or enterprises in India either by remigrating to their home country or when staying in the US through branches of their US companies. In 2000, ten out of the 20 most successful software enterprises in India were set up and/or are managed by former NRIs returning from the USA.

Until recently, very few migrants returned back to India of those who had the opportunity to live in the United States. However, today salaries for IT professionals are rising in India. According to classic development economics, if surplus of educated labor exists then out-migration of that labor will actually increase the productivity and wages of the labor left behind. Salaries for high-tech professionals are quickly rising, giving evidence that the surplus of highly skilled IT labor may not exist as it did in the 1980s, when high tech and financial professionals were making much less than their Indian counterparts who had migrated abroad. Today, the IT sector in India is attracting more NRIs back to India because of business opportunities and growth.

The IT sector in India is a fast growing industry with exports as the key driver to this growth. As the industry matures, the IT enabled outsourcing market is growing and attracting more and more multifunctional contracts to national firms. The industry continues to grow because the availability of cheap, highly skilled labor, growing infrastructure, and existence of world class IT firm, such as Infosys, Wipro and BPL. This environment is creating an incentive for Indian IT professionals in advanced industrialized nations, such as the U.S., to return to India for business opportunities as security for investments increases in India.

Balasubramanyam and Balasubramanyam (1997) argue that migrants, who originally left in the 1960s and 1970s played an important role in the establishment of the Indian software sector upon their return. As evidence they point to a number of software companies founded in Bangalore-including three of the most

prominent firms, Wipro Limited, Infomart, and BPL Systems-which were established by return migrant workers; concluding that it was this return migrating, and the subsequent brain gain, which provided much of the impetus for the rapid growth in India's software sector.

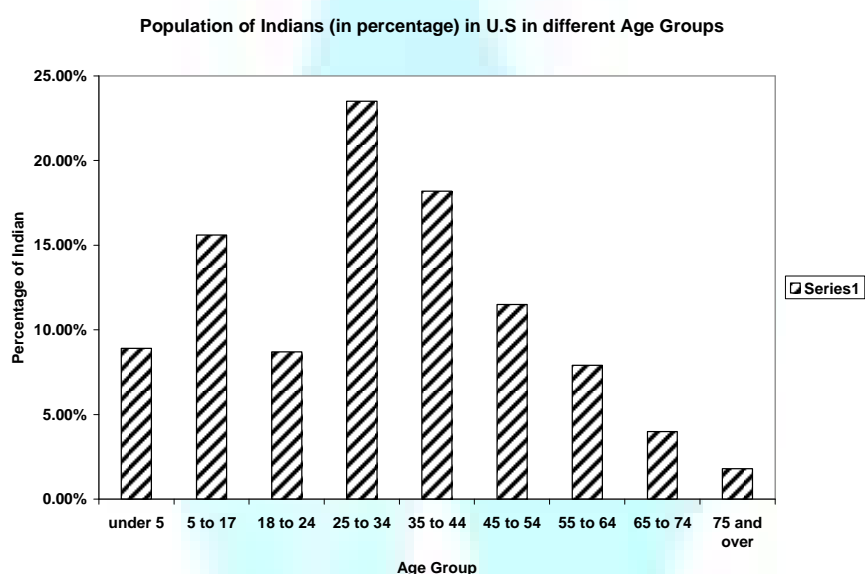
As per Robert Weismen (1980), the reason of returning back to India are personal. Returning expatriates may have aging parents or they may want their children raised in the Indian culture. But with the explosive growth of India's economy, cities such as Bangalore or Hyderabad increasingly are seen as new magnets for ambitious technologists-offering an intoxicating mix of hefty raises, multiple job postings and rapid career advancement, no longer the norm in Cambridge or in San Jose, California.

In last couple of years the number of Indians returning back has been constantly rising and according to survey recently conducted by Indus ventures around 60,000 professionals settled in US have returned to India in last year alone. This is nearly equal to Indians going to US yearly.

So, what are the reasons that have given rise to this bend? The possible reasons are:

1. Rapidly decreasing gap between salaries in India and US salaries of Indian IT professionals in last few years. If one compares the living cost and salary ratio, IT professional can lead much higher standard of living in India than he does in the Western countries.
2. Second reason is opportunities India is full of opportunities, with every MNC globally trying to open shop in India. Infact, the reason for such higher salaries in IT professionals is lack of people in this industry. According to one recent NASSCOM Survey, India is facing severe shortage of IT professional by nearly 30 %. So the IT professionals moving to India get much better growth opportunities than in the West.
3. Most of the returning Indians couples in the age group of 25 to 35 (see figure 4) having kids. The major factor cited by the survey was to protect their kids from the Western Culture.
4. Education is also one of the foremost reasons for Indians to move back. It is generally believed that Indian schooling system is quite good; however higher education is much better in the West.
5. Unsettling as moving back to India after spending years living and working abroad can be, global economic crises.

FIGURE 4: POPULATION OF INDIANS (IN PERCENTAGE) IN U.S IN DIFFERENT AGE GROUPS



(Source: American Community Survey 2008 (Available online))

An Indian-born software developer, Pavan Tadepalli, wanted to work in a high-tech hub with opportunity for career growth. So it was an easy decision when he was offered a permanent job in the Boston area, after a three-month assignment here ended in year 2009. Tadepalli turned it down, and choose to return to India.

"There are more opportunities in India now", he said "what I can do in Boston, I am confident can do the same thing in Hyderabad".

Joga Ryali worked in Silicon valley for 22 years until he got an offer this year to run the Hyderabad product development center for computer Associates, the computer software giant.

"From a professional point of view, I felt until recently that, I had more challenging prospects in the US"-Ryali said. "But that's no longer the case. Just in the last couple of years, three or four of my close friends made the move from Silicon Valley to India."

Neither the US nor the Indian government keeps count of how many Indian employees have left the American workforce to return to India. The Economic times, a business publication in India, estimated this year that 35,000 have returned to the largest Indian high-tech centre, which is now in and around Bangalore. That is still fraction of the approximately 2.57 million Indian residents of the U.S, a number that includes Indian-born residents as well as U.S citizens of Indian heritage.

MY ARGUMENT

Migrants return doesn't have automatically positive results for the development of their home countries unless a broad range of factors are in place to ensure this, including enabling social, political and economic conditions in countries of origin and destination, as well as migration management policies and mechanisms. Multi-stake holder partnerships are important means by which the development benefits of return can be maximized. Coordination and consultations among different states play an essential role in ensuring that policies in host countries and countries of origin effectively facilitate return and maximize it development benefits, coordinated partnership among diasporas, migrant workers and home town associations, business and the private sector, civil society organizations, and national and international organizations are equally important.

As a result of the potential benefits from the return migration, the Indian government has developed programs aimed at non-residents Indians (NRIs) and Persons of Indian Origins (PIOs). These programs include granting visa waivers and the facilitation of financial services, normally reserved for Indian citizens. Overall engagement with the potential return migrant workers and appeal to the permanent migrants to participate in the development of India has become an integral part of government policy in India.

RECOMMENDATION FOR FURTHER ACTION

A number of issues remain as government continues to explore migration for development options. Three key considerations include:

- (i) *Identify evidence of the impact of migration and return on poverty reduction and sustainable development:* Government needs to ensure that migrants are able to make real contributions to the country's development. Returnees do not often invest their remittances to create widespread

employment or larger benefits for others. Instead, they tend to be used for consumer spending, payment of debts, long term investment such as individual education, and the building and improvement of homes. Government need to be better document positive multiplier effects of return such as the development of returnee initiated programs that build local skill among the general population.

- (ii) *Work with nongovernmental partners to implement policies to overcome constraints to re integrating return migrants and investing their resources:* In addition to government policies, a number of nongovernmental approaches can help harness migration for development option. Some sending country NGOs have worked with their government to established networks of expatriates in a host country that support migrant savings and alternative investment programs. For example, in Philippines, local NGOs have helped migrants establish small-business ventures and local churches have launched micro enterprise activities. These efforts reveal how important it is for social development workers, policy makers, and implementers, as well as migrants and their families, to work together to ease reintegration and harness development potential.
- (iii) *Generate new alternative strategies to mobilize emigrant's knowledge and expertise in support of development:* Government need to explore ways to invest in the infrastructure of the professional sectors from which the migrants originally came.

CONCLUSION

This paper discusses the trends of software professional return migrants and its impact on the socio-economical status of India. In this paper we discussed the reasons for return migration. The globalizing effect of easy travel, fluid citizenship status, and rapid communications are key factors driving this return migration. Other reasons include, decreasing gap between salaries in India and US salaries and increasing opportunities in India. As a result, today's returning migrants are increasingly younger, more highly trained, and able to shuttle back and forth between their country of birth and their adopted country. Skilled return migrants are poised to become more important to local government policy and they hold the potential to help build global networks, forge further links between sending and receiving countries, and directly contribute to development efforts.

REFERENCES

- American Community Survey 2008 (available online)
- Bajpai N and Shastri V, (1998), software Industry in india; a case study, Development Discussion paper No. 667, Harvard Institute for International Development.
- Balasubramanyan, V.N and Balasubramanyan A, (1997), "International trade in Services: The case of India's computer Science" The World Economy 20: 829.
- Cerase, (1974), "Expectations and reality: a case study of return migration from the United States to Southern Italy", Int Migr Rev., 8(26):245-62.
- Chappell L and Glennie A <http://www.migrationinformation.org>
- Heeks R, (1996), Indian's Software Industry: State policy, Liberalization and Industrial Development (Thousand Oaks, CA: Sage Publications)
- King, R. (2000). Generalizations from the history of return migration. Return migration: journey of hope or despair? (ed). B. Ghosh. Geneva, International Organization for Migration.
- Migration and Remittances Factbook 2011: World Bank Report
- NASSCOM report (2010), "IT-BPO Sector in India: Strategic review 2010.
- RBI Monthly Bulletin March 2010
- Wagner, J., (1997), The World Economy, vol 30, 60-82.
- Weismen R (1980), "Why Older people moves: Theoretical issues" vol.2, 141-154.

RECRUITMENT PROCESS OUTSOURCING: KEY CHALLENGES AND OPPORTUNITIES FOR INDIAN TALENT**TADAMARLA.ANUPAMA****ASST. PROFESSOR****COLLEGE OF MANAGEMENT AND ECONOMIC STUDIES****UNIVERSITY OF PETROLEUM AND ENERGY STUDIES****DEHRADUN****INUMULA.KRISHNA MURTHY****ASST. PROFESSOR****COLLEGE OF MANAGEMENT AND ECONOMIC STUDIES****UNIVERSITY OF PETROLEUM AND ENERGY STUDIES****DEHRADUN****ABSTRACT**

After the globalization and aftermath liberalization process India is gaining the distinction of becoming one of the worlds' largest talent incubators where diversified skill set lie in all disciplines ranging from IT to Services. As the job scenario in the country changing from time to time, demand and supply variations in human resource at firm and industry level have made the role of HR department very hard to pick the right job for right person in right time. To fill this gap there emerged Recruitment Process Outsourcing (RPO) where firms outsource their recruitment process completely or partially to an outside agency gained popularity in the early 2000's. The recent global recession impacted the flow of workforce resulted in hiring numbers went down across the globe have also made RPO firms had a tough time in talent hunt. In this article we have discussed and analyzed how this concept of RPO works in Indian context and what are the key challenges and opportunities for Indian talent and for RPO, growth potential of RPO business in India.

KEYWORDS

Talent hunt, RPO, Globalization, Workforce.

INTRODUCTION

Recruitment is an important part of an organization's human resource planning; their competitive strength lies in allocating resources to specific tasks done by specialized personnel. Competent human resources at the right positions in the organization are a vital resource and can be a core competency or a strategic advantage for it. Most of the business organizations fail to perform at their best because of the wrong allocation of human resource at different strategic levels in the organization. As the job scenario is changing from time to time, no employee sticks in an organization for more than two years that is the reason why companies spend lot of resources in terms of money and time in hiring the required human resource. There comes the need for RPO firms which act as the specialized consulting firm for recruitments. An RPO firm directly goes to the employers with the right kind of professionals, starting from a fresher to filling up the position of a well-experienced director. Recruitment Process Outsourcing where firms outsource their recruitment process completely or partially to an outside agency there by concentrating on their core competency areas such as management, leadership and brand position that enables superior results to be achieved towards the attainment of business objectives and goals, the company can focus on its core business rather than focusing on a non core area like hiring and may get a better return on investment made in the business. Also, if the demands are fluctuating then the company doesn't have to bother about scaling up or down which is handled by the RPO. Also, companies do not have to maintain large teams to manage the volumes. RPO offers them scale up/scale down flexibility and this is a great benefit given the volatile market scenario.

Recruitment of candidates is the function preceding the selection, where the main objective of the recruitment process is to expedite the selection process thus the objective of the recruitment process is to obtain the number and quality of employees in order to help the organization to achieve its goals and objectives. With the same objective, recruitment helps to create a pool of prospective employees for the organization so that the management can select the right candidate for the right job from this pool. Recruitment is a continuous process whereby the firm attempts to develop a pool of qualified applicants for the future human resources needs even though specific vacancies do not exist. According to the future step executive insight "RPO is a specialized service that allows clients to outsource some or all of the recruitment functions". An RPO provider leverages the combination of strategy, technology, resources and vendor management to improve the recruitment process. Business process outsourcing (BPO) and its subsets, notably including human resource outsourcing (HRO), are widely accepted strategic services that rapidly reduce a company's costs and improve its competitiveness. Recruitment Process Outsourcing (RPO) is being adopted by companies to address increasingly strategic and tactical needs. According to the study, by global professional association and think tank Human Capital Institute (HCI), and research partner, Futurestep indicates continuing demand for RPO and companies are applying the practice to address both immediate tactical recruiting needs in difficult times and strategic functions of planning for long-term development In this globalization era as the economy is expanding more rapidly, many firms are expanding their presence and are getting large projects, for which professionals in large numbers will be required.

LITERATURE REVIEW

There is no much literature available on recruitment process outsourcing, however the earlier works, most of them are surveys under taken by recruiting firms on this novel concept may contribute to the present explorative study. Look for more organizations to engage in "Partnership recruiting", a trend in which they outsource much of the recruitment and selection process to outside firms to avoid lengthy delays in hiring much-needed talent. Large corporations are looking for partnership with firms that can provide not only executive search and recruitment work but also strategic consultancy services. In addition to streamlining the hiring process, they're looking to cut costs (Allen Salikof). Recruiting is usually one of the last functions a company outsources, largely because of the importance that corporate culture plays in hiring. But once companies outsource recruiting, they usually stick to it (Michel Janssen, managing research director at Everest Group). For decades, companies have outsourced one or two elements of recruiting or sourcing for specific positions, but RPO means binding the process itself over to the provider and, most important, using the provider's expertise and scale to re-engineer the process for greater efficiency. The demand for global end-to-end recruitment process outsourcing (RPO), is growing as multinationals strengthen their presence in a range of markets and accelerate hiring (Hansen, Fay). Recruitment process outsourcing, or RPO, has been growing well since 2002, when there was a big push for total business process outsourcing. "Recruitment was pulled along on the BPO coattails," Recruitment is one of the most strategic parts of HR, if not the most strategic. There are important issues coming up, such as retirement cliffs, shortages of workers in critical jobs and workforce planning, that are tied into recruiting. People don't want to give up control of that." (Doug Rippey, senior workforce planning consultant with Watson Wyatt). The HR community needs to get more strategic, which is not the case today. HR professionals need to upgrade and position themselves to be more strategic than tactical; they need to understand the difference between tactical HR and strategic HR. (Robert McNabb, CEO, and Futurestep)

Because of the expertise RPOs provide a lot of other benefits to the companies like lower lead times, process efficiency like better screening, lower cost due to scale and most importantly, it doesn't bear the fixed cost of the hiring set up – the cost is only transactional," (Deepak Kaistha, managing partner, Planman HR). The RPO market is evolving quickly from merely a process and cost focus to a strategic transformational change process designed to fast track organizations' ability not only to compete more efficiently for talent at an enterprise-wide level, but to secure a competitive advantage at the industry-wide level. HRO and RPO are fast becoming adopted as strategically important sub-sets of BPO. In fact, RPO may just be this decade's most powerful, yet best kept, "secret weapon" in the war for talent (Tim Nelson and Brett Gerard).

RPO BUSINESS AT GLOBAL LEVEL

Recruitment process outsourcing (RPO) is in its early stages compared to more mature BPO and HRO services such as payroll processing, benefits administration (which comprise almost 2/3rd of the total HR outsourcing), it is one of the most fastest growing services emerging in support of organizations' talent management requirements. The Global RPO market has been growing well since 2002 when there was a big push for total business process outsourcing. Talent management is the top HR issue faced by organizations today, hence the need for improved speed and quality of talent acquisition is the major driver for companies looking to outsource to providers with recruitment expertise. The recent global recession impacted the flow of workforce resulted in hiring numbers went down across the globe have also made RPO firms had a tough time in talent hunt, however the value proposition of RPO is still resonating with buyers that are looking for a cost-effective and flexible option to withstand the current turmoil and at the same time create an efficient and effective talent-acquisition process that can be scaled up quickly when business environment improves. The HCI/Future step survey has revealed recent trends of RPO business which includes, in terms of adoption more than half (59%) of organizations surveyed outsource some or all recruiting practices, and 50 percent say they will use RPO within the next five years. In terms of scope, the majority of current RPO deals cover selective practices for tactical needs. Among users, the most common definition of RPO (indicated by 36 percent of respondents) is the outsourcing of some recruiting activities for some levels of employees. Organizations ranked "Active Recruiting," the service they considered most important to their talent management goals, second most likely to be outsourced. Practices focusing on strategic talent needs, such as talent strategy development/consulting, are outsourced less frequently. Key findings of the survey: Organizations rating the Return on Investment (ROI) for their RPO program number as "good" or "excellent" number only 39 percent and those that use an RPO approach for longer-term strategic needs, such as workforce planning, employment branding and competency management, are significantly more likely to report excellent ROI for their recruitment outsourcing. When HCI re-surveyed 86 respondents in November 2008, to gauge how the economic crisis will affect RPO during the next two years, responses showed that RPO, especially when focused on strategic business needs, can become a tool to compete during tough times. 44 percent of those respondents indicated that, even in the event of a recruitment budget decline, their organizations' investments in RPO may still increase in the future thus the demand for global end-to-end recruitment process outsourcing is growing as multinationals strengthen their presence in a range of markets and accelerate hiring.

RPO BUSINESS IN INDIA

As a developing country and major market for international players, India plays an important role in world economy. After the BPO and KPO boom, the corporate sector in India is steadily gearing up for RPO. There has been a sudden surge of demand for candidates as the job scenario in the country looks in a good shape, to bridge the gap between demand and supply variations in human resource, more RPO firms are coming up for taking the burden out of the head-hunting business of the corporate sector. With the employment scenario taking a healthy turn in India, hiring of RPO firms by companies for their recruitment solutions would certainly play a vital role in near future. And this would then ease the burden on the HR operations of a company. While the RPO concept has taken a healthy shape in the Western countries, in India is currently at its infant stage; however there are only a few RPO firms currently catering to the needs of various domestic as well as multi-nationals in hiring employees for them. Since corporate companies are aspiring to build large talent pools within a short period of time are at a loss when it comes to assessing and selecting right candidates by resume processing, screening & validation; candidate skill-mapping and in database building and management, many international companies are opening up their offices in the country and looking for professionals to handle their operations. Keeping in view the booming job scenario, IT, finance, banking, pharmacy, life sciences, retailing are identified as some of the areas where there is a sudden surge of demand for candidates. In a bid to cost cutting measures, most of the corporate giants based in the United States and the United Kingdom are looking to leverage their recruitment process outsourcing services from emerging market locations like India and china. According to global consulting and research firm Everest Group, increasing cost pressures in the current economic environment has led North American and UK buyers to start receiving the back-office RPO services from offshore location such as India. The recent global recession impacted the flow of workforce resulted in hiring numbers went down across the globe have also made RPO firms had a tough time in talent hunt however to create an efficient talent acquisition process that can be scaled up quickly when business environment improves over a period of time as the economy witness higher growth. Indian suppliers such as Infosys, Wipro and Caliber Point have already entered this space in the past two years, while Western suppliers such as Momentum and People Scout are also leveraging India for delivering RPO services. The RPO industry has good potential for growth in India. It has a huge population and moreover 54% of its population is below the age of 25, India all set to reap the demographic dividend, the demographics in the industrialized nations – the US, UK, Germany, France, Australia and so on – has changed significantly. Population in these countries is shrinking dramatically and US companies are recruiting as many people from India as they can and all of the multinationals want to recruit more engineers from India. There are dramatic demographic changes happening around the world, therefore, huge potential for Indian talent, moreover, there are excellent universities that are churning out very good talent and yet to make education reforms that will pave the way for interaction between industry and education. Last and most important, there have been huge capital investments made in India, so as companies grow and realize that they need more and better quality talent, the RPO model will be sought as a savior for many companies. According to the leading RPO firm futurestep, "India is considered to be the number one market, bigger than the US, significant investments were made in this business and market India is huge on outsourcing", however the RPO industry is still in its infant stages but a lot of companies in the US, specially financial companies, have opened outsourcing centres in India, and are seeking RPOs to tap quality talent and have better, reliable and cost-effective processes in place.

CONFLICTING VIEWS ON CHANGING HR SCENARIO

Earlier firms used to outsource manufacturing, but now services taking that place and where the role of RPO is become very crucial in work force planning in an organization. Because of the seasonal fluctuations in demand and supply of human resource and to sustain in recession times, companies are in quandary whether to go with in-house recruitment or perhaps find a strategic partner which can architecturally design and customize the recruitment process to improve results. That is, engaging a recruitment processing outsourcing (RPO) firm to design a process which is best for a company to acquire, groom and retain talent. The challenge of acquiring and retaining the right talent has brought the HR fraternity to prominence. Recruiting often is the most tedious process to outsource because it requires HR to stay intimately involved with the provider; Companies need to think hard about the strategic and administrative implications of outsourcing recruitment. The problem identified in RPO system is that some employers have been disappointed in the candidates recruited. Here, however, the fault may lie in the fact that the employer fails to define the value proposition for working environment or selection process made by RPO does not suitable to the requirement of the employer. The RPO industry is undergoing a transformation, it is changing dramatically. Companies will need to have HR departments that are more strategic in nature, and that understand the demographic challenges and the limitations of individuals. The changing nature of workforce is the primary reason for HR becoming more strategic.

RPO WOULD FREE UP HR TO FOCUS ON OTHER PRIORITIES?

HR departments are being undermined by cost-driven recruitment outsourcing deals that do not take enough account of quality, while it was right that process functions were being outsourced in the name of efficiency, recruitment was a key strategic tool and outsourcing it could leave HR sidelined, outsourcing can reduce quality days, and that is a problem for HR at a time when it is trying to prove itself at executive level.

Therefore an RPO firm should be very careful in approaching an employer and should have multi disciplinary approach in line with the HR in recruiting the candidates. All HR functions should look at outsourcing their recruitment, freeing up HR staff to concentrate on other matters.

OPPORTUNITIES FOR INDIAN TALENT

Multinational corporations have been regularly placing some of their best brains in their global system, the search for talent among these global enterprises is now gathering pace. Global enterprises have started scouting the country for quality talent to fill positions across geographies. Recruitment companies say Europe, Africa, Asia-Pacific, Middle East and the rest of the SAARC region are expected to import talent from India across profiles and domains, in significant numbers. According to industry estimates, close to 100 top level executives (CXO positions), 30,000 middle to junior level hiring across profiles and domains are expected during the year and these numbers are expected to only go up in the coming years. While Africa is exploring Indian talent for the telecom and mining spaces, Singapore Canada and the US are looking for talent for their banking and finance, IT and semiconductor industries. On the other hand, Dubai and Malaysia are expected to be looking for personnel for infrastructure and construction verticals while UAE's oil and gas sectors have been largely hiring Indian engineers and managers. No other market offered the kind of diverse and quality talent that India does. Indian talent pool comes with a proven record of working in challenging and complex environments. They are capable of replicating this success wherever they are posted. Australia is another market where there is dearth of talent across industry domains. Also, telecom is a new vertical for most of Africa and the country wants to hire from India. Many high-tech job positions are said to be currently vacant in companies across France, Spain, Germany, Norway, Finland, Sweden, the Czech Republic and Switzerland. Companies will start hiring for these positions once recovery firmly sets in. The European Union is in the process of introducing a uniform immigration framework. Once that is in place, it will be easy for EU countries to import talent that is not available locally. Indian professionals are seen to be confident; they are good with customers, are able to mingle with diverse cultures. They are seen to be competent in handling complex markets and customer scenarios. "Already most of the Indians are working as mid-and senior-level executives with hands-on cross-border travelling experience. Almost 2-3 weeks in a month they would be travelling, so the place of posting hardly makes a difference to their profile". In the world of technology, there is growing recognition that Indians are among the best placed to run some of the businesses, and these would be done best out of India itself since it better reflects the requirements of fast growing emerging markets in general. Global managements are realizing that America is not the core of the world anymore. The balance of the world economy is shifting towards emerging markets like India and china. In India as more and more firms are looking at reducing the cost of recruitment process and enhancing the quality and speed of the process, recruitment process outsourcing is gaining ground. "Most of the foreign and joint venture RPO firms focusing on the Indian market, and are extending through metro cities and also planning to cover smaller towns in the near future.

KEY SECTORS ATTRACTING RPO BUSINESS IN INDIA

IT and IT enabled sectors are the key industries that go for RPO. Indian software IT industry needs more software professionals at all levels like software programmers, software engineers, project managers, architects, database administrators, systems administrators etc. Sectors that have consistent recruitment need due to expansion and attrition opt for RPO. Banking & Financial Services, Retail and Telecom are other major industries which usually do recruitment process outsourcing; these growing sectors are bringing in lot of opportunities for aspiring professionals. "RPO offers tremendous exposure and learning to people in areas like Sourcing, Client Management, Process management, Operations and Quality. Aspirants in RPO can specialize in these areas and can have multiple career options. "As RPO matures there would be many streams where aspirants can look forward to build their career like process specialists, quality, automation, sector wise specialists in hiring etc". The industry is looking for people with good academics, communication skills, knowledge of various industry segments

According to experts, the industry is in a transformation phase and is giving an edge to the recruitment processes making it a hassle free process for the employee and the organization. With the changes in the employment scenario in the country, hiring RPO firms by organizations for their recruitment solutions will be the way forward in future. The automobile industry in India, which includes design, development, manufacturing and sale of cars, two wheelers, three wheelers, as well as trucks, buses and tractors has witnessed an upsurge over the last few years and continues to boom even today. While India's automobile industry is one of the largest in the world, the country was the fourth largest exporter of automobiles in Asia last year (2009). Additionally, as per the Automotive Mission Plan (AMP) 2006-2016, presented by the country's Ministry of Heavy Industries and Public Enterprises, India is a favorite investment destination for international auto makers, many of whom have set up manufacturing divisions in the country, opening a whole new vista of job opportunities for engineers. As an increasing number of international as well as Indian players in the automobile industry look towards expanding their business in India, the demand for automobile engineers is witnessing a steady rise.

CONCLUSION

The services of RPO firms are better rated in terms of cost and flexibility and in terms of economies of scale than the traditional in house recruiting, head hunting and executive search firms. However for the successful interaction between the employer and employee the RPO firms has to make sure that the understanding of organizational culture, needs and expectations of the employer and present technological and business needs that require good talent, thus reduce the gap between choosing the right vendor and suitable talent acquisition for the job. As the job scenario is changing from time to time, no employee sticks in an organization for more than two years that is the reason why companies spend lot of resources in terms of money and time in hiring the required human resource. Most of the RPO companies have delivered better results in closing the gap between employer and employee; however the potential growth of RPO business lies in delivering the high quality professionals with increased efficiency to multinational companies where cross culture mechanism go hand in hand with the growth of economy. In India the RPO business is at its initial stage and it is slowly gaining momentum in exploring the opportunities for Indian talent across the world. India is the second fastest growing country in the world after china with lot of skilled confident professionals, capable of doing complex jobs; they are good with customers, are able to mingle with diverse cultures. They are seen to be competent in handling complex markets and customer scenarios. Since most of the RPO firms are foreign based and are operating in India either by joint venture or as a consulting firm, therefore to assess the ideal impacts of RPO business in India there should be a forecasting mechanism to be developed to constantly watch the progress of recruitment that will determine the future potential growth of RPO business in India in times to come.

REFERENCES

1. Allen Salikof, More Recruitment Outsourcing Foreseen, HR Magazine, October 2003, EBSCO Publishing, 2003
2. Brett Gerard and Tim Nelson, Recruitment Process Outsourcing: Transforming End-to-End Talent Acquisition, Executive Insight, Future Step 2005
3. Chris Silva and Lynn Gresham, Picking Teams, Employee Benefit News- Vol. 21 No 4, April 1, 2007
4. Fay, Hansen, Taking on the World with Recruitment Outsourcing, Workforce Management, 15475565, 10/23/2006, Vol.85, Issue 20, Business Source Premier, EBSCO host Database
5. Gareth, Vorster, Research reveals UK Companies are failing to develop top people, Personnel Today, 2007, ISSN-0959-5848, Business Source Premier, EBSCO host Database
6. James Brockett, Outsourcing 'Endangers HR', People Management, Personal Publications Ltd, 26 October 2006

7. Jessica and Marquez, Recruiting Goes Back In-House at Bank of America, Workforce Management, Vol. 84 Issue 9, p22, September 2005
8. Mark Smith, Roy Krause, et al, participants - Event Brief of Q3 2008 Spherion Corporation Earnings Conference Call - Final Fair Disclosure Wire (Quarterly Earnings Reports), Oct 31, 2008, EBSCO host Database
9. Matthews, Coming Out, Virginia, Personnel Today, Guide to Recruitment 3/4/2008, Business Source Premier, EBSCO host Database

WEB SOURCES

<http://economictimes.indiatimes.com/>
<http://www.rpoassociation.org/index.php>
<http://www.bsos2001.com/index.htm>
www.futurestep.com
<http://www.nelson-hall.com/bpo-insight/current-issue/november-2007/bpo-perspective/global-recruitment-process-outsourcing-market-will-reach-7-billion-by-2010.html>
www.careerharmony.com
www.peoplemanagement.co.uk/news
<http://www.rpo.in/index.htm>
<http://bpo-watchindia.com/index.html>

INDUCTION AND ITS IMPACT ON WORK PERFORMANCE AND EMOTIONAL INTELLIGENCE

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ABSTRACT

Induction is a process of bringing/introducing/familiarizing a new recruit into the organization. This program familiarizes the new employee about the culture, accepted practices and performance standards of the organization. Induction training is very essential for any company because it helps an individual/new recruit to grow within a company and motivates him/her. It inculcates in the employee, more confidence to progress. It is during induction that a new recruit gets to know about the organization's employment philosophy, physical work environment, employee's rights, employee's responsibilities, organization, culture and values along with key business processes. A new entrant should culturally fit in an organization. Interaction at this stage shapes an individual's disposition and outlook for work and motivation levels. It has been proved in one of the survey conducted by the Centre for Creative Leadership (headquartered in Greensboro, North Carolina, US), that a fresh hire does not meet the expectation of an organization for the first few months. Fresh hires are able to learn the process as quickly as possible if the induction efforts are right and they can be very productive if their induction is been done in an proper manner.

KEYWORDS

Induction, Performance, Emotional intelligence, Productivity

INTRODUCTION

In this complex scenario organization both public and private sector have to manage change in an effective way. Emotional Intelligence plays an important role in helping the managers and employees to cope with this dynamic change in the business environment.

Dalip Singh, (2001) mentioned that application of emotional intelligence supports the managers and employees to recognize and understand emotions and using emotional intelligence to manage oneself and his/her relationship with others. The application of emotional intelligence in the organization includes the areas like personnel selection, development of employees, teams and the organization. The organizations must coach their employees in developing their interpersonal skills and coach them to perform effectively on the job with other employees in the organization. (Reuven Bar-On et al, 2007). Employees need to enhance their emotional intelligence skills, apart from technical skills, which in turn will enhance their productivity on the job. Management of emotional intelligence by the team members will help in developing interpersonal skills of the team members. Organization's to be successful, need to develop employee's emotional intelligence skills to work effectively in the organisation. (Bob Wall, 2008).

LITERATURE REVIEW

Genos industry did research on employee induction, and it's effect on emotional intelligence and work flexibility, August 1st 2008

An empirical investigation was conducted to evaluate the benefits of a structured emotional intelligence based employee induction program which incorporated the Genos Emotional Intelligence (EI) Inventory and the Genos Performance Flexibility Inventory. Data were collected for both a group of employees who participated in the EI based induction program and a group of employees who did not participate in the program. The statistical analyses found that the those employees who participated in the EI based induction program exhibited higher levels of Genos EI (particularly Emotional Expression and Emotional Self-Control), as well as Genos Performance Flexibility (particularly Group Flexibility, Task Flexibility, Knowledge Flexibility, and Solution Flexibility). Thus, the EI based induction program was found to have benefits across both emotional intelligence and performance flexibility in newly appointed employees.

It is perhaps a common experience for newly appointed employees to undergo an induction (i.e., 'on boarding') program. Typically, these induction programs focus upon processes and procedures relevant to the execution of work within the organization. Although such induction information is no doubt important, it is perhaps surprising that few employee induction programs utilized include some emphasis on the preferred approaches to the interaction between colleagues from a people, that is, emotional EI stand point. In partnership with a Genos network member (Perfarmability), Genos conducted a pilot study designed to evaluate the effectiveness of an Elbased employee induction program. The program consisted of both the 'new recruit' and his/her line manager completing an EI-assessment and debrief via a three-way conversation with a professional coach. The employee then undertook a series of one-on-one 'integration' sessions with the coach during their first 90-days. Given the 'on boarding' program's EI focus, it was expected that the EI of the newly appointed employees who participated in the pilot program would be higher than those 'new recruits' who did not participate. In addition to Genos EI, aGenos inventory currently under development, namely the 35-item Genos Flexibility Inventory (GPFI), was also included in the study. The GPFI was designed to measure elements of employee performance across the contextual spectrum of a non-specified occupation. That is, the GPFI was designed to assess the level of flexibility an employee may exercise in displaying his or her performance at work.

Given the program's nature, it was expected that a focus on the emotional aspects influencing the newly appointed employees' integration would positively effect their levels of performance flexibility.

METHODOLOGY

The split-plot ANOVA results demonstrated that the employees who underwent the induction program had higher levels of EI, in comparison to the control group. The effects were observed in a statistically significant way ($p < .05$) for two Genos EI subscales: Emotional Expression and Emotional Self-Control, Emotional Expression in the induction group increased from baseline to post induction in comparison to the no induction group. The same type of effect was also observed for the Emotional Self-Control subscale. The effects associated with the induction program were even more pronounced on the Performance Flexibility scales. In particular, Group Flexibility, Task Flexibility, Knowledge Flexibility, Solution Flexibility and Environmental Flexibility.

RESEARCH OBJECTIVE

"A comparative study of role of induction & orientation program and its impact on work performance and emotional intelligence of employees with special reference to SBI BANK & HDFC BANK."

RESEARCH QUESTIONS

- Is there a relationship between induction and work performance?
- What are the effects of induction program in emotional intelligence of employees?

HYPOTHESIS

The employees who undergo induction and orientation program have emotional intelligence higher as compared to those who do not undergo induction and orientation program.

SCOPE OF STUDY

The research aims in identifying the relationship between induction program and emotional intelligence and work performance of employee working in SBI Bank and HDFC Bank.

Research Design and Sample Selection

DESIGNING OF QUESTIONNAIRE

The questionnaire has 50 questions. 20 questions were related to induction and 30 questions were related to emotional intelligence. The emotional intelligence has 5 parameters. They are Self Awareness; Self Regulation; Motivation; Empathy and Social Skills. The tool (questionnaire) consists of these parameters, each of which includes 6 questions. This study has been conducted in SBI Bank and HDFC Bank.

- Method of Survey: Questionnaire.
- Data sources: Primary data.
- Research instrument: Questionnaires is the method of collecting first hand data by asking directly.
- Sampling technique: Convenient sampling.
- Sample-size: 100
- Universe to be studied: 50-SBI bank and 50-HDFC bank employees

DATA COLLECTION

The data for research is collected through the following ways:

PRIMARY DATA

- Survey questionnaires (Attached with Annexure).

SECONDARY DATA

- Websites of the Organizations.

DATA ANALYSIS AND INTERPRETATION

CHI SQUARE TEST

X = EMOTIONAL INTELLIGENCE OF SBI BANK EMPLOYEES

Y = EMOTIONAL INTELLIGENCE OF HDFC BANK EMPLOYEES

n = Sample Size

Mean X = $3937 / 50$

= 78.74

Mean Y = $5592 / 50$

= 111.84

Sigma X = Square Root of $(X - \text{Mean X}) * \text{Square Root of } (Y - \text{Mean Y}) / (n-1)$

= Square Root of $5616.3033 / 49$

= 10.7060

Sigma Y = Square Root of $(Y - \text{Mean Y}) * \text{Square Root of } (Y - \text{Mean Y}) / (n-1)$

= Square Root of $4480.72 / 49$

= 9.56

Chi = Sigma X square / Sigma Y Square * (n-1)

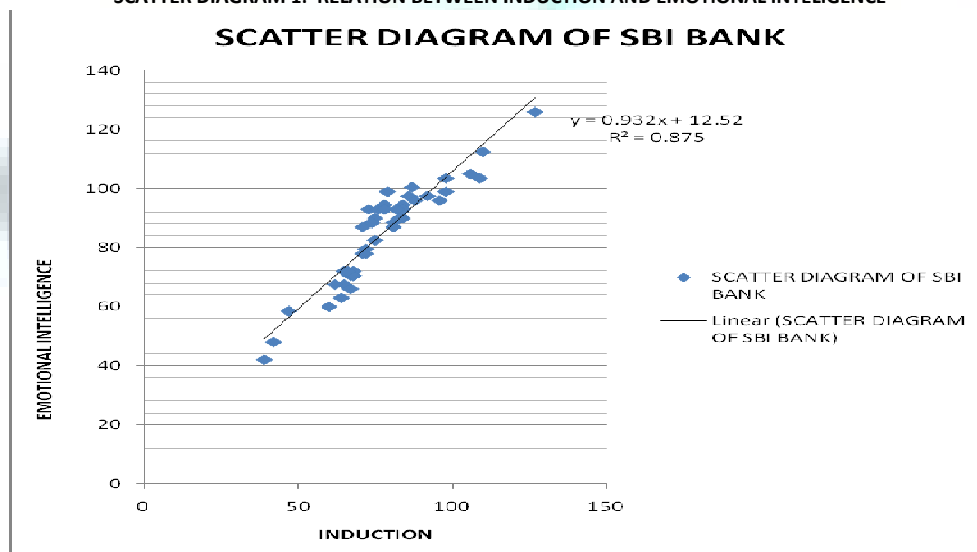
= $114.62 / 91.3936 * 48$

= 60.1985

The table value of Chi Square is 64.96 and the calculated value is 60.1985.

As the value is less than table value so the hypothesis is accepted.

SCATTER DIAGRAM 1: RELATION BETWEEN INDUCTION AND EMOTIONAL INTELLIGENCE



INFERENCE

The trend line is moving upwards, this shows there is a strong positive relationship between induction and emotional intelligence. The relationship between them is intense.

REGRESSION ANALYSIS

Regression Statistics	
Multiple R	0.935607669
R Square	0.875361711
Adjusted R Square	0.8752709832
Standard Error	5.834320512
Observations	50

$R^2 = 0.875$

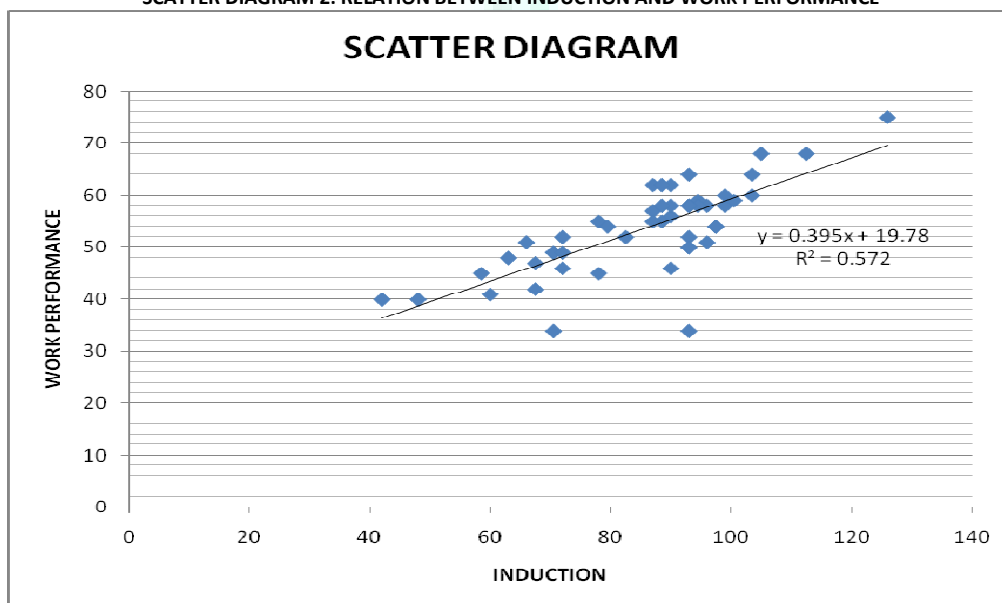
Comment: That shows there is strong positive relation between induction and emotional intelligence.

Coefficient of correlation (r) between Induction and Emotional Intelligence:

$r = 0.932$

Comment: It shows there is correlation between induction and emotional intelligence which is positive.

SCATTER DIAGRAM 2: RELATION BETWEEN INDUCTION AND WORK PERFORMANCE



INFERENCE

The trend line is moving upwards, this shows there is a strong positive relationship between induction and work performance. There moderate relationship between them.

REGRESSION ANALYSIS

Regression Statistics	
Multiple R	0.756897942
R Square	0.572894495
Adjusted R Square	0.563807144
Standard Error	5.623718304
Observations	50

$R^2 = 0.572$

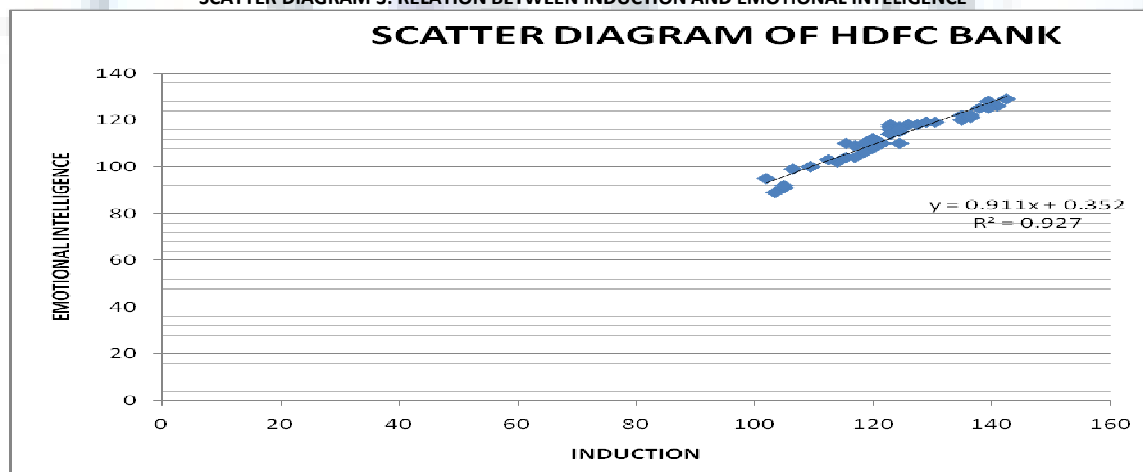
Comment: That shows there is positive relation between induction and work performance.

Coefficient of correlation (r) between Induction and work performance:

$r = 0.756$

Comment: It shows there is correlation between induction and work performance which is positive.

SCATTER DIAGRAM 3: RELATION BETWEEN INDUCTION AND EMOTIONAL INTELLIGENCE



INFERENCE

The trend line is moving upwards, this shows there is a strong positive relationship between induction and emotional intelligence. The relationship between them is intense.

REGRESSION ANALYSIS

Regression Statistics	
Multiple R	0.963174342
R Square	0.927704813
Adjusted R Square	0.926166618
Standard Error	2.606865468
Observations	50

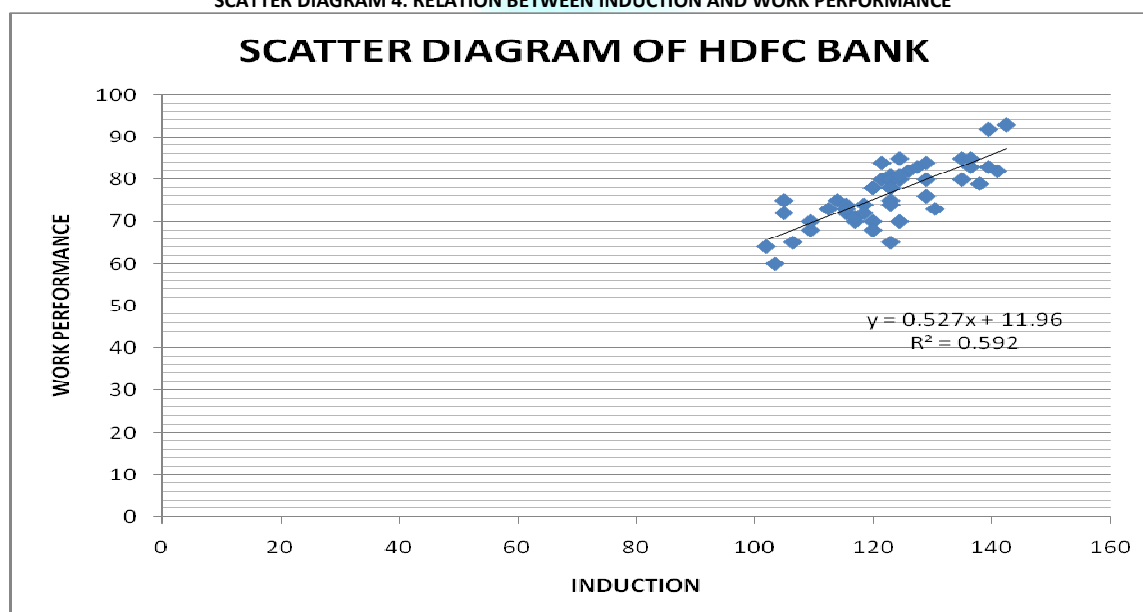
R² = 0.9277

Comment: That shows there is strong positive relation between induction and emotional intelligence.

Coefficient of correlation (r) between Induction and Emotional intelligence:

r = 0.963

Comment: It shows there is correlation between induction and emotional intelligence which is strongly positive.

SCATTER DIAGRAM 4: RELATION BETWEEN INDUCTION AND WORK PERFORMANCE**INFERENCE**

The trend line is moving upwards, this shows there is a strong positive relationship between induction and work performance. The relationship between them is moderate.

REGRESSION ANALYSIS

Regression Statistics	
Multiple R	0.769695524
R Square	0.592431199
Adjusted R Square	0.583759523
Standard Error	4.483250005
Observations	50

R² = 0.769

Comment: That shows there is strong positive relation between induction and work performance.

Coefficient of correlation (r) between Induction and Work Performance

r = 0.932

Comment: It shows there is correlation between induction and work performance which is positive.

RECOMMENDATIONS

- Induction should be carried out and it should be flexible and employee centric.
- Give people a warm and encouraging welcome.
- Draw a plan on whom to involve in the induction (like HR, HODs, etc) and from them accordingly.
- The HR team should be ready with the initial paper work like giving details about the company its history office locations, business operations, products and services, departments and their functionality, hierarchy company policies and procedures and a write up explaining the job profile, responsibilities and accountabilities of the new employee.
- The HOD/senior colleagues can provide an in-depth insight of the respective employee's job and responsibilities, how the role fits into the team and the business as a whole set performance standards and targets and identify training requirement, if needed.
- Give the new recruits sufficient time at least two-four weeks to settle down and know the job and how to be done.
- Have a follow up appraisal to sort out any queries that new recruit may have.
- Ensure that all new recruits are given a positive message and consistent information. The new recruits should be made to feel welcome and accepted.

- Before the candidate reports keep essentials like entry passes and a work station along with a working computer, phone, and other required stationary ready.
- Employ a range of communication techniques like group discussion and presentations (Power Point/overheads/slides) as part of the training process.
- Keep your newcomer motivated by ensuring that the standards you expect of them are replicated in the standards of the rest of the team.
- The seriousness and speed at which instructions and guidance are given will show the newcomer the extent to which they have to be followed.
- Find out what are the expectations of new recruit.
- Be clear what your key messages are.
- It's Ok to let them know about the anomalies, 'shocks' and contradictions in the company.
- Avoid humiliating people.

SUGGESTIONS

- Try not to overload the employees with too much information.
- Define performance expectations; clarifying the purpose of the role and the expectations of the individual in the role. It is important that objectives are set at this early stage.
- Foster good working habits; by setting out your expectations clearly, your new member of staff will have less opportunity to pick up any bad habits.
- Improve understanding of company policies, procedures and rules;
- Maintain the motivation of newcomers and a commitment to the organization's goals.
- Improve the relationship between the employee and the employer.
- Avoid over-promising on what you can actually deliver. (E.g. amount of flexibility within team or job role).
- Brief the existing team about the new recruit arrival well before time.
- Give the new starter meaningful things to do during the first week. Although a lot of time may be spent on initial introductions, talking to people and completing necessary paperwork, make sure you give them more to do than just endless reams of reading!
- Ensure all equipment is ready for the new starters first day. If they require a uniform, ensure that it's ready, if they require equipment, e.g. a computer; ensure that it's at least physically the right place.
- Make it two-way process. Let the new recruit ask questions about organization, his job profile etc. Because it's really boring sitting passively being 'done to'. People's attention spans get shorter the less they are involved in a process.

CONCLUSION

Research shows that employees undergoing induction and orientation program perform better than those employees who do not undergo induction and orientation program. The induction program enhances employee emotional intelligence and in turn positively influences organizational performance.

Induction plays a very important role in the employee's behavior. Through proper induction, the new employee feels part of the organization on the very first day and loves to be associated for longer period. Induction is a necessity for future performance of the new employee or even for existing employees who are transferred to other functional areas. This gives the candidates good grasp of functions and facilitate their future functioning efficiently.

An effective induction can thus make a lot of difference to the employer and the employees. Above all it makes newcomers feel comfortable.

"It's not the will to win, but the will to prepare to win that makes the difference."--Bear Bryant

REFERENCES

- J K Sharma, (2006), 'Business Statistics', Second Edition, Pg No 421-576
- C. R. Kothari, (2004), 'Research Methodology', Second Edition, Pg No 256-276, 152-180, 184-232
- V.S.P. Rao, (2006), 'Human Resource Management', Second Edition, Pg No 101
- Kulkarni P, Janakiram B, "Emotional Intelligence and Employee Performance as an Indicator for Promotion, a Study of Automobile Industry in the City of Belgaum, Karnataka, India" International Journal of Business and Management, Vol 4, No 4, April 2009
- Ashforth, B.E., & Humphrey, R..H. (1995). Emotion in the workplace. A reappraisal. Human Relations, 48(2), 97-125.
- Bar-On, R. (1997). The Bar-On Emotional Quotient Inventory (EQ-i): Toronto, Canada. Technical Manual Multi-Health Systems, 56-78.
- Bob. Wall. (2008). Working Relationships Using Emotional Intelligence to Enhance your Effectiveness with Other (1st ed.). USA: Davies Black Publishing.(Chapter2). Bridget Murray. (1998). The APA Monitor, 29, 7, 3-4.
- International Journal of Business and Management April, 2009
- Cavallo, K. & Brienza, D. (2002). Emotional competence and leadership excellence at Johnson and Johnson: the emotional intelligence leadership study. [Online] Available: <http://www.eiconsortium.org>
- D. Jamali, Y. Sidani & D. Abu-Zaki. (2008). Emotional Intelligence and management development implications: Insights from the Lebanese context. Journal of Management Development, (27) 3, 348 – 360.
- Dalip Singh. (2001). Emotional Intelligence at work (1st ed.). New Delhi: Response Books. (Chapter 2) David Rosette & Joseph Ciarrochi. (2005). Emotional Intelligence and its relationship to workplace performance outcomes of leadership effectiveness. Leadership and Organization Development, (26)5, 388 – 399
- F. William Brown, Scott E. Bryant & Michael D. Reilly, Does. (2006). Emotional Intelligence – as measured by the EQI – influence transformational leadership and desirable outcomes. Leadership and Organization Development, (27) 5, 330 351.
- Gardner. H. (1983). Frames of Mind: The theory of Multiple Intelligences. (10th ed.). New York: Basis Books.(Chapter3)
- Goleman, D. (1995). Emotional intelligence. (1st ed.) New York: Bantam. (Chapter 1).
- Jordan, P.J., Ashkanasy, N.M., & Hartel, C.E.J. (2002). Emotional intelligence as a moderator of emotional and behavioral reactions to job insecurity. Academy of Management Review, 27, 1 – 12.
- Lam, L.T. & Kirby, S.L. (2002). Is emotional intelligence an advantage? An exploration of the impact of emotional and general intelligence upon individual performance. The Journal of Social Psychology, 142, 133-143.
- Law, K. S, Wong, C. S, & Song, L. J. (2004). The construct and criterion validity of emotional intelligence and its potential utility for management studies. Journal of Applied Psychology, 89(3), 483-496.
- Lisa Gardner., & Con Stough. (2002). Examining the Relationship between Leadership and Emotional Intelligence in senior level managers, Leadership and Organization Development, (23) 2, 68 – 78.
- McShane & Steven. (2008). Organizational Behavior (4th ed.). New Delhi: Tata McGraw-Hill Publication. (Chapter 8).
- Neal M. Ashkanasy., Charmine E. J., Härtel., & W. J. Zerbe. (2000). Emotions in the Workplace: Research, Theory, and Practice, (1st ed.). United Kingdom: Greenwood Publishing Group.(Chapter 4)

WEBSITES:

- www.sbi.com
- www.hdfc.com

A STUDY OF FACTORS INFLUENCING PURCHASE DECISION FOR CELL PHONES

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ABSTRACT

A mobile phone (also known as a hand phone, wireless phone, cell phone, cellular phone, cellular telephone or cell telephone) is a long-range, electronic device used for mobile voice or data communication over a network of specialized base stations known as cell sites. There are several categories of mobile phones, from basic phones to feature phones such as music phones and camera phone, to smart phone. The first smart phone was the Nokia 9000 Communicator in 1996, which incorporated PDA functionality to the basic mobile phone at the time. As miniaturization and increased processing power of microchips has enabled ever more features to be added to phones, the concept of the smart phone has evolved, and what was a high-end smart phone five years ago, is a standard phone today. Several phone series have been introduced to address a given market segment, such as the RIM Black Berry focusing on enterprise/corporate customer email needs; the Sony Ericsson Walkman series of music phones and Cyber shot series of camera phone; the Nokia N-Series of multimedia phones; and the Apple i Phone which provides full-featured web access and multimedia capabilities.

KEYWORDS

Consumer Behaviour, Power of purchasing, Purchasing Decisions

INTRODUCTION

There are also specialist communication systems related to (but distinct from) mobile phones. In addition to the standard voice function of a mobile phone, telephone, current mobile phones may support many additional services, and accessories, such as SMS for text messaging, email, packet switching for access to the Internet, gaming, Bluetooth, infrared, camera with video recorder and MMS for sending and receiving photos and video, MP3 player, radio and GPS. Most current mobile phones connect to a cellular network of base stations (cell sites), which is in turn interconnected to the public switched telephone network (PSTN). Nokia is currently the world's largest manufacturer of mobile phones, with a global device market share of approximately 40% in 2008. Other major mobile phone manufacturers (in order of market share) include Samsung (14%), Motorola (14%), Sony Ericsson (9%) and LG (7%). The present study aims to achieve to identify the type of connection people use, reasons for purchasing cell phone, understanding the importance of factors & identify the major influence on purchase decision. A sample of 200 respondents from Hisar district has been used for collecting the response through well-structured questionnaire. A set of simple techniques of statistical analysis such as mean, percentage and standard deviation and ANOVA test have been used. Most of them are obtained with the help of the computerized packages spss (13.0 version) and Microsoft Excel.

REVIEW OF LITERATURE

Aoki and Dones (2004) focused on the behavioral and psychological aspects of cell phone usage among college students. They tried to find the reasons behind why a technology is adopted in particular way. They identified several attitudinal factors based on the exploratory study including, necessity in modern times, cost efficiency when compared to landline phone, safety or security, and dependency. The study also endeavored to look at the motivational and behavioral characteristics of mobile phone usage. The author tried to combine their results and the result of previous research to find the trends in usage by the youth, "why college students in the US use the cell phone, what they think of the technology, and how they use it". The motivational themes identified by the study include personal safety, financial incentive, information access, social interaction, parental contacts, time management/co ordination, dependency, image, and privacy management. The results of the focus group interviews indicated five distinct user groups in terms of their attitudes toward their cell phone usage and in terms of the levels of integrating cell phones into their lives.

Day and Deutcher (2005) examined that it appears that services providers are not upgrading their grouping customer base. This needs greater attention and implementation of well-defined customer core programmed is likely to benefit service providers.

Judith Earl (2006) observed that mobile phone have become vital part of our lives. Now mobiles are inexpensive, easy to use and equipped with almost every latest feature you desire. Now mobile phones have become craze for people of all the age groups. Mobile phones allow us to stay connected anytime anywhere, in general as well as in emergencies. The advantages of mobile phones have scored over their disadvantages. It is more comfortable for communicating over a distance. You can get your work done through mobile without physically going to place through mobile. Other than thus you can download ring tones, games wallpapers. You can also capture pictures through built in camera. Now a day there is a wide range of mobile phone sets are available depending upon your requirement.

Shailender Gupta (2006), Senior Manager, consumer Research pointed that, "Mobile service providers should not let go of their brands inherent perceived strengths' and continue to device innovative pricing schemes and innovative pricing schemes and offers. With total number of mobile subscriber in India set to double to 500million by 2010, the pie is big enough for everyone.

Shirshendu Ganguli (2006) in his study finds that Indian cellular industry of the mobile telecommunication service industry is currently witnessing a phase of tremendous growth. In spite of that, it is facing a high rate of churn (3.5% to 6% per month). The major focus of the industry has been on churn management with the customer Relationship Management (CRM) tools and techniques in order to retain the existing customer.

Rajnish (2007) Head of Sale and Marketing, MSN India, said, "social networking on mobile trends which very popular internationally. But in India it is confined among only those who have access to high-end mobile phones, which are compatible to allow high-speed Internet browsing and social networking. At present time mobile phone prices coming down, and the availability of value added services likes cameras, MMS, GPRS/EDGE facilities, there will definitely be a surge in the number of people who would then socially interest via mobile phones.

Aggarwal Vir Bala (2008) author observed that today the cell phone has become a powerful media of communication. It is on the verge of replacing traditional media like newspaper, television, Internet and radio etc. It has greatly helped the print and electronic media to provide thorough access to the news and information from different parts of the globe. The study attempts to analyze the mobile usage behavior of students of Himachal Pradesh University, Shimla. The study concludes that mobile phone has converted the whole world in to a global village. It points out that the government is a better and preferred service provider. In nutshell it can be concluded since the mobile is very convenient media to provide information to its users, it must be utilized for giving very positive information to the customers and the government should take all appropriate measures to prevent all unnecessary and irrelevant information, which can be harmful to society.

David Nagel, (2009) Author observed that cell phones and other mobile devices have existed on the fringe of educational technology. Some districts encourage them; some districts ban them and even go so far as to suspend students for bringing them to school; many don't have a policy one way or the other, as long as students keep them turned off during class. But recent developments in mobile technologies may help give cell phones a boost in the education space, although policy challenges still abound.

OBJECTIVES OF THE STUDY

The presents study attempts to achieve following objectives:

1. To identify the type of connection people use.
2. To study the reasons for purchasing cell phones.
3. To understand the importance of factors, which influence the purchase decision.
4. To identify the major influence on purchase decision.

HYPOTHESIS OF THE STUDY

In view of exploratory research carried out by collecting information from the knowledgeable persons and review existing literature, the following hypothesis has been developed:

H₁: At the time of purchase of mobile, people consider more factors.

H₂: Family is the main factor to influence the purchase decision of the mobile users.

H₃: Most of the people intend purchasing cell phone in near future.

SCOPE OF THE STUDY

The present study covered the area of Hisar district and the results are generalized on population basis.

SAMPLING PLAN

The sampling was done on the random basis. A sample of 200 respondents has been used for collecting the response through well-structured questionnaire.

DATA COLLECTION

An extensive literature review facilitated theory development and item generation. Further, to answer the research questions (objectives of the study) and to verify/test the tentative answers (hypotheses of the study), the required information is identified. Then, the questionnaire was developed, which was the main instrument used to collect the required information. It is thoroughly discussed with respondents to clarify and doubts, if any, regarding what is asked. Secondary data was also collected from different previous research studies, including several journals, compendium, and handbook of statistics, articles, books, newspapers and business magazines. Furthermore, Internet is also used for gathering worldwide information. The respondent profile is detailed as follows:

TABLE 3.1: AGE-WISE PROFILE OF RESPONDENTS

Age-group (Yrs.)	No. of Respondents	Per cent
<20	33	16.5
21-35	128	64.0
36-50	29	14.5
>50	10	5.0
Total	200	100.0

Source: Survey

Table 3.1 stated that sixty four per cent respondents belong to 21-35 age group followed by sixteen and half per cent and fourteen and half per cent from teenage as well as 36-50 groups respectively. Above 50 years respondents were only five per cent.

TABLE 3.2: GENDER-WISE PROFILE OF RESPONDENTS

Gender	No. of Respondents	Per cent
Male	176	88.0
Female	24	12.0
Total	200	100.0

Source: Survey

Table 3.2 stated the gender group of respondents. Eighty eight per cent respondents are male and twelve per cent are female.

TABLE 3.3: EDUCATION-WISE PROFILE OF RESPONDENTS

Education	No. of Respondents	Per cent
Matric	48	24.0
Senior secondary	55	27.5
Graduation	68	34.0
Post-graduation	25	12.5
Others	4	2.0
Total	200	100.0

Source: Survey

Table 3.3 stated that thirty per cent respondents are graduates followed by more than twenty five per cent and twenty four per cent from senior secondary and matric.

DATA ANALYSIS AND INTERPRETATION

After collection of data through various sources, different statistical tools and techniques have been used for the analysis of data. A set of simple techniques of statistical analysis such as mean, percentage and standard deviation has been used. Further, ANOVA test have been used. Most of them are obtained with the help of the computerized packages spss (13.0 version) and Microsoft Excel. Interpretation of data is based on rigorous exercise aiming at the achievement of the objectives of the study and findings of the existing studies.

TYPE OF CONNECTION (PRE-PAID AND POST PAID)

From the table it may be concluded that more than seventy per cent people prefer pre-paid connection whereas less than thirty per cent people prefer post-paid connection (Table 4.1, 4.2). Moreover it is found that thirty five per cent respondents are paying their bills monthly followed by dual month payment and tri month payments. Less than ten per cent people prefer the payment of their connections yearly. Among the post-paid connection users, only seven and half percent peoples prefer the payment in the continuum of Rs. 500-Rs.700. Only three per cent of respondents are there who prefer the payment of Rs. 1,000-Rs. 1,500.

TABLE 4.1: DESCRIPTIVE STATISTICS FOR PREPAID CONNECTION

Plan	Frequency	Per cent
Monthly	70	47.9
Every two months	39	26.7
Every three months	16	11.0
Any other	10	6.8
Total	146	100.0
Mean	1.9863	
S.D.	1.23169	

Source: Survey

TABLE 4.2: DESCRIPTIVE STATISTICS FOR POST-PAID CONNECTION

Cost (Rs.)	Frequency	Per cent
< 500	12	22.2
500-700	15	27.8
700-1,000	14	25.9
1,000-1,500	6	11.1
> 1,500	7	13.0
Total	54	100.0
Mean	7.6481	
S.D.	1.30539	

Source: Survey

REASON TO PURCHASE CELL PHONES

To know the most important reason for purchasing the mobile Table 5.1 has been prepared after collecting the responses from respondents in the terms of like gives the convenience of calling any time, It is easy to communicate with friends, No landline, Any other etc., results shown in the table indicate that 62 per cent respondents prefer reason for purchase is gives convenience of calling any time, followed by 20 per cent with easy to communicate with friends with mean value = 1.650, SD = 0.93828. On the application of ANOVA (Table 5.2), it is noticed that there is significant difference among the respondents educationally at 0.05 level of significance.

TABLE 5.1: DESCRIPTIVE STATISTICS FOR REASON TO PURCHASE CELL PHONES

Reasons	Frequency	Per cent
Gives convenience	124	62.0
Easily accessible	29	14.5
Communicate with friends	41	20.5
No landline	4	2.0
Any other	2	1.0
Total	200	100.0
Mean	1.6550	
S.D.	0.93828	

Source: Survey

TABLE 5.2: ANOVA VALUES FOR REASON TO PURCHASE CELL PHONES

	Sum of squares	df	Mean square	F	Sig.
Age-wise					
Between groups	2.919	3	0.973	1.107	0.347
Within groups	172.276	196	0.879		
Total	175.195	199			
Gender-wise					
Between groups	0.509	1	0.509	0.577	0.448
Within groups	174.686	198	0.882		
Total	175.195	199			
Education-wise					
Between groups	13.107	4	3.277	3.942	0.004
Within groups	162.088	195	0.831		
Total	175.195	199			

Source: Survey

IMPORTANCE OF FACTORS IN PURCHASE DECISION

Regarding rating the factors which plays important role in purchase decision it is found that the respondents opts looks as very important factor with (mean value= 1.5950, S.D= 0.73051) followed by the battery life and brand (Table 6.1). Whereas the Easy availability and weight size of the cell phone are very unimportant factors in opinion of respondents while making purchase (mean value = 2.4600, S.D. = 1.13350, mean value = 2.2600, S.D. = 0.90359).

As far as ANOVA (Table 6.2) value is concerned is not a significance difference among the opinion of respondents Gender-Wise regarding rating the factors, which are important in, purchase decision. In case of Age-wise the battery life and looks are two factors, which gave the significant difference due to age at 0.1 per cent and 0.05 per cent significance level respectively. As far as education is concerned the respondents significantly differ on the factor namely brand at 0.05 per cent significance level, which accept first hypothesis (H_1).

TABLE 6.1: DESCRIPTIVE STATISTICS FOR IMPORTANCE OF FACTORS IN PURCHASE DECISION

Factors	Mean	S.D.
Brand	1.7250	0.80162
Cost	1.9800	0.75661
Battery life	1.6600	0.99970
Weight size	2.26000	0.90359
Looks	1.5950	0.73051
Easy availability	2.4600	1.13350
Features	1.8450	1.0080

Source: Survey

TABLE 6.2: ANOVA VALUES FOR IMPORTANCE OF FACTORS IN PURCHASE DECISION

	Sum of squares	df	Mean square	F	Sig.
Age-wise					
Brand					
Between groups	1.985	3	0.662	1.030	0.380
Within groups	125.890	196	0.642		
Total	127.875	199			
Cost					
Between groups	0.612	3	0.204	0.353	0.787
Within groups	113.308	196	0.578		
Total	113.920	199			
Battery life					
Between groups	6.693	3	2.231	2.275	0.081
Within groups	192.187	196	0.981		
Total	198.880	199			
Weight size					
Between groups	2.263	3	0.754	0.923	0.431
Within groups	160.217	196	0.817		
Total	162.480	199			
Looks					
Between groups	5.262	3	1.754	3.406	0.019
Within groups	100.933	196	0.515		
Total	106.195	199			
Easy availability					
Between groups	3.803	3	1.268	0.986	0.400
Within groups	251.877	196	1.285		
Total	255.680	199			
Features					
Between groups	1.785	3	0.595	0.582	0.628
Within groups	200.410	196	1.023		
Total	202.195	199			
Gender-wise					
Brand					
Between groups	0.614	1	0.614	0.955	0.330
Within groups	127.261	198	0.643		
Total	127.875	199			

Cost					
Between groups	0.587	1	0.587	1.025	0.313
Within groups	113.333	198	0.572		
Total	113.920	199			
Battery life					
Between groups	0.221	1	0.221	0.220	0.639
Within groups	198.659	198	1.003		
Total	198.880	199			
Weight size					
Between groups	0.361	1	0.361	0.441	0.508
Within groups	162.119	198	0.819		
Total	162.480	199			
Looks					
Between groups	0.867	1	0.867	1.630	0.203
Within groups	105.328	198	0.532		
Total	106.195	199			
Easy availability					
Between groups	0.000	1	0.000	0.000	0.994
Within groups	255.680	198	1.291		
Total	255.680	199			
Features					
Between groups	1.320	1	1.320	1.301	0.255
Within groups	200.875	198	1.015		
Total	202.195	199			
Education-wise					
Brand					
Between groups	8.103	4	2.026	3.298	0.012
Within groups	119.772	195	0.614		
Total	127.875	199			
Cost					
Between groups	1.849	4	0.462	0.804	0.524
Within groups	112.071	195	0.575		
Total	113.920	199			
Battery life					
Between groups	1.540	4	0.385	0.380	0.822
Within groups	197.340	195	1.012		
Total	198.880	199			
Weight size					
Between groups	4.264	4	1.066	1.314	0.266
Within groups	158.216	195	0.811		
Total	162.480	199			
Looks					
Between groups	2.144	4	0.536	1.004	0.406
Within groups	104.051	195	0.534		
Total	106.195	199			
Easy availability					
Between groups	4.717	4	1.179	0.916	0.455
Within groups	250.963	195	1.287		
Total	255.680	199			
Features					
Between groups	2.269	4	0.567	0.553	0.697
Within groups	199.926	195	1.025		
Total	202.195	199			

Source: Survey

MAJOR INFLUENCE ON PURCHASE DECISION

Table 7.1 depicts that nearly 46 per cent respondents purchasing decision influenced by family followed by friend's factor twenty five per cent. On the other hand dealer is considered least factor which influence purchase decision among the respondents with the (mean value 2.11, S.D. =1.32160).

When ANOVA (Table 7.2) test is applied, it is observed that there is not a significant difference in the opinion of respondents in terms of all variables at 0.05 significance level that accept the second hypothesis (H_2).

TABLE 7.1: DESCRIPTIVE STATISTICS FOR MAJOR INFLUENCE ON PURCHASE DECISION

Factors	Frequency	Per cent
Family	93	46.5
Friend	50	25.0
Dealer	12	6.0
Advertisement	32	16.0
Review in media	13	6.5
Total	200	100.0
Mean	2.1100	
S.D.	1.32160	

Source: Survey

TABLE 7.2: ANOVA VALUES FOR MAJOR INFLUENCE ON PURCHASE DECISION

	Sum of squares	df	Mean square	F	Sig.
Age-wise					
Between groups	6.561	3	2.187	1.257	0.290
Within groups	341.019	196	1.740		
Total	347.580	199			
Gender-wise					
Between groups	0.088	1	0.088	0.050	0.823
Within groups	347.492	198	1.755		
Total	347.580	199			
Education-wise					
Between groups	5.477	4	1.369	0.781	0.539
Within groups	342.103	195	1.754		
Total	347.580	199			

Source: Survey

SUMMARY OF CONCLUSIONS

There are various mode of communication to communicate feelings, emotions, ideas etc. More than seventy per cent respondents are using Cell phone with (mean value=1.8850, S.D. =0.57744) followed by E-mail (twenty one per cent responses) and telephone having four per cent response to communicate their feelings, emotions, ideas etc. Whereas, respondents conveyed that the communication process is completed through letters is least.

More than ninety seven per cent respondents are of opinion that they own mobile followed by three per cent not own with mean value= 1.0300, S.D= 0.17722. The responses collected from the respondents in terms of variable like 'Yes', 'No'.

There are various currently owned cell phone brand like Nokia, Samsung, Sony Ericson, Panasonic, Motorola, LG, Reliance, Tata and Any Other. It is concluded that More than sixty six per cent respondents are using Nokia with mean value= 2.6650, S.D= 2.58965 followed by Sony Ericson (seven and half per cent responses). On the other hand, Motorola is considered least currently owned brand among the respondents.

Twenty and half per cent respondents are using the model no. of Nokia i.e. 6300 having (mean value= 10.6550, S.D.= 8.70661) followed by Nokia 1108 (nine per cent responses) and Motorola having four per cent response to communicate their feelings, emotions, ideas etc.

In terms of variables Gift, Given by office, Bundled with service, Purchase and other. It is concluded that ninety six per cent respondents acquire their cell phone by their own "Purchase" with mean value= 3.8800, S.D= 0.58935 followed by Gift (four per cent).

More than seventy per cent people prefer pre-paid connection whereas less than thirty per cent people prefer post-paid connection Moreover it is found that thirty five per cent respondents are paying their bills monthly followed by dual month payment and tri month payments. Less than ten per cent people prefer the payment of their connections yearly. Among the post-paid connection users, only seven and half per cent people prefer the payment in the continuum of Rs. 500-Rs. 700. Only three per cent of respondents are there who are preferring the payment of Rs. 1,000-Rs. 1,500.

Sixty two per cent respondents prefer reason for purchase is gives convenience of calling any time, followed by twenty per cent with easy to communicate-with friends with mean value= 1.650, SD= 0.93828.

Regarding rating the factors which plays important role in purchase decision it is found that the respondents opts looks as very important factor with (mean value= 1.5950, S.D= 0.73051) followed by the battery life and brand. Whereas the Easy availability and weight size of the cell phone are very unimportant factors in opinion of respondents while making purchase (mean value= 2.4600, S.D= 1.13350, mean value= 2.2600, S.D= 0.90359).

Nearly forty six per cent respondents purchasing decision influenced by family followed by friends factor twenty five per cent. On the other hand dealer is considered least factor which influence purchase decision among the respondents with the (mean value 2.11, S. D. = 1.32160).

Regarding currently used service provider thirty three per cent respondents says Bsnl, followed by nearly fifteen per cent (Idea) with mean value=4.8100, S.D. =2.12284. On the other hand, Hutch is considered least currently used Service provider among the respondents.

Regarding the satisfaction parameter on the part of service provider it is found that the respondents are highly satisfied with range (mean value = 1.6050, S.D= 0.80761) followed by the cost of services and sms delivery. Whereas the respondents are not so satisfied in terms of Offers and Add on (mean value= 2.4800, S.D=1.02217).

Nearly forty five per cent respondents are "Very Satisfied", whereas thirty three per cent are not so satisfied with the service provider, with mean value= 1.7950, S.D= 0.84650. On the other hand, three per cent respondents are somewhat dissatisfied with the service provider.

More than sixty per cent respondents says Nokia followed by seventeen percent (Motorola) with mean value= 1.8150, S.D= 1.21166. On the other hand, Samsung is considered least brand of intended cell phone among the respondents.

SUGGESTIONS

Price of the mobile phone must be reasonable.

Battery life of mobile phone should be improved.

Advertisement should also be in regional language.

There should be a proper system to avoid the unwanted calls and sms also.

There should be a proper billing system or recharge system.

REFERENCES

- Aoki and Downes, E.J. (2004), "An analysis of young people's use of and attitudes towards cell phones". Telematic and informatics, Vol20 (4), pg 349-364.
- Day, George S. and Dutcher, Terry "An investigation into quality service and customer satisfaction" Journal of Marketing Research, Vol. 22, No.5, pp. 233-242.
- M. Davoudi, C. Brossner and W. Kuber (2002), "The influence of electromagnetic waves on sperm motility", pp. 18-22.
- McGuigan, J. (2005). "Towards a Sociology of the Mobile Phone" Human Technology Vol 1(1) from <http://vwww.humantechnology.jyu.fi>.
- Palen, L., Salzman, M., Youngs, E. (2000), "Going wireless: behavior and practice of new mobile phone users", Proceedings of the 2000 ACM conference on Computer supported cooperative work
- Plant, Dr. Sadie (2001), "On the mobile - the effects of mobile telephones on social and individual life".
- Rheingold, Howard, Smart Mobs (2002), "The Next Social Revolution" ISBN 0738208612
- Sarita (2003), "Role of rural women in purchasing consumer products" unpublished doctoral Dissertation submitted to the K. U., Kurukshetra.
- Shailendra Gupta (2006), Indian Journal of Marketing, pp.17-19.
- Shirshendu Ganguli (2006), Journal on Telecommunication Policy, Volume 30, Issue 5-6, June July, 2006, pp.77-82.
- Tonsend, A.M. (2002), "Mobile communication in the twenty-first century city". In B. Brown, N. Green & R. Harper (Editors.) wireless World: Social and Interactional Aspects of the Mobile Age, (2002), 62-77, Springer
- Venkatesh, A. (1995), "Ethno consumerism: A New Paradigm to Study Cultural and Cross-Cultural Consumer Behavior". In J.A. Costa and G. Bamossy (eds.), "Marketing in the Multicultural World", 26-67, SAGE Publications.
- Weilenmann, A., & Larsson, C. (2001) "Local Use and Sharing of Mobile Phones" In B. BROWN, N.Green & r. Harper (Editors.) Wireless World: Social and Interactional Aspects of the mobile Age. Godalming and Hiedleburg: Springer

STATISTICAL ANALYSIS OF ASSESSING AWARENESS OF COMPUTER TECHNOLOGY AMONG ECONOMICS RESEARCH STUDENTS

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ABSTRACT

This paper aims to study the online information seeking and using computer behavior of the researchers in Tuticorin District of Tamilnadu. The study reveals the consciousness regarding the online information resources among the research students who use the Internet in Tuticorin District of Tamilnadu. The present study was carried out with the objective to understand the purposes of using the Internet by the researchers, to find out the frequency of using the Internet by the researchers, to determine how ICT has impacted research work and to find out the problems faced by the users while using ICTs. This study used questionnaire to collect the data from economics research students in Tuticorin District of Tamilnadu. The questionnaire contains various questions pertaining to the awareness of online information resources. The study is conducted with the help of both primary and secondary data. The major sources of data are primary, where a structured questionnaire is designed and administered to the select respondents. The sampling is random. Sample size is 400 respondents. The secondary data is collected mainly through published articles, books, research studies, various documents and the Internet. The data relates to the month of September 2010. Percentage analysis, averages, t tests, standard deviation, chi-square tests, Cramer's V and probability analysis were used owing to the constraints imposed by the nature of data.

KEYWORDS

Online information, use of ICT products, chi-square tests, Cramer's V and probability analysis.

INTRODUCTION

Despite evidence of increased usage of information and communication technology (ICT) in educational programming, extant evaluations on the impact of ICT on educational child outcomes are sparse and often lack the methodological rigor necessary to guide policymakers towards sound, evidence-based practices. There are many benefits for students in terms of increased flexibility in registering for courses/classes online, accessing course outlines and content online, interacting with students and instructors online through chats or online discussions, submitting assignments and writing examinations. An important dimension of ICTs in research is the use of online full text databases and online research libraries/virtual libraries which are the direct outcome of the growth in telecommunications networks and technology. These databases and libraries provide researchers with online access to the contents of hundreds of thousands of books from major publishing houses, research reports, and peer-reviewed articles in electric journals. Use of these online databases and libraries by academic staff has grown rapidly in the higher education systems of many countries. With support from UNESCO, the Hewlett Foundation and other development partners some countries have established their own national virtual libraries. Apart from making the most current publications available to researchers, they also provide opportunities for the dissemination of research, particularly through on-line electronic journals. The American Institutes for Research (AIR) has conducted a global analysis of research undertaken to date on the deployment of ICT solutions to support education goals in developing countries. This paper aims to study the online information seeking and using computer behavior of the researchers in Tuticorin District of Tamilnadu. The study reveals the consciousness regarding the online information resources among the research students who use the Internet in Tuticorin District of Tamilnadu.

OBJECTIVES OF THE STUDY

1. To understand the purposes of using the Internet by the researchers.
2. To find out the frequency of using the Internet by the researchers.
3. To determine how ICT has impacted research work.
4. To find out the problems faced by the users while using ICTs.

METHODOLOGY

This study used questionnaire to collect the data from economics research students in Tuticorin District of Tamilnadu. The questionnaire contains various questions pertaining to the awareness of online information resources. For this purpose a total of 90 questionnaires were distributed among economics researchers. The study is conducted with the help of both primary and secondary data. The major sources of data are primary, where a structured questionnaire is designed and administered to the select respondents. The sampling is random. Sample size is 400 respondents. The secondary data is collected mainly through published articles, books, research studies, various documents and the Internet. The data relates to the month of September 2010. Percentage analysis, averages, t tests, standard deviation, chi-square tests, Cramer's V and probability analysis were used owing to the constraints imposed by the nature of data.

Results and Discussion

TABLE NO: 1 RELATIONSHIP BETWEEN SEX AND USE OF ICT PRODUCTS

Use of ICT Products	Male	Female	Total
Computer	47 (50)	47 (50)	94 (23.5)
Laptop	72 (55.4)	58 (44.6)	130 (32.5)
Internet	68 (58.1)	49 (41.9)	117 (29.3)
DVD/CD/Pen Drive	33 (55.9)	26 (44.1)	59 (14.7)
Total respondents	220 (100)	180 (100)	400 (100)

Source: Primary Data

($\chi^2=1.44$, $P=0.6962$, $df=3$, Cramer's $V=0.06$), Significant at 5% probability level

The table shows that 50 per cent male and 50 per cent female researchers used computer for their research work in Tuticorin District. A majority of male (58 per cent) and female researchers (42 per cent) used Internet. The result of chi-square analysis ($\chi^2=1.44$, $P=0.6962$) revealed that there is no significant relationship between sex and use of ICT products in Tuticorin District of Tamilnadu at 5% level.

TABLE NO: 2 RELATIONSHIP BETWEEN SEX AND PURPOSE OF USING INTERNET

Purpose	Male	Female	Total
For the project	104 (47)	91 (51)	195 (49)
For the presentation	53 (24)	45 (25)	98 (25)
For the knowledge	27 (12)	22 (12)	49 (12)
For the learning	17(8)	9 (5)	26 (7)
For the leisure	19 (9)	13 (7)	32 (8)
Total respondents	220 (100)	180 (100)	400 (100)

Source: Primary Data

Figure in parentheses are percentages to the total of the respective columns.

 $(\chi^2=1.63, P=0.8034, df=4, \text{Cramer's } V=0.0638)$, Significant at 1% probability level

The table shows the purpose of using Internet is for the project results yielded 195(49%). Similarly for the presentation purpose is about 98(25%) users are using internet and followed by the knowledge purpose is about 49(12%) users are utilizing the internet facility and the difference is statistically not significant ($\chi^2=1.63, P=0.8034$).

TABLE NO: 3 RELATIONSHIP BETWEEN SEX AND PLACE OF USE OF ICTS

Place of Use	Male	Female	Total
Department	3 (1.4)	8 (4.4)	11 (2.8)
Library	22 (10.0)	21 (11.7)	43 (10.8)
Computer Centre	131 (59.5)	107 (59.4)	238 (59.5)
Home/Hostel	64 (29.1)	44 (24.4)	108 (27.0)
Total respondents	220 (100)	180 (100)	400 (100)

Source: Primary data

 $(\chi^2= 4.46, P= 0.2159, df=3, \text{Cramer's } V= 0.105)$, Significant at 1% probability level

The table indicates that 60 per cent male and 59 per cent female of researcher's access internet at computer centre. While 10 per cent male and 12 per cent female researchers use it at library. The chi-square analysis result ($\chi^2=4.46, P= 0.2159$) shows no significant relationship of male and female respondents and place of use of ICTs.

TABLE NO: 4 RELATIONSHIP BETWEEN SEX AND FREQUENCY OF USING INTERNET

Duration per week	Male	Female	Total
Less than 5 hours	120 (54)	105 (58)	225 (56)
5 to 10 hours	61 (28)	14 (8)	75 (19)
Greater than 10 hours	39 (18)	61 (34)	100 (25)
Total respondents	220 (100)	180 (100)	400 (100)

Source: Primary data

 $(\chi^2=31.61, P=<.0001, df=2, \text{Cramer's } V=0.2811)$, Significant at 1% probability level

From the table, it is clear that most of respondents that are 225(56%) are using internet for less than 5 hours. It is followed by 100(25%) are using the internet for more than 10 hours and only 75(19%) of the researcher are making use of internet for 5 - 10 hours. The result of chi-square- test ($\chi^2=31.61, P=<.0001$), revealed that there is significant difference between male and female respondents and frequency of using internet in Tuticorin area.

TABLE NO: 5 RELATIONSHIP BETWEEN SEX AND PROBLEMS FACED WHILE USING ICTS

Problems	Male	Female	Total
Lack of awareness	13 (5.9)	28 (15.6)	41 (10.3)
Lack of software	4 (1.8)	15 (8.3)	19 (4.8)
Lack of time	22 (10.0)	17 (9.4)	39 (9.8)
Limited number of computers	81 (36.8)	26 (14.4)	107 (26.8)
Lack of training	32 (14.5)	63 (35.0)	95 (23.8)
Lack of technical knowledge	68(30.9)	31 (17.2)	99 (24.8)
Total	220 (100)	180 (100)	400 (100)

Source: Primary Data

 $t=0.4595, d.f=10, P=0.6557$, Standard error of difference = 14.509

Mean: 36.67 30.00: SD 31.02 17.34: SEM 12.66 7.08

The study revealed that major hindrances faced by the male researchers are limited number of computers (37 per cent), lack of technical knowledge (31 per cent) and lack of training (15 per cent). Female researchers indicated that they also faced same problems in terms of lack of training (35 per cent), lack of technical knowledge (17 per cent) and limited number of computers (14 per cent), showed no significant difference ($t=0.4595, d.f=10, P=0.6557$, Standard error of difference = 14.509).

TABLE NO 6: RELATIONSHIP BETWEEN SEX AND IMPACT OF ICTS ON RESEARCH WORK

Impact	Male	Female	Total
Access to current information	189 (86)	103 (57)	292 (73)
Quick access of information	92 (42)	85 (47)	177 (44)
Expedite research process	29 (13)	27(15)	56 (14)
Access to wider range of information	69 (31)	59 (33)	128 (32)
Total	220 (100)	180(100)	400 (100)

Source: Primary Data

Figure in parentheses are percentages to the total of the respective columns.

($\chi^2=9.83$, $P=0.0201$, $df=3$, Cramer's $V=0.1227$), Significant at 1% probability level

Majority of male as well as female researchers were of the view that ICTs have enhanced the access to current information (73 per cent), quick access of information (44 per cent), access to wider range of information (32 per cent) and expedite research process (14). The researchers feel that the emergence of ICT has a great impact on every work of research and has improved the quality of research. The result of chi-square- test ($\chi^2=9.83$, $P=0.0201$) revealed that there is no significant difference between sex and impact of ICTs on research work.

CONCLUSION

The study investigated the use of ICT by the research scholars at the faculty of economics researchers in Tuticorin District of Tamilnadu. Study found that respondents used a variety of ICT products and services for their research work as it is helpful in finding information quickly and also helps the researchers to access, manage, integrate, evaluate, create, and communicate information more easily. The study reveals that 55 per cent male and 45 per cent female researchers use computer for their research work. The study identified that researchers are not getting proper training/guidance and assistance from the staff, which is very necessary for the effective use of ICT products and services. Educational institutions should arrange and organize training programmes related to ICT.

REFERENCES

1. <http://www.apdip.net/elibrary#rhdr>.
2. <http://www.eprocurement.gov.in/home/>.
3. <http://www.fao.org/GENDER/en/agri-e.htm>
4. <http://www.fao.org/Wairdocs/TAC/X5784E/x5784e08.htm>
5. <http://www.iteaconnect.org/Conference/PATT/PATT14/Wicklein.pdf>
6. <http://www.oecd.org/dataoecd/2/46/35284979.pdf>.
7. <http://www.unmillenniumproject.org/reports/fullreport.htm>.
8. Kreimer, P. and Meyer, J. P. 2008. "Equality in the Networks? Some are More Equal than Others". In: Teichler, U. and Vessuri, H. (eds.), Universities as Centres of Research and Knowledge Creation: An Endangered Species? Rotterdam: Sense Publishers, pp. 121-134.
9. Leisytė, L. 2008. "The Effects of New Public Management on Research Practices in English and Dutch Universities". In: Teichler, U. and Vessuri, H. (eds.), Universities as Centres of Research and Knowledge Creation: An Endangered Species? Rotterdam: Sense Publishers, pp. 189-200.
10. Nouroudine, A. 2008. "Research in the Comoros: The Stakes, in Theory and in Practice". In: Teichler, U. and Vessuri, H. (eds.), Universities as Centres of Research and Knowledge Creation: An Endangered Species? Rotterdam: Sense Publishers, pp. 135-146.
11. Ranjan, Amitav (2008) "Working in Govt labs, scientists can now set up their own firms, get equity" Indian Express, May 20, 2008 <http://www.indianexpress.com/story/311934.html>
12. Rossi, P. L. 2009. Bibliometric study of Mediterranean Countries (for the ESTIME Project,
13. Rotterdam: Sense Publishers, pp. 33-40. Bleiklie, I. and Kogan, M. 2007. "Organisation and Governance of Universities". Higher Education Policy (20) 4, pp. 477-493.
14. Salmi, Jamil (2009) The Challenge of Establishing World Class Universities The World Bank, Washington DC February
15. Salmi, Jamil (2009) The Challenge of Establishing World Class Universities The World Bank, Washington DC February
16. Waast, R. and Rossi, P. L. (2009) Bibliometric Study of Mediterranean Countries, <http://www.estimate.ird.fr>
17. www.kiva.org, 2009.
18. www.un-gaid.org, 2009

CONSUMER PERCEPTION TOWARDS mCRM INITIATIVES OF INDIAN RETAILERS**SWATI SINGH****ASST. PROFESSOR****I.T.S- MANAGEMENT & I.T INSTITUTE****GHAZIABAD****SANJEEV KR. SINGH****M.TECH. SCHOLAR****IIIT****HYDERABAD – 500 032****ABSTRACT**

Customer Relationship Management (CRM) is the latest buzzword. CRM is a tool in the hands of Retailers to compete in fierce competitive business environment where acquiring and retaining customers is becoming a tough nut to crack. Retailers are weaving CRM initiatives to win the race. Mobile as a medium to tailor CRM initiatives is becoming more and more popular. However the Mobile Customer Relationship Management as an area of research has not been explored much. The purpose of this study is to fill this gap by studying the integration of mobile medium in CRM. This study attempts to discuss various Mobile Customer Relationship Management (mCRM) initiatives by the retailers in India. Further this research studies customer perception towards the mCRM initiatives. The study establishes the difference in perception of consumer of different age and gender towards mCRM initiatives.

KEYWORDS

Customer relationship, mCRM initiatives, Retailing.

INTRODUCTION

Customer Relationship Management and Mobile Marketing are two avenues of business that have received considerable attention in the recent years. The advancements in the technology have created a large scope for CRM applications in order to leverage business practices. Paravatiyar and Sheth (2001) defined CRM as a “comprehensive strategy and process of acquiring, retaining and partnering with selective customers to create superior value for the company and the customer”. CRM has developed as an approach based on maintaining positive relationships with selective customers. Mukerjee and Singh (2009) states that CRM is regarded as an important tool for delivering revenue growth through improved customer experience, customer retention and customer repurchase. (Gartner, 2004) states that CRM is a business strategy designed to optimize profitability, revenue and customer satisfaction by organizing the enterprise around customer segments, fostering customer-centric behaviors and implementing customer centric processes. CRM is used as a tool to make long term relationship with the customers for surviving in the fiercely competitive market scenario. The core theme of all CRM is its focus on a cooperative and collaborative relationship between the firm and its customers (Nath, V et al. 2009). The mobile business industry has emerged as a growing industry; innovative technologies have created the large scope for new and effective services. As a result the mobile and personal nature of wireless devices provides a set of unique attributes such as ubiquity, reachability, localization, personalization dissemination and convenience which are considered to be a distinctive advantages upon which mobile services can build their value proposition (Folinas et al. 2002, Veerse 2000, Siau et al. 2003). Mobile Marketing and Mobile Customer Relationship Management have received great attention from the marketers. Mobile as a unique channel provides an opportunity to leverage upon facilities like 24 hours assistance, Personalized services and complements various channels to deliver superior value to the customers (Jarvenpaa, 2000). Mobile as a medium can add value to the traditional CRM practices due its large reach and personal character. Mobile Customer Relationship Management despite of being an effective tool has not been explored much through researches. The studies are available on CRM and Mobile Marketing but scarce literature is found related to Mobile Customer Relationship Management. The primary purpose of this paper is therefore to fill this gap by assessing the actual development of the mobile CRM services by the Retailers in India. The Indian retail Industry was chosen for the research purpose because Indian retail sector is growing with large pace. According to AT KEARNEY Global Retail Development Index 2010 India is amongst the top three emerging retail market and a favorite destination for expansion of various Global Players. Indian Retailing is on boom, sector is growing and so the competition as well. The present competitive scenario has made the CRM an important tool for strategic success and winning the customers. And therefore most of the retailers are investing huge amount in order to tailor CRM efforts to win customers in this competitive business world. Mobile Customer Relationship practices are also being used by the Indian retailers in order to win customer loyalty and deliver customer value. In 2005 Airtel, ICICI Bank and VISA announced the launch of mChq – a revolutionary new service – which is a credit card using the mobile phone. This was the first mobile-to-mobile payment option which enables Airtel customers and ICICI Bank Visa cardholders to pay for their purchases with their Airtel Mobile phones. Indian banks also provide various mobile banking benefits just by sending sms like Locating ATM, Locating branch, Locating drop box, Alert facilities like salary credit, account debit/credit, cheque bounce, etc., and Queries on banking, cards and Demat account. During the course of study various mCRM initiatives used by the retailers were identified. Customer perception towards the mCRM initiatives was studied.

THEORETICAL FRAMEWORK

Customer Relationship Management (CRM) has been extensively studied in the research related to Relationship Marketing. There are many definitions of CRM. Payne (2006), states that CRM is a business approach that attempts to improve a company's customer value and profitability by developing and maintaining long term relationships with customers that are carefully targeted in order to increase shareholder value. Peppers & Rogers (1999), put forwards that CRM is the process of integrating the customer – centric idea in the entire company's organization and activities. Swift (2001) suggests that CRM includes all those initiatives that a company takes in order to understand and influence customer behaviour through meaningful communication. Kotler and Armstrong define CRM as “the overall process of building and maintaining profitable customer relationships by delivering superior customer value and satisfaction” (2004, p. 16). Yim (2002) attempts to provide more conceptual clarity of CRM by synthesizing the relevant marketing, management, and IT literature to identify four key areas necessary for successful CRM implementation: (1) *strategy*, (2) *people*, (3) *processes*, and (4) *technology*. Customer relationship management (CRM) starts with in depth knowledge of customer, their habits, desires and their needs. Ganeshan (1994) states that CRM initiatives focus on collaborative and cooperative relationship oriented towards long term relationships. CRM is one of the most effective systems being used in order to attract and retain customers. The main objective of CRM initiative is to create and maintain personalized relationships with each customer which strengthens the mutual benefit of both parties through individualized, interactive and value-added contacts (Shani et.al 1992). Retailers are realizing more and more that it pays off to invest in customer relationships (DeWulf et al., 2001; Sirohi et al., 1998; Srivastava et al., 2000). According to Eichorn (2004), CRM as a holistic approach integrates internal leadership, culture, organizational structure, business processes and information systems with external customer touch points. Björnberg (2000) states that CRM is about knowing a customer very well, so that his or her needs and desires can be fulfilled in a manner that they remain loyal.

New possibilities are created by mobile medium which have enabled companies and industries to exploit this medium to promote CRM activities (Sinisalo et. al., 2006). Sinisalo et al. (2006) explains that, companies use mobile medium to tailor CRM activities for customer in view of saving time, cost and inconvenience. mCRM in the crux has been defined in the literature as “utilizing mobile medium for the purpose of managing customer relationships and activate customers to start dialogue with company via mobile medium. Deans (2004), the convergence of mobile internet and wireless communication technology has promised users the concept “anytime anywhere”, which implies access to information for work and personal communication. Sinisalo et. al. (2006) considers mobile medium powerful medium to reach customers, by offering different ways for companies to plan and implement more advanced ways to communicate with their customers. One efficient tool is SMS, which is an immediate, reliable, automated, personal, discreet and customized channel, which allows an effective way to reach customer directly. Other benefits which mCRM allows include high speed message delivery, relatively low cost and high retention rates. In this sense, mCRM becomes suitable for industries like retailing, involving plenty of communications with their customers. Interactivity is however the most essential characteristics where mobile medium score over the traditional media. This is the two-way communication in real-time between companies and their customers. In that sense, Sinisalo et. al. (2006) believes that the mobile medium may not have a comparative alternative when it comes to building a continuing dialogue between the company and the customer. Belachew et al (2007) opine that mCRM with its unique features make the traditional CRM more effective. According to Reinartz et al. (2004) the CRM process outlines three key stages, namely the initiation, maintenance, and termination phase. As mentioned earlier, technology plays a key role in CRM (Zablah et al. 2004). The role of technology is emphasized in the initiation stage, because this kind of information system development often includes major uncertainties (Laudon and Laudon, 1998). At the initiation stage of mCRM, there are two critical aspects to take into consideration: (1) technology and (2) marketing. Barnes and Scornavacca (2004), discuss that marketing through the mobile phones will be as common as newspaper or TV advertising in the future. So the companies seem be ready for sophisticated mobile marketing campaigns such as mobile customer relationship management. The main reasons underlying the high expectations laid to mobile channel refer to its high reach, low cost and high retention rates (e.g. Clickatell, 2002). In addition, the mobile channel provides a direct call-to-action that would be almost impossible via other channels (Barnes and Scornavacca, 2004; Clickatell, 2004).

The importance of perception has already been established in marketing literature. The process, by which individuals organize and interpret their sensory impressions in order to give meaning to their environment, is referred to as perception (Robbins, 2005). Perception is a “way of coming to know” an object or something (e.g., property or fact) about the object (Dretske, 1990). The relationship between perception and the various dimensions such as pricing (Lichtenstein et al 1993) and promotional activities (Krishna et al 1991) service quality (Bitner, 1990), customer satisfaction (Zeithaml, 1988) has been studied by the researchers. There are several researches which have established that there is difference in the perception people of different age (Goetz, 2009), Hoffman & Fiedler (2002) and (Barrett and Behne, 2005). Kapoor A and Kulshrestha C, 2008 in their study related to buying behavior of urban women state that there lies a difference in perception of people of different gender. Ruback & Pandey (2006) in his study also points out that perception of different sex differs. Srivastava V and Singh S. (2008) discussed that perception of male and female differs towards various marketing activities. However researches related to customer perception in CRM is very scarce. Richa Vyas (2008) also states that there is very little literature available on customer perception on customer relationship and cross selling. This has already been established in past researches that study of customer perception plays a very important role in success of any marketing activity Kotler (1980), Keller (2009), Schiffman and Kanuk (1997), Subramony M et al (2004). mCRM initiatives are tailored and implemented to win customers and score over the competitors. Consumer perception plays a great role in success of the marketing efforts and the same is true for mCRM initiatives. Past researches do not talk much about customer's perception towards the mCRM initiatives of the retailers. Role of customer perception towards mCRM initiatives may be crucial in success of mCRM initiatives of the retailers. Since not much work is done in the context of mCRM initiatives in retailing in India, this study is an attempt to fill this gap. The research was carried out with the backdrop of this theoretical framework.

HYPOTHESIS

The main purpose of the research was to study the difference in perception of consumers of different age and gender towards the mCRM initiatives of the retailers in India. As per the requirement of the study two hypotheses were formulated.

Hypothesis 1 - *There is no difference in the perception of male and female towards the mCRM initiatives of retailers.*

Hypothesis 2 - *There is no difference in the perception of consumers of different age towards the mCRM initiatives of retailers.*

METHOD

In order to study mCRM initiatives of the retailers, the data was collected from newspapers, magazines and articles. The websites of various retailers were studied in detail to find out their efforts related to mCRM initiatives. For the accomplishment of the purpose officials and managers of the selected companies were interviewed for in depth knowledge about the mCRM initiatives. The interview aimed at finding out the aim and objective of various mCRM initiatives. On the basis of in-depth Interview and available secondary data, a list of CRM initiatives was prepared.

The consumers of Delhi and NCR formed the population of this study. The method of convenience sampling was used for sample selection. This sampling method was used due to easily accessibility, availability of the respondents, and it involves less time and cost to gather required data. Bickle, R., & Papaginnis, G. (2001) contend that “the advantage of non-probability samples is that they are less complicated and more economical than probability samples.” Furthermore, convenience sampling involves collecting information of members of the population that are near and readily available for research purposes. For data collection, responses of 678 respondents were collected on a structured questionnaire; out of which only 493 were found fit for the further study. 252 respondents out of 493 were male and 241 were female. The main purpose of the research was to study the perception of respondents of different age and gender. The data was collected from the respondents of different age group viz- 15-25 years, 25-35 Years, 35 years and above. 157 respondents fell in the age group of 15- 25 years, 169 respondents were of age group 25- 35 years of age and 167 respondents were of age group 35 and above. A structured questionnaire was framed to study the consumer perception towards the various mCRM initiatives. The questionnaire consisted of 19 statements related to mCRM initiatives and two statements related to demographic profile of the respondents. Data collected with the help of questionnaire was subjected to statistical analysis such as descriptive statistical analysis and frequency distribution. Data was also tested for reliability with the help of Cronbach alpha reliability test. In order to study the difference between perceptions of consumers of different gender Student's t- test was applied which helped in the testing of first hypothesis. In order to test the second hypothesis and study perception of consumers of different age group ANOVA was used. All analysis was carried out by SPSS 16.0.

DATA ANALYSIS & RESULTS

This research was carried out in order to find out major mCRM initiatives of the retailers in India. On the basis of past literature and in-depth interview of the officials of the selected retailers which are tailoring mCRM initiatives a comprehensive list of mCRM initiatives was prepared.

TABLE 1: LIST OF mCRM INITIATIVES

Sl. No	mCRM Initiatives
1	Wishing By Name On Mobile Phone Calls
2	Phone Calls For Schemes
3	Phone Calls For Additional Discounts
4	Phone Calls For B'day/ Anniversary Wishes
5	Wishing By Name In Sms
6	SMS For Schemes
7	SMS For Discounts
8	Personalized Discount Coupons through SMS
9	SMS On B'day / Anniversary
10	SMS As A Reminder
11	SMS for Loyalty Points
12	Feedback Through SMS
13	Payment Through Mobile Phones
14	Handling Queries On Mobile Phones
15	Solving Problems On Mobile Phones
16	Taking Orders Through Mobile Phones
17	Calls for Loyalty Benefits
18	24*7 Customer Care
19	Feedback through Mobile Phone Calls

The reliability of the data was checked with the help of Cronbach's alpha test, the value of alpha for the data was 0.731 which is greater than 0.6 showing the data is reliable. Descriptive statistics was carried out on the data which helped in analyzing the profile of the respondents in detail on the basis of gender and age. The descriptive analysis also helped in checking the missing values.

TABLE 2: GENDER OF THE RESPONDENTS

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid MALE	252	51.1	51.1	51.1
FEMALE	241	48.9	48.9	100.0
Total	493	100.0	100.0	

TABLE 3: AGE GROUP OF THE RESPONDENT

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 15- 25	157	31.8	31.8	31.8
25-35	169	34.3	34.3	66.1
35 & Above	167	33.9	33.9	100.0
Total	493	100.0	100.0	

In order to accomplish the objective of studying difference in the perception of consumer of different gender towards mCRM initiative the data was collected from both males and females. Difference in the responses of males and females was analyzed with the help of Independent Sample t- test. The results obtained from Independent sample t-test analysis revealed that males and females differ in their perception regarding six mCRM initiatives, for most of them there was no significant difference in the perception of males and females. The mCRM initiatives for which there was significance difference in the perception of males and females are as follows:

TABLE 4: INDEPENDENT SAMPLE T- TEST

mCRM Initiatives	Sig	t
Phone Calls For B'day/ Anniversary Wishes	.000	2.986
Sms For Discounts	.000	4.765
Personalized Discount Coupons Through SMS	.003	-5.53
Handling Queries On Mobile Phones	.000	-.873
Solving Problems On Mobile Phones	.000	.734
Feedback through Mobile Phone Calls	.026	4.99

This research was carried out with the purpose of studying perception of consumers of different age group towards mCRM initiatives. In order to study the difference in the perception of consumers of different age group one way ANOVA test was carried out. The analysis of result revealed that consumer perception of different age group differs towards the mCRM initiatives of the retailers. There was a significant difference in the perception of male and female towards all mCRM initiatives except Feedback through mobile phones. The ANOVA result listed below in the table show that for Feedback through Mobile Phone Calls the significance value is 0.558 showing that there is no significant difference in the perception of male and female towards this mCRM initiative.

TABLE 5: ONE WAY ANOVA

CRM Initiative		Sum of Squares	Mean Square	F	Sig.
Feedback through Mobile Phone Calls	Between Groups	.891	.446	.584	.558
	Within Groups	373.424	.764		
	Total	374.315			

The study included two hypotheses which were tested with the help of the results of Students t- test and ANOVA. The results of Independent sample t-test revealed that perception of consumers of different gender vary towards the mCRM initiatives viz Phone Calls For B'day/ Anniversary Wishes, Sms For Discounts,

Personalized Discount Coupons Through SMS, Handling Queries On Mobile Phones, Solving Problems On Mobile Phones and Feedback through Mobile Phone Calls. The result of ANOVA reveals that people of different age differ in their perception towards mCRM initiatives of Retailers in India. Feedback through Mobile Phone Calls was the only mCRM initiative for which there was no significant difference in perception of consumers of different age. The results of Independent sample t-Test and One way ANOVA helped in hypotheses testing and on the basis of the results, both the hypotheses were rejected.

TABLE 6: HYPOTHESES TESTING RESULTS

Hypotheses	Test	Statement	Remarks
H1	t-Test	There is no difference in the perception of male and female towards the mCRM initiatives of retailers.	Rejected
H2	ANOVA	There is no difference in the perception of consumers of different age towards the mCRM initiatives of retailers.	Rejected

The null hypotheses formulated for this research were rejected on the basis of the results of Independent sample t-Test and ANOVA. Since the null hypotheses were rejected, the results establish that there is a significant difference in the perception of consumers of different age and gender towards mCRM initiatives.

IMPLICATIONS

The retailers are facing tough and competitive environment with changing customer preferences. Most of the retailers are using cost effective, personalized mCRM initiatives to attract and retain customers. The perception of consumers towards any marketing efforts determines the success of the effort to a large extent. This research analyzed the perception of consumers of different age and gender towards mCRM initiatives of the retailers. The results of the study suggest that people of different age and gender have different perception towards mCRM initiatives. The results possess major implications for the retailers tailoring mCRM initiatives. The perception of consumers of different demographic profile should be taken into consideration before designing and tailoring the mCRM initiatives because consumers of different demographic profile differ in their perception and preferences. This research also has academic implications because; by this study an attempt has been made to fill the gap in the existing literature related to Mobile marketing and CRM.

CONCLUSION

The research was carried to study the difference in perception of consumers of different age and gender towards mCRM initiatives of the retailers. The results established that there is significant difference in the perception of consumers of different age and gender regarding mCRM initiatives. The research findings carry managerial as well as academic implications. However, the study has some limitations as well. Firstly, it studied the consumer's perception only at one point of time in a small region of Delhi NCR. Therefore, the results might be affected by situational and regional factors. And secondly, the findings of the research cannot be generalized because research was carried out on a sample of 500 respondents in a particular geographic area.

The study also opens some important avenues for future research. The research can be extended to the study of perception consumers related to other demographic variables like different income group and occupation. The research can also be extended for a comparative study of rural and urban consumer perception towards mCRM initiatives.

REFERENCES

1. AT KEARNEY (2010) 'Global Retail Development Index- 2010' viewed 21 June 2010 <http://www.atkearney.com/index.php/Publications/the-2009-global-retail-development-index.html>.
2. Barnes, Stuart J. and Eusebio Scornavacca. 2004. Mobile marketing: the role of permission and acceptance. *International Journal of Mobile Communication*, 2 (2), 128-139.
3. Bharti, ICICI Bank, Visa launch 'mobile wallet' (2004) "The Hindu Business Line, Sep 20, 2005, pp 5
4. Bitner, M.J. (1990) 'Evaluating the service encounters: The effects of physical surrounding and employee reactions', *Journal of Marketing*, 54:2, 69-82.
5. Björnberg, D., (2000). CRM är både teknik och attityder mot kunder, Datateknik,
6. Clickatell. 2002. SMS Marketing Guide. *Research Report*, <http://www.clickatell.com>.
7. Clickatell. 2004. Business Mobility Guide. *Research Report*, <http://www.clickatell.com>.
8. D. Folinas, M. Vlachopoulou, V. Manthou, and D. Zogopoulos, "The value system of m-business", presented at the 1st International Conference on Mobile Business., Athens, 2002.
9. D. Shani and S. Chalasani, "Exploiting Niches using Relationship Marketing", *Journal of Consumer Marketing*, vol. 9, no. 3, 1992, pp. 33-42.
10. Deans, P. C. (2004) *E-commerce and M-commerce technologies*. United Kingdom: IRM Press.
11. DeWulf, K., Odekerken-Schroder, G., Iacobucci, D., (2001) "Investments in consumer relationships: a cross-country and cross-industry exploration." *Journal of Marketing Vol 65 (4)*, pp 33-50.
12. Dretske, F. (1990). Seeing, believing, and knowing. In D. Osherson, S.M. Kosslyn, & J. Hollerback (Eds.), *Visual Cognition and Action: An Invitation to Cognitive Science* (pp. 129-148). Cambridge, Massachusetts: MIT Press.
13. Eichorn, F.L., (2004). Internal Customer Relationship Management: A Framework for Achieving Customer Relationship Management from the Inside Out. *Problems and Perspectives in Management*. 1., 154-176.
14. F. Müller-Veerse, (2000.) "Mobile Commerce Report", Durlacher
15. Ganesan, Shankar (1994), "Determinants of Long-term Orientation in Buyer-Seller Relationships," *Journal of Marketing*, 58 (2), 1-20.
16. K. Siau, E.-P. Lim, and Z. Shen, (2003) "Mobile Commerce: Current States and Future Trends", in *Advances in Mobile Commerce Technologies*, E.-P. Lim and K. Siau, Eds. Hershey PA: Idea Group Pub., , pp. 1-18.
17. Krishna, A, Currim I S, and Shoemaker R W, (1991), 'Consumer Perceptions of Promotional Activity', *Journal of Marketing*, Vol 55, No 2, pp 4-16.
18. Laudon, Kenneth C. and Jane P. Laudon. 1998. *Management information systems: new approaches organization & technology* (5th ed.). Upper Saddle River, NJ, Prentice Hall.
19. Nath V, Gughani R, Goswami S, Gupta N (2009) "An Insight into Customer Relationship Management Practices in Selected Indian Service Industries" *Journal of Marketing & Communication*, Vol. 4 (3) pp18-40
20. Parvatiyar, A and Shet, J. (2001) Customer Relationship Management: Emerging Practice, Process & Discipline' *Journal Of Economic & Social Research*, Vol 3, pp 1-34
21. Payne, A. (2006). *Handbook of CRM: Achieving excellence in customer management*. Great Britain: Butterworth-Heinemann.
22. Peppers, D., & Rogers, M. (1999). *Enterprise one to one, handbook I relationsmarknadsföring*. Malmö: Richters.
23. Reinartz, W. J., Krafft, M., Hoyer, W. D., 2004. The customer relationship management process: Its measurement and impact on performance. *Journal of Marketing Research*, 41 (3), 293-305.
24. Reinartz, Werner; Manfred Krafft and Wayne D. Hoyer D. 2004. The customer relationship management process: its measurement and impact on performance. *Journal of Marketing Research*, 41 (3), 293-326.
25. S. Jarvenpaa, (2000) "Internet Goes Mobile: How Will Wireless Computing Affect Your Firm's Internet Strategy?", *Center for Business, Technology and Law*. University of Texas, , pp. 21.
26. Sirohi, N., McLaughlin, E.W., Wittink, D.R., (1998) 'A model of consumer perceptions and store loyalty intentions for a supermarket retailer.' *Journal of Retailing Vol 74 (2)*, pp 223-245.

27. Srivastava V and Singh .S. (2008) "A comparative Study of Mall Shopping Behavior of Men and Women In Age group of 18 - 26 years: With Special Reference To NCR" Proceeding OF National Seminar on Marketing Innovations For Reaching Consumers organized by ITS Mohan Nagar, Ghaziabad
28. Srivastava. R , K., Tasadduq A. Shervani, and Fahey L (1999), "Marketing, Business Processes, and Shareholder Value: An Organizationally Embedded View of Marketing Activities and the Discipline of Marketing," *Journal of Marketing*, 63, 4 (Special Issue), 168–179.
29. Subramony M, Beehr T and Johnson C.M, (2004) "Employee And Customer Perceptions Of Service Quality In An Indian Firm" *Applied Psychology: An International Review*, Vol 53 (2), 311–327
30. Swift, R. S. (2001). Accelerating Customer relationships using CRM and Relationship Technologies, Prentice Hall PTR, Upper Saddle River.
31. Ten Secrets of Successful CRM Practitioners (2004) ,Gartner Research, SPA-22-2495,
32. Vyas .R. (2008) "A Study of Customers' Perception of Cross Selling: Using A Grounded Theory Approach" *IIMB Management Review*, June
33. Yim, Frederick H.K. (2002), "CRM Orientation: Conceptualization and Scale Development," Master's thesis, Chinese University of Hong Kong, Shatin.
34. Zablah, A.R., Bellenger, D.N. and Johnston, W.J. (2004). An evaluation of divergent perspectives on customer relationship management: Towards a common understanding of an emerging phenomenon. *Industrial Marketing Management*, 33: 475-489.
35. Zablah, Alex R.; Danny N. Bellenger and Wesley J. Johnston. 2004. An evaluation of divergent perspectives on customer relationship management: towards a common understanding of an emerging phenomenon. *Industrial Marketing Management*, 33 (6), 475-489.
36. Zeithaml, V.A. (1988) 'Consumer perceptions of price, quality and value: a means-end model and synthesis of evidence', *Journal of Marketing*, 52:3, 2-20

A COMPARATIVE STUDY OF CUSTOMER PERCEPTION AND EXPECTATION: PUBLIC SECTOR BANKS AND PRIVATE BANKS

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ABSTRACT

This paper examines the customers' expectations and their perceptions related to various services offered by banking industry. Customer satisfaction being the top priority across all industries, we find the determinants of service quality and performance in Banks. Being service industry there may be a big difference between expected and perceived service quality. Expectation of the customers with regards the service can vary based on a range of factors such as prior experience, personal needs and what other people may have told them. The quality of service is determined on five dimensions which are: Reliability, Responsiveness, Assurance, Empathy and Tangibles (Appearance of physical facilities, equipment etc.). SERVQUAL method is used to find the gap between expected and perceived service quality. Customers of Public Sector Banks and Private Banks are the target population for the research, while sampling frame includes customers of Public Sector and Private Banks in Kanpur. Some non-users of banking services are also included to understand their expectations of Banks' service quality and what can pull them to be users. To minimize the sampling error and bias all the demographic segments have been included in sample size. The findings and results of the paper may be useful for PSU and Private Banks to improve their service quality, while emerging managers may also get the idea of the same for their future prospects in industry.

KEYWORDS

Customer, Bank, Services, Satisfaction, Quality.

INTRODUCTION

It is important to meet customers' expectations for all the sectors across various industries. Quality of the product/ service plays vital role in this process. Meeting customers' expectations results satisfied customers, while a quality beyond customers' expectations leads to delighted customers. Measurement of customers' expectations and their perception of quality is more difficult in service industry. Unlike product where there are specific specifications such as length, depth, width, weight, colour etc. a service can have numerous intangible or qualitative specifications. Different people may have different expectations based on their prior experience, personal needs and what other people may have told them. As perceptions are always considered relative to expectations and expectations are dynamic, perceptions may also shift over time –from person to person and from culture to culture. What is considered quality service or the things that satisfy customers today, may be different tomorrow. Same is true for banking industry. Understanding of the customers' expectations and their perception about a particular bank can be the game-changer for banks. This understanding may easily determine the strategic determinants of service quality and performance in a bank.

A bank may have different facilities in branches at different locations according to the expectations of people of that particular place.

Use of technology and increase in customer touch point through ATMs, Internet and Mobile Banking is also playing a crucial role in banking sector. Besides this the tangibles, various service charges and trust may also be the factors to be considered by the prospective and existing customers.

OBJECTIVE

1. To measure the customers' expectations and their perception of service quality across Public Sector and Private Banks.
2. To determine the gap between expected and perceived service quality in Public Sector and Private Banks.
3. To find out the strategic determinants of service quality and performance in a bank.
4. To determine the factors which can pull non-users of banking services to the banks.

LITERATURE REVIEW

SERVICE QUALITY AND BANKS

Christopher Lovelock and Jochen Wirtz (2006) explained the relationship between service quality and service productivity. A key challenge for any service business is to deliver satisfactory outcomes to its customers in ways that are cost-effective for the company. If customers are dissatisfied with the quality of a service, they won't be willing to pay very much for it or even to buy it at all if competitors offer better quality. Low sales volumes and/or low prices mean less productive assets.

According to Valarie A Zeithaml, Mary Jo Bitner, Dwayne D Gremler and Ajay Pandit (2008) customers hold different types of service expectations: (1) desired service, which reflects the customers want; (2) adequate service, what customers are willing to accept; and (3) predicted service, what customers believe they are likely to get. While service quality, the customer's perception of the service component of a product, is a critical determinant of customer satisfaction, in case of a pure service, service quality may be the most critical determinant of satisfaction. They mentioned the service encounters or "moments of truth" as the building blocks for both satisfaction and quality. Service encounter is an opportunity to build perceptions of quality and satisfaction. So it is important to manage the evidence of service in each and every encounter.

Harsh V. Verma (2009) also confirmed that in services, quality is not objective, rather it is perceived. Quality in services is based on customer's judgment of superiority on intangible dimensions. He describes a framework which views quality in services as made up of two dimensions of technical and functional quality. Technical quality refers to the outcome while functional or process quality refers to the quality of process through which the outcomes are transferred to the customer.

Parasurman, Zeithaml and Berry (1985) however listed ten determinants of service quality, which were further regrouped into five dimensions: reliability, responsiveness, tangibles, assurance and empathy.

In the process of evaluation of customer satisfaction R. Srinivasan (2004) mentioned that customer satisfaction and service quality assessments are complementary. Evaluation of satisfactions made after each service transaction will help revise customer's overall service quality evaluation of the firm's performance. He stated that customer satisfaction is associated with benefits of repeat sales, more frequent sales, increased sales per transaction, positive word-of-mouth communications, and insulation from price competition and pleasant work environment for employees. Thus customer satisfaction can be translated to customer retention.

METHODOLOGY

This study is based on a survey conducted in Kanpur (Uttar Pradesh) during July - September 2010. The Primary data was collected using Judgment (Purposive) sampling as the respondents were selected on the basis of judgment to include all demographic segments. The theoretical foundation of the study is based on various secondary sources such as texts on Service Quality, articles, quality magazines, article features and published papers.

For the purpose of study, a questionnaire was designed on 7 point numerical scale, where '1' represents strongly disagree and '7' represents strongly agree and respondents were asked to respond to the statements in the SERVQUAL model. Questionnaire consisted of 21 questions related to the five dimensions of service quality in which the customers of various banks responded against their expectations and perceptions while nonuser only rated their expectations as they don't have any perception regarding service quality. Questionnaire also consisted of five questions in which the respondents allocated weightage to five dimensions of service quality according to their importance for them. The questionnaire was designed in English as well as in Hindi to get the fair response from all demographic segments. To find some more facts related to service quality in banking industry, the respondents were also asked to comment on the service quality of banks.

Public sector banks and Private banks operating in Kanpur form the sampling frame of the study. Four public sector banks – State bank of India, Bank of Baroda, Central Bank of India and Punjab national bank and two Private banks – HDFC bank and ICICI Bank were selected for the study.

ANALYSIS

250 questionnaires were distributed, out of which 215 were used. 110 customers belonged to Public sector banks and 70 belonged to Private banks while 35 respondents were non-users of banking services. The demographic details of the respondents are represented in table 1.

DEMOGRAPHIC PROFILE

TABLE 1 SHOWS THE DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Bank type	Public Sector	Private	Non Users	Over all
Sex				
Male	77.78%	57.14%	20.00%	61.86%
Female	22.22%	42.86%	80.00%	38.14%
Marital Status				
Single	33.64%	42.86%	40.00%	37.68%
Married	66.36%	57.14%	60.00%	62.32%
Age				
Under 30 yrs	30.00%	28.57%	40.00%	31.16%
30 – 40 yrs	18.18%	28.57%	20.00%	21.86%
41 – 50 yrs	18.18%	14.28%	20.00%	17.21%
Above 50 yrs	33.64%	28.58%	20.00%	29.77%
Profession				
Student	3.64%	14.28%	30.00%	11.63%
Services	44.54%	28.57%	10.00%	33.49%
Businessman	37.27%	42.86%	20.00%	36.28%
House wife	14.55%	14.29%	40.00%	18.60%
Annual Income				
Below Rs.1,50,000	62.73%	42.86%	48.57%	53.95%
Rs.1,50,000-Rs.3,00,000	30.00%	28.57%	11.43%	26.51%
Rs.3,00,001-Rs.5,00,000	3.64%	24.28%	31.43%	14.88%
More than Rs.5,00,000	3.63%	4.29%	8.57%	4.66%

SERVQUAL MEASURES

The respondents of public and private sector banks were asked to evaluate the quality of services provided by the respective banks on various SERVQUAL scale items.

PUBLIC SECTOR BANKS

The results for Public Sector banks are summarized in Table 2.

TABLE 2: RESPONSE FROM CUSTOMERS OF PUBLIC SECTOR BANKS

Dimension	Statement	Expectation Score	Perception Score	Gap Score	Average Gap for Dimension
Tangibles	1	6.6	5.9	0.7	0.75
	2	6.3	5.5	0.8	
	3	6	5.4	0.6	
	4	5.9	5	0.9	
Reliability	5	6	5	1	1.4
	6	6	4	2	
	7	6	4	2	
	8	6	5	1	
Responsiveness	9	6	5	1	2.125
	10	6	4	2	
	11	6	4	2	
	12	6	4	2	
Assurance	13	6.5	4	2.5	0.975
	14	6	5	1	
	15	6	5.5	0.5	
	16	6	5	1	
Empathy	17	6.3	4.9	1.4	1.725
	18	5.8	4.1	1.7	
	19	6.1	4.3	1.8	
	20	5.7	4	1.7	
Total Average Gap score:					6.975

The results for weights among various dimensions of service quality in public sector banks according to their importance for respondents are summarized in Table 3.

TABLE 3: WEIGHTS OF VARIOUS DIMENSIONS FOR PUBLIC SECTOR BANKS

Features	Points
1. The appearance of the bank's physical facilities, equipments, personnel and communication materials.	14
2. The bank's ability to perform the promised service dependably and accurately	23
3. The bank's willingness to help customers and provide prompt service.	24
4. The knowledge and courtesy of the bank's employees and their ability to convey trust and confidence.	27
5. The caring individual attention that bank provides its customers.	12
Total:	100

Weighted SERVQUAL Gap scores for Public Sector Banks are calculated as Table 4

TABLE 4: CALCULATED WEIGHTED SERVQUAL GAP SCORES

SERVQUAL Dimension	Score from Table 2	Weights from Table 3	Weighted Gap Score
Tangibility	0.75	0.14	0.105
Reliability	1.4	0.23	0.322
Responsiveness	2.125	0.24	0.51
Assurance	0.975	0.27	0.264
Empathy	1.725	0.12	0.207
Total Weighted Gap score:			1.408

PRIVATE SECTOR BANKS

The results for Private Sector banks are summarized in Table 5.

TABLE 5: RESPONSE FROM CUSTOMERS OF PRIVATE SECTOR BANKS

Dimension	Statement	Expectation Score	Perception Score	Gap Score	Average Gap for Dimension
Tangibles	1	7	6.3	0.7	0.65
	2	6.3	5.8	0.5	
	3	6.7	6	0.7	
	4	6.3	5.6	0.7	
Reliability	5	6	4	2	1.8
	6	6	4	2	
	7	6	4	2	
	8	6	5	1	
	9	6	4	2	
Responsiveness	10	6	5	1	1.813
	11	5	3	2	
	12	6	4	2	
	13	6.25	4	2.25	
Assurance	14	6	5	1	0.975
	15	6.4	5.6	0.8	
	16	6.4	5.1	1.3	
	17	6.7	5.9	0.8	
Empathy	18	6.3	4.6	1.7	1.7
	19	6	5.1	0.9	
	20	6.4	4	2.4	
	21	5.9	4.1	1.8	
Total Average Gap score:					6.938

The results for weights among various dimensions of service quality in private sector banks according to their importance for respondents are summarized in Table 6.

TABLE 6: WEIGHTS OF VARIOUS DIMENSIONS FOR PRIVATE SECTOR BANKS

Features	Points
1. The appearance of the bank's physical facilities, equipments, personnel and communication materials.	12
2. The bank's ability to perform the promised service dependably and accurately	26
3. The bank's willingness to help customers and provide prompt service.	25
4. The knowledge and courtesy of the bank's employees and their ability to convey trust and confidence.	26
5. The caring individual attention that bank provides its customers.	11
Total:	100

Weighted SERVQUAL Gap scores for Private Sector Banks are calculated as Table 7

TABLE 7: CALCULATED WEIGHTED SERVQUAL GAP SCORES

SERVQUAL Dimension	Score from Table 5	Weights from Table 6	Weighted Gap Score
Tangibility	0.65	0.12	0.078
Reliability	1.8	0.26	0.468
Responsiveness	1.813	0.25	0.453
Assurance	0.975	0.26	0.254
Empathy	1.7	0.11	0.187
Total Weighted Gap score:			1.44

NONUSERS

The nonuser respondents were asked to evaluate the service quality of banks on the basis of their expectations. As they don't use any bank's services, fulfillment of their expectations can pull them to use banking services.

The results for nonuser respondents are summarized in Table 8.

TABLE 8: RESPONSE FROM NONUSER RESPONDENTS

Dimension	Statement	Expectation Score	Average Expected Score for Dimension
Tangibles	1	6.2	6.075
	2	6	
	3	6	
	4	6.1	
Reliability	5	6.9	6.8
	6	7	
	7	6.8	
	8	6.5	
	9	6.8	
Responsiveness	10	6.8	6.85
	11	7	
	12	7	
	13	6.6	
Assurance	14	6.7	6.775
	15	6.7	
	16	6.9	
	17	6.8	
Empathy	18	6.4	6.125
	19	6.1	
	20	6	
	21	6	

The results for weights among various dimensions of service quality for Nonusers according to their importance for respondents are summarized in Table 9.

TABLE 9: WEIGHTS OF VARIOUS DIMENSIONS FOR NONUSERS

Features	Points
1. The appearance of the bank's physical facilities, equipments, personnel and communication materials.	17
2. The bank's ability to perform the promised service dependably and accurately	23
3. The bank's willingness to help customers and provide prompt service.	26
4. The knowledge and courtesy of the bank's employees and their ability to convey trust and confidence.	22
5. The caring individual attention that bank provides its customers.	12
Total:	100

Weighted scores for Nonusers of Banks are calculated as Table 10

TABLE 10: CALCULATED WEIGHTED SCORES FOR DIMENSIONS

SERVQUAL Dimension	Score from Table 8	Weights from Table 9	Weighted Average for Dimension Score
Tangibility	6.075	0.17	1.033
Reliability	6.8	0.23	1.564
Responsiveness	6.85	0.26	1.781
Assurance	6.775	0.22	1.49
Empathy	6.125	0.12	0.735

FINDINGS

1. Customers' expectations of service quality in banks are high and perceived quality of service is quite lower across public and private sector banks.

2. There is a gap between expected and perceived service quality.

For Public sector banks the most prominent gap is in responsiveness dimension of the service quality

While Private sector banks have the largest gap in reliability and responsiveness dimensions of service quality

Total gap is almost equal in both public and private sector banks.

3. Reliability, responsiveness and assurance are found out to be the most important dimensions across the public and private sector banks. Thus these are determined to be the strategic determinants of service quality and performance in banks.

4. For nonusers of banking services responsiveness followed by reliability is determined to be the factors that can pull them to use banking services.

5. With the help of an open ended comment on service quality of banks, it is learnt that Passbook also plays an important role to bring in reliability in customers' mind. This could be the reason for private sector banks to lag in reliability dimension of service quality as most of them don't provide passbooks.

CONCLUSION

It is concluded that banks can use premium pricing for better experience of customers. This can be in the form of lower interest rates or higher service charges. Generally customers do not look for interest rates while choosing a bank. Customers' experience should be positive even when the branch is busy.

It is also concluded that for a better experience a customer is required to visit the branch, while through net, mobile banking, ATM etc. currently the banks are trying to keep the customers away from the branch. Customers who are older or less well educated are also observed to prefer being served by a real person, rather than a machine.

Parking facility is also found to be an important factor. It might not be looked for, while opening an account but if a customer feels parking problem in any branch, the number of transactions with that branch decline.

RECOMMENDATIONS

Private sector banks are recommended to adopt passbook system which might be helpful to increase reliability.

Banks are recommended to see availability of free parking while choosing any location for a branch.

Free unlimited usage of ATM for other banks' customers would increase footfall to any bank's ATM. A bank can earn noninterest income by giving space at ATM for advertising.

A bank can differentiate itself with weekend and extended working hours.

REFERENCES

- Parasuram, A, Zeithaml, V.A., and Berry, L.L. (1985), "A Conceptual Model of Service Quality and its Implication for Future Research", *Journal of Marketing*, Vol. 49, Fall, pp. 41-50.
- Levesque, T. and McDougall, G.H.G. (1996), "Determinants of Customer Satisfaction in Retail Banking", *International Journal of Bank Marketing*, Vol. 14, No.7, pp.12-20.
- Nikhil Chnadra Shil and Bhagaban Das (2008), "A study of Customer Satisfaction with regard to banking: An application of QFD", *The Icfai Journal of Management Research*, Vol VII, No.8, pp 7-23.
- Bhaskar P V (2004), "Customer Service in Banks", *IBA Bulletin*, Vol, XXVI, No. 8, pp 9-13.
- Lam Siew Yong and Jamil Bojei (2007), "Relationship of Service Quality, Satisfaction and Trust with Customers' Commitment towards their Personal Banks", *The Icfai Journal of Service Marketing*, Vol V, No.1, pp 6-24.
- Parimal V (2002), "Measurement of Customer Satisfaction: A study of Banking Services", *Business Perspectives*, Vol 4, No.1, pp 73-88.
- Valarie A Zeithaml, Dwayne D Gremler, Mary Jo Bitner and Ajay Pandit (2008), *Services Marketing*, 4th Edition, The McGraw-Hill companies, New Delhi.
- Thompson, Philip., DeSouza, Glenn. and Gale, Bradley T. (1985), *The Strategic Management of Service Quality*, Cambridge, MA.

ANNEXURE

1. QUESTIONNAIRE (CURRENT USERS)

We are conducting a research in various banks. An honest and complete response from you would help us to understand more about it. The information provided by you will be completely confidential and shall be used for academic purpose only. Kindly answer the following questions and tick 1 if you strongly disagree with the statement, tick 7 if you strongly agree with the statement, tick 2 for disagree, 3 for somewhat disagree, 4 if you feel neutral to the statement, 5 for somewhat agree and 6 for agree.

Expected					Question	Perceived				
1				7	1. Excellent bank will have modern looking equipments.	1				7
1				7	2. The physical facilities at excellent bank will be visually appealing.	1				7
1				7	3. Employees at excellent bank will be neat in appearance.	1				7
1				7	4. Materials (e.g. brochures or statements) associated with the service will be visually appealing in an excellent bank.	1				7
1				7	5. When excellent banks promise to do something by a certain time, they will do so.	1				7
1				7	6. When customers have a problem, excellent banks will show a sincere interest in solving it.	1				7
1				7	7. Excellent bank will perform the service right the first time.	1				7
1				7	8. Excellent banks will provide their services at the time they promise to do so.	1				7
1				7	9. Excellent bank will insist on error-free records.	1				7
1				7	10. Employees of excellent banks will tell customers exactly when service will be performed.	1				7
1				7	11. Employees of excellent banks will give prompt service to customers.	1				7
1				7	12. Employees of excellent bank will always be willing to help customers.	1				7
1				7	13. Employees of excellent bank will never be too busy to respond to customer's requests.	1				7
1				7	14. The behavior of employees of excellent bank will instill confidence in customers.	1				7
1				7	15. Customers of excellent bank will feel safe in their transactions.	1				7
1				7	16. Employees of excellent banks will be consistently courteous with customers.	1				7
1				7	17. Employees of excellent bank will have the knowledge to answer customers' questions.	1				7
1				7	18. Excellent bank will give customers individual attention.	1				7
1				7	19. Excellent bank will have operating hours convenient to all their customers.	1				7
1				7	20. Excellent bank will have employees who give customers personal attention.	1				7
1				7	21. Employees of excellent bank will understand the specific needs of their customers.	1				7

Listed below are the five sets of features pertaining to banks and the services they offer. We would like to know how much each of these sets of features is important to the customer. Please allocate 100 points among the five sets of features according to how important it is to you. Make sure the points add up to 100.

Features	Points
1. The appearance of the banks physical facilities, equipment, personnel and communication materials.	
2. The bank's ability to perform the promised service dependably and accurately	
3. The banks willingness to help customers and provide prompt service.	
4. The knowledge and courtesy of the bank's employees and their ability to convey trust and confidence.	
5. The caring individual attention the bank provides its customers.	

COMMENT

DEMOGRAPHIC PROFILE

AGE				
GENDER	MALE		FEMALE	
Marital Status	SINGLE		MARRIED	
Family Income (Annual)	< 1,50,000	1,50,000-3,00,000	3,00,001-5,00,000	>5,00,000
Profession	Student	Services	Business man	Housewife
Bank Name:				

Thank you for sharing your time with us.

2. QUESTIONNAIRE (NONUSERS)

We are conducting a research in various banks. An honest and complete response from you would help us to understand more about it. The information provided by you will be completely confidential and shall be used for academic purpose only. Kindly answer the following questions and tick 1 if you strongly disagree with the statement, tick 7 if you strongly agree with the statement, tick 2 for disagree, 3 for somewhat disagree, 4 if you feel neutral to the statement, 5 for somewhat agree and 6 for agree.

Question	Expected				
1. Excellent bank will have modern looking equipments.	1				7
2. The physical facilities at excellent bank will be visually appealing.	1				7
3. Employees at excellent bank will be neat in appearance.	1				7
4. Materials (e.g. brochures or statements) associated with the service will be visually appealing in an excellent bank.	1				7
5. When excellent banks promise to do something by a certain time, they will do so.	1				7
6. When customers have a problem, excellent banks will show a sincere interest in solving it.	1				7
7. Excellent bank will perform the service right the first time.	1				7
8. Excellent banks will provide their services at the time they promise to do so.	1				7
9. Excellent bank will insist on error-free records.	1				7
10. Employees of excellent banks will tell customers exactly when service will be performed.	1				7
11. Employees of excellent banks will give prompt service to customers.	1				7
12. Employees of excellent bank will always be willing to help customers.	1				7
13. Employees of excellent bank will never be too busy to respond to customer's requests.	1				7
14. The behavior of employees of excellent bank will instill confidence in customers.	1				7
15. Customers of excellent bank will feel safe in their transactions.	1				7
16. Employees of excellent banks will be consistently courteous with customers.	1				7
17. Employees of excellent bank will have the knowledge to answer customers' questions.	1				7
18. Excellent bank will give customers individual attention.	1				7
19. Excellent bank will have operating hours convenient to all their customers.	1				7
20. Excellent bank will have employees who give customers personal attention.	1				7
21. Employees of excellent bank will understand the specific needs of their customers.	1				7

Listed below are the five sets of features pertaining to banks and the services they offer. We would like to know how much each of these sets of features is important to the customer. Please allocate 100 points among the five sets of features according to how important it is to you. Make sure the points add up to 100.

Features	Points
6. The appearance of the banks physical facilities, equipment, personnel and communication materials.	
7. The bank's ability to perform the promised service dependably and accurately	
8. The banks willingness to help customers and provide prompt service.	
9. The knowledge and courtesy of the bank's employees and their ability to convey trust and confidence.	
10. The caring individual attention the bank provides its customers.	

COMMENT

DEMOGRAPHIC PROFILE

AGE				
GENDER	MALE		FEMALE	
Marital Status	SINGLE		MARRIED	
Family Income (Annual)	< 1,50,000	1,50,000-3,00,000	3,00,001-5,00,000	>5,00,000
Profession	Student	Services	Business man	Housewife

Thank you for sharing your time with us.

EXPLAINING CONSUMER ACCEPTANCE OF INTERNET BANKING SERVICES IN INDIA**MANORANJAN DASH****HEAD****DEPARTMENT OF SYSTEM & INFORMATION TECHNOLOGY****SIKSHA O ANUSANDHAN UNIVERSITY****GHATIKIA, KALINGA NAGAR, BHUBANESWAR-3****DR. MADHUSMITA DASH****LECTURER****FACULTY OF MANAGEMENT STUDIES****SIKSHA O ANUSANDHAN UNIVERSITY****GHATIKIA, KALINGA NAGAR, BHUBANESWAR-3****DR. SURJYA KUMAR MISRA****PROFESSOR****DEPARTMENT OF MARKETING****SIKSHA O ANUSANDHAN UNIVERSITY****GHATIKIA, KALINGA NAGAR, BHUBANESWAR-3****ABSTRACT**

In these days, with the intensification of technology, it is of the essence for bank to keep customers and persuade customer to use their internet banking i.e. i-banking. This paper examines the impact of trust and gender level on the intention to use Internet banking. Drawing from the literature review, the study investigates the influence of perceived ease of use, perceived usefulness, compatibility, gender and trust on the intention to use Internet banking among the consumers. The questionnaire was distributed to bank customers of different private and public sector banks. Multiple regressions was employed to analyze the data. The results indicate that subjective norms, perceived usefulness, gender and trust are determinants of behavioral intention to use the internet banking. In addition, perceived usefulness affects attitude towards use, and both perceived ease of use and compatibility affect attitude. Implications of these findings are discussed and further research opportunities described.

KEYWORDS

Compatibility, Internet banking, subjective norms, trust, technology acceptance.

INTRODUCTION

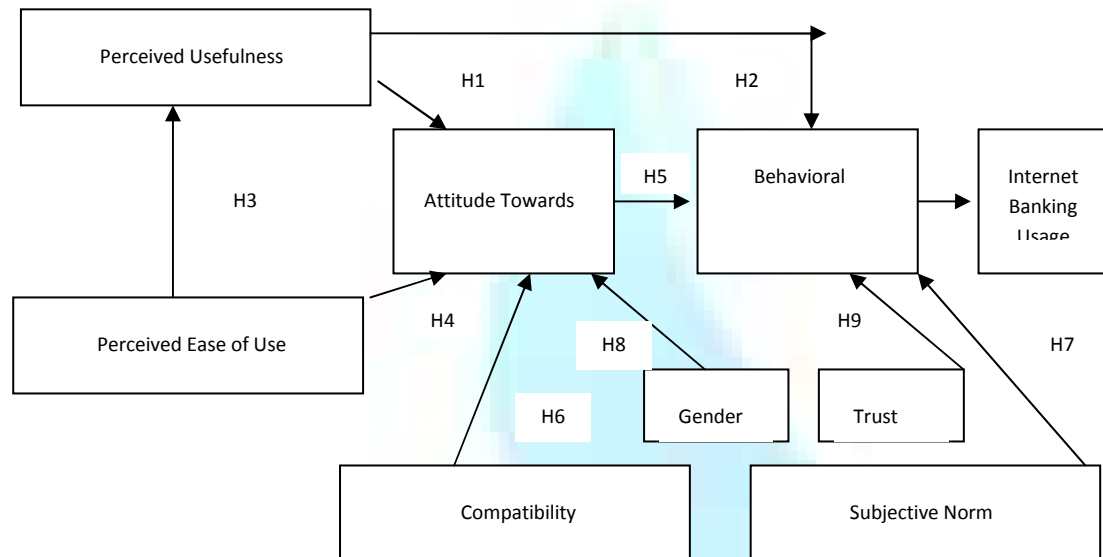
The most recent technological advance with the potential to revolutionize the financial services industry worldwide is Internet banking. Given that on-line banking transactions cost substantially less than physical branch transactions, banks throughout the world are rushing to develop their Internet strategies. This is a fortunate thing for banking consumers, who can now enjoy more convenient and timely access to funds at lower cost (Harper 1997). Online banking has grown in popularity in India in recent years as consumers become increasingly comfortable using the internet. Internet banking is a new waterway for the giving out of financial services through the World Wide Web infrastructure. The Internet is now being considered as a deliberate bludgeon – a ready for action advantage that will revolutionize the way banks operate, deliver, and compete against one another. Internet banking is defined as “the provision of retail and small value banking products and services through electronic channels. Such products and services can include deposit-taking, lending, account management, the provision of financial advice, electronic bill payment, and the provision of other electronic payment products and services such as electronic money.” (Basel Committee Report on Banking Supervision, 1998, p.3). Internet banking allows customers to perform a wide range of banking transactions electronically via the bank’s Web site. With the development of asynchronous technologies and secured electronic transaction technologies, however, more banks have come forward to use Internet banking both as a transactional as well as an informational medium. As a result, registered Internet banking users can now perform common banking transactions such as writing checks, paying bills, transferring funds, printing statements, and inquiring about account balances. Internet banking would help banks present a potentially low cost alternative to brick and mortar branch banking. From the consumers’ perspective, Internet banking provides a very convenient and effective approach to manage one’s finances as it is easily accessible 24 hours a day, and seven days a week. Besides, the information is current. For corporate customers, sophisticated cash management packages offered through Internet banking provides them with up to the minute information, allowing for timely funds management decisions. However, customers have not adopted Internet banking in a big way in India. Lack of trust in Internet banking has been identified as the key to the failure to adopt Internet banking (Araujo and Araujo, 2003; Castelfranchi and Tan 2001; Noterberg et al., 2003). The popularity of Internet banking has created opportunities as well as threats for the service providers. The biggest benefits of Internet banking for banks are enormous cost-saving and efficiency in communication, transaction and delivery (Peterson, Balasubramanian & Bronnenberg, 1997; Furash, 1999; Robinson, 2000). Although new forms of banking can offer promising opportunities, at the same time, they have intensified competition between banks for customers (Vatanasombut, Stylianou & Igbaria, 2004). Non-bank operators entering the banking arena have mushroomed around the globe (The Economist, 2000; Itoh, 2001). Internet banking not only intensifies competition, it also enables customers to easily compare the terms and conditions of the financial products or services offered by different banks (Rogerson, Foley & Jayawardhena, 1999). This ‘frictionless commerce’ tends to raise customers’ expectations about services and products and could lead to dissatisfaction and make these customers more prone to switching to other service providers (Shankar, Urban & Sultan, 2002).

REVIEW OF LITERATURE

The technology acceptance model (TAM), developed by Davis et al. (1989), is one of the most widely used and influential models in the field of information systems, technology and services. It has been fully validated to be powerful as a framework to predict user acceptance of new technology. TAM extended the theory of reasoned action (TRA) (Fishbein and Ajzen, 1980) by introducing two belief factors, perceived usefulness and perceived ease of use, which substitute for many of TRA’s attitude measure. These two factors are postulated to determine an individual's intention to use a technology-based system with intention to use playing the role of mediator of actual system use. Perceived ease of use is also posited to have a direct impact on perceived usefulness. In general, TAM is able to explain up to 40% of the variance in usage intentions and 30% in system usage (Meister and Compeau, 2002). To increase the predictive power of TAM, it

was suggested to consider the role of external variables (Davis, 1993). Legris et al. (2003) also noted the critical importance of examining external variables, since they are the ultimate drivers for the use of technology. In a variety of disciplines, external variables that were used to explore the effect on technology usage are individual differences, such as cognitive, personality, demographic, and situational variables. (Zumd, 1979). An abundance of related studies on TAM also found a significant relationship between individual differences and technology acceptance (Hubona and Kennick, 1996; Jackson et al., 1997; Agarwal and Prasad, 1999; Venkatesh, 2000; Venkatesh and Morris, 2000; Burton-Jones and Hubona, 2006). The TAM tends to predict user adoption of new technologies in positive perspective. However, customers will reduce their usage or even refuse to use a technology if they subjectively expect that an injury or a loss likely occurs while using the technology. The degrees of risk that consumers perceive and their risk tolerance are attitudinal factors that affect their usage (Chan et al., 2004). Perceived risk has multi-dimensions, including financial, performance, physical, psychological, social and time risks (Jacoby and Kaplan, 1972; Havlena and DeSarbo, 1990; Murray and Schlacter, 1990; Stone and Gronhaug, 1993). There is very little research to compare the effect of gender on technology usage behavior. Subjective norm was included as a direct determinant of behavioral intention in TRA and then in TPB.

RESEARCH MODEL AND HYPOTHESIS



RESEARCH MODEL

The research model tested in this study is shown as above. The following hypotheses were developed based on the findings of previous research on this subject.

PERCEIVED USEFULNESS

Perceived usefulness is the degree to which a person believes that using internet banking could enhance his or her performance. Individuals who believed that using internet banking could lead to positive outcomes also tended to have a more favorable attitude towards it. Also, there is an empirical support for the relationship between perceived usefulness and attitude towards use. Therefore, we hypothesize:

H1: Customer perceived usefulness will have a positive effect on attitude towards using Internet banking.

There is also an extensive research that provides the significant effect of perceived usefulness on behavioral intention to use. Therefore, we hypothesize:

H2: Customer perceived usefulness will have a positive effect on the behavioral intention to use internet banking.

PERCEIVED EASE OF USE

Perceived ease of use is the degree to which a person believes that using internet banking is free of effort. Previous studies have explained the effect of perceived ease of use on perceived usefulness. Also TAM posits that perceived ease of use has a direct positive effect on attitudes towards using internet banking. Therefore, we hypothesize:

H3: Customer perceived ease of use will have a positive effect on perceived usefulness.

H4: Customer perceived ease of use will have a positive effect on attitude towards use.

ATTITUDE TOWARDS USE

Attitude involves judgment whether the behavior is good or bad and whether the user is in favor of or against performing it and has a direct effect on the intention to use internet banking in the future. Therefore, we hypothesize:

H5: Customers attitude towards using Internet banking has a positive effect on behavioral intention to use.

COMPATIBILITY

Compatibility is the degree to which the innovation is perceived to be consistent with the potential users' existing values, previous experiences and needs. Therefore, we hypothesize:

H6: Compatibility will have a positive effect on attitude towards using Internet banking.

SUBJECTIVE NORMS

Subjective norm is the "person's perception that most people who are important to him think he should or should not perform the behavior in question" Therefore, we hypothesize:

H7: Subjective norms will have a positive effect on behavioural intention to use internet banking usefulness.

GENDER

When it comes to gender, studies have found that there is a difference between the males and females in using various types of technology (Burke, 2002; Li et al., 1999). Venkatesh and Morris, (2000), investigated gender differences in the overlooked context of individual adoption and sustained usage of technology in the workplace. They found gender an important determinant of short-term usage, and can be used to predict sustained usage behaviour in individual adoption and continued usage of technology in work places. Previous studies reveals that the gender differences in the relative influence of attitude towards using technology, subjective norms and perceived behavioral control in determining individual adoption. The results show that the decisions of men were strongly influenced by attitude towards using technology when compared to women decisions and women were more strongly influenced by subjective norms and perceived behavioral control. Therefore, we hypothesize:

H8: Male will place a higher value on behavioral intention towards using internet banking than female.

TRUST

Trust is defined as a willingness to be vulnerable to the actions of others (Mayer, Davis, & Schoorman, 1995). According to McKnight & Chervany (2001), trust is an essential component in a relationship especially whenever risk and uncertainty exist. When an individual trusts a person, he or she expects the other person will behave in a responsible manner and will not take advantage of a dependence upon him or her (Gefen, Karahanna, & Straub, 2003). In the context of Internet banking, trust has been suggested to be one of the obstacles that hinder individuals from adopting the technology (Md Nor & Pearson, 2007; Teoh & Md Nor, 2007). Internet banking uses Internet as its delivery platform and normally is being associated with security issues. This indirectly has further affected consumers' trust level of the Internet banking. Therefore, we hypothesize:

H9: Trust will have a positive effect on behavioural intention to use internet banking usefulness

METHODOLOGY

A questionnaire was constructed based on an extensive review of the literature in the area of technology acceptance. Survey questions were adopted from previous literature. The target group was the bank customers. The questionnaire consisted of two main parts. The first part involved demographic questions designed to solicit information about gender, age, level of education etc of respondents. The second part consisted of the items measuring the intention of the users, perceived ease of use, perceived usefulness, compatibility and subjective norms. A five-point Likert-type scale was used where 1=strongly disagree to 5=strongly agree.

A multiple regression analysis was employed to identify which variables made significant contributions to predicting end-user intention to use internet banking. The results of the analysis, including β coefficient, t-statistic, and significance level for each independent variable. Subjective norms, perceived usefulness and gender level were found to be significant determinants of behavioural intention to use internet banking. Subjective norms were much a stronger predictor of behavioural intention as compared to perceived usefulness and gender level. A multiple regression method was also applied to find out variables influencing the remaining variables other than behavioral intention to use. The results show that, compatibility and perceived ease of use have direct positive effect on perceived usefulness, and perceived usefulness has a positive direct effect on attitude towards use. This research examined the influence of subjective norms, compatibility, gender level, perceived usefulness, perceived ease of use, attitude towards use and demographic characteristics on behavioral intention to use internet banking

TABLE-1: DESCRIPTIVE STATISTICS AND CRONBACH'S ALPHA COEFFICIENTS

Variables	Mean	Standard deviation	Cronbach's Alpha
Perceived ease of use	3.59	0.49	0.81
Perceived Usefulness	3.96	0.78	0.89
Subjective Norms	3.78	0.73	0.87
Behavioural Intention To use	3.98	0.78	0.85
Compatibility	4.09	0.76	0.88
Trust	4.17	0.79	0.89

TABLE-2: MULTIPLE REGRESSION ANALYSIS

Dependent Variables	R ²	Independent Variables	β	t	Sig.
Perceived Usefulness	0.569	Compatibility	0.435	4.384	0.000
		Perceived ease of use	0.412	4.156	0.000
Attitude Towards Use	0.345	Perceived Usefulness	0.497	4.898	0.000
Behavioural Intention to use	0.576	Subjective Norm	0.507	5.465	0.000
		Perceived Usefulness	0.342	3.056	0.000
		Gender Level	0.237	2.512	0.014
		Trust	0.469	4.017	0.000

FINDINGS AND DISCUSSION

Noticeable aspect of this model is that perceived usefulness, subjective norms and gender are determinants of behavioral intention to use internet banking. Among them, subjective norm has the strongest impact on behavioral intention. Perceived usefulness has a significant effect on intention to use internet banking. As expected, the results have supported the hypothesis that perceived usefulness, perceived ease of use and trust, all have positive effect on the intention to use Internet banking. A possible explanation for this finding came from the fact that participants who perceive that using internet banking are useful also intend to use the service more frequently. Gender level of potential users has a smaller but significant impact on users' intention to use internet banking. Another significant finding of this study relates to the effect of perceived ease of use on perceived usefulness. This means that perceived ease of use also has an indirect effect on behavioral intention to use toward perceived usefulness. In other words, users intend to use the internet banking more frequently as the system becomes an easy one to use. Another noticeable aspect of the results was that compatibility has a strong impact on perceived usefulness. Practical implication of these results is that banks need to highlight the benefits of Internet banking, make Internet banking easy to use, and enhance Internet banking security to improve consumers' trust. A large percentage of unexplained variance suggests the need for additional research incorporating potential unmeasured variables in the current study. Second, the results of this study are far from reaching implications for other countries.

REFERENCES

1. B. Szajna, "Empirical evaluation of the revised technology acceptance model," *Management Science*, vol. 42, no. 1, pp. 85–92, 1996.
2. Chen, L., Gillenson, M.L., & Sherrell, D.L. (2002). Enticing online consumers: An extended technology acceptance perspective. *Information & Management*, 39, 705-719.
3. Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.
4. Davis, F.D., Bagozzi, R.P., & Warshaw, P.R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982-1003.
5. Erumban, A.A. & de Jong, S.B. (2006). Cross-country differences in ICT adoption: A consequence of culture? *Journal of World Business*, 41, 302-314.
6. Fishbein, M., & Ajzen, I. (1975). *Belief, attitudes, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
7. Gefen, D. (2000). E-commerce: The role of familiarity and trust. *Omega*, 28, 725-737.
8. Gefen, D., Karahanna, E., & Straub, D.W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 27(1), 51-90.
9. H. Choi, M.S. Choi, J.W. Kim, and H.S. Yu, "An empirical study on the adoption of information appliances with a focus on interactive TV," *Telematics and Informatics*, vol. 20, no. 2, pp. 161–183, 2003.
10. Itoh, M. (2001) Technology and E-Finance, In Japan, *BIS Papers*, 7, pp. 87-89.
11. Ajzen, "The Theory of Planned Behavior," *Organization Behavior and Human Decision Processes*, vol. 50, pp. 179-211, 1991.
12. Ajzen, M. Fishbein, Understanding attitudes and predicting social behavior. Englewood Cliffs: Prentice-Hall, 1980
13. Jayawardhena, C. and Foley, P. (2000) ,"Changes in the Banking Sector - The Case of Internet Banking in the UK, *Internet Research: Electronic Networking Applications and Policy*, 10, 1, pp. 19-30.

14. J.C.C. Lin, H. Lu, "Towards an understanding of the behavioral intention to use a web site," *International Journal of Information Management*, vol. 20, no. 3, pp. 197–208, 2000.
15. J.W. Moon, Y.G. Kim, "Extending the TAM for a world-wideweb context," *Information and Management*, vol. 38, no. 4, pp. 217–230, 2001.
16. J. Wu, S. Wang, and L. Lin, "Mobile computing acceptance factors in the healthcare industry: a structural equation model," *International Journal of Medicine Informatics*, vol. 76, pp. 67–77, 2007
17. L.R. Vijayasarathy, "Predicting consumer intentions to use online shopping: the case for an augmented technology acceptance model," *Information and Management*, vol. 41, no. 6, 747–762, 2004.
18. M.Y. Yi, J.D. Jackson, J.S. Park, and J.C. Probst, "Understanding information technology acceptance by individual professionals: Toward an integrative view," *Information & Management*, vol. 43, no. 3, pp. 350–363, 2006.
19. Peterson, R. A., Balasubramanian, S. A., and Bronnenberg, B. J. (1997) Exploring the Implications of the Internet for Consumer Marketing, *Journal of the Academy of Marketing Science*, **25**, 4, pp. 329–346.
20. P.J. Hu, P.Y.K. Chau, O.R.L. Sheng, and K.Y. Tam, "Examining the technology acceptance model using physician acceptance of telemedicine technology," *Journal of Management Information Systems*, vol. 16, no. 2, pp. 91–112, 1999
21. R. Saade, B. Bahli, "The impact of cognitive absorption on perceived usefulness and perceived ease of use in on-line learning: an extension of the technology acceptance model," *Information Management*, vol. 42, pp. 317–327, 2005.
22. R. Agarwal, J. Prasad, "Are individual differences germane to the acceptance of new information technologies?" *Decision Sciences*, vol. 30, no. 2, pp. 361–391, 1999.
23. Rogerson, S., Foley, P., and Jayawardhena, C. (1999) Conference Proceedings: Is Electronic Commerce a Socially Beneficial Activity?, *the Exploring Cyber Society Conference*, Newcastle, UK.
24. Shankar, V., Urban, G. and Sultan, F. (2002) Online Trust: A Stakeholder Perspective, Concepts, Implications, and Future Directions, *Journal of Strategic Information Systems*, **11**, pp. 325–344
25. Urban, G. L., Sultan, F. and Qualls, W. J. (2000) Placing Trust at the Centre of Your Internet Strategy, *Sloan Management Review*, **42**, 1, pp. 39–48.

TABLES

TABLE-3: AGE OF RESPONDENTS

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 24-35	134	45.4	45.4	45.4
36-45	91	30.8	30.8	76.3
46-55	51	17.3	17.3	93.6
56-65	19	6.4	6.4	100.0
Total	295	100.0	100.0	

TABLE-4: GENDER OF RESPONDENTS

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	253	85.8	85.8	85.8
Female	42	14.2	14.2	100.0
Total	295	100.0	100.0	

TABLE-5: OCCUPATION OF RESPONDENTS

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Bank Executives	40	13.6	13.6	13.6
IT Professionals	67	22.7	22.7	36.3
Medical	35	11.9	11.9	48.1
Senior Management	22	7.5	7.5	55.6
Legal	30	10.2	10.2	65.8
Unemployed	23	7.8	7.8	73.6
General Administration	26	8.8	8.8	82.4
Businessman	7	2.4	2.4	84.7
Customer services	31	10.5	10.5	95.3
Academicians	14	4.7	4.7	100.0
Total	295	100.0	100.0	

IMPACT OF INFORMATIONAL FLOW ON STOCK RETURNS: EMPIRICAL EVIDENCE FROM NATIONAL STOCK EXCHANGE

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ABSTRACT

This study investigates whether an investor can achieve an abnormal normal return by acting on public announcement. Traditionally, event study methodology is used to evaluate the reaction of the market to certain corporate events. These studies which are specific in nature are designed to measure market efficiency at certain points in time and only in conjunction with specific events. This paper is aimed to test the market price of share in response to date of declaration of accounting information empirically. The event of the study is earning announcement for the period from 2008 to 2009 were taken from a sample frame of current constituents of S&P CNX Nifty. The 'event day' for each company is taken as the date of 'Board of Directors Meeting' in which the decision to declare the earning reports were taken. For testing the reaction and change in magnitude of earnings the ASRV and CAAR test have been employed. The result of the study support that the stock market is efficiently performing leading towards no scope for investors to earn positive abnormal returns. In this study, it has been observed that public announcement of earning reports has a significant impact on investors' behavior while selecting securities.

KEYWORDS

Stock, NSE, Returns, Market.

INTRODUCTION

The concept of efficient market describes a market consisting of a large number of rational, profit maximizers actively competing with each other to predict future market values of individual securities and where important current information is almost freely available to all participants (Fama 1965). Thus, efficient market assumes rationality, which implies risk aversion, unbiased forecast and instantaneous response to new information. It has been argued that investors are loss averse and are more sensitive to losses than to gains. Loss averse investors who have incurred losses in previous period may attempt to recover these losses, thus leading to risk-loving or risk neutral behavior. They may also tend to weigh more their own forecast, thus introducing bias in their trading behavior. Moreover, uninformed traders may follow the actions of informed traders, thus delaying their own trading. All of these may lead to stock prices reacting to new information non-linearly.

According to Fama (1970), market efficiency can take on three forms: the weak form, the semi-strong form and the strong form. Three forms of market efficiency are generally distinguished:

1. The Weak Form: Where a current price is considered to incorporate all the information contained in the past prices.
2. The Semi-Strong Form: Where a current price incorporates all publicly known information, including its own past prices.
3. The Strong Form: Where prices reflect all information that can possibly be known, including privately known information.

This study investigates whether an investor can achieve an abnormal normal return by acting on public announcement. Traditionally, event study methodology is used to evaluate the reaction of the market to certain corporate events. These studies which are specific in nature are designed to measure market efficiency at certain points in time and only in conjunction with specific events.

Literature Reviews

Srivastava S.C. (1968) unveiled that the notion of share price behavior is not significantly influenced by retained earnings. The result of the analysis suggested that there were no significant influence of retained earnings on share market prices for the period covering from 1960 to 1962.

Obaidullah M. (1992) vetted the adjustment of stock prices to the announcement of bonus issues by examining the semi-strong efficiency of Indian stock market. For this study the author had the sample size of 75 bonus issues that covered the period from 1987-89. To reach at his conclusion he used naïve method of proportional adjustment and residual analysis method. The result supported the semi-strong form of EMH.

Rao and Geetha (1996) solved one major egress whether India is tuning to what form of efficiency for a period from April 1991 to March 1994. Their study focused on weak-form, semi-strong form and possible anomalies in informational efficiency. As in result they showed that the Indian stock markets are efficient to first two forms of the tune. There was clear existence of weak form efficiency in the market whereas in regard to semi-strong form, it evince that there was delay in stock price adjustment about 3 to 4 weeks ahead.

Thomas S. and Shah A. (2001) corroborated the stock market response to the union budget regarding the informational efficiency, the budget as an economy policy package and as well as implications for portfolios and trading. The data consisted of 4,673 observations of daily returns from Indian Stock Market index over the period from April 04, 1979 to June 11, 2001. The result excogitated that the stock market is fairly efficient in response to Union Budget.

Babu K. A. and Selvam (2006) examined the informational efficiency of capital market with regard to quarterly earnings released by the banking sector companies. The result of the study showed that the Indian capital market for the banking stocks, in general, are efficient, but not perfectly efficient, to the announcement of quarterly earnings (comes with positive earnings change information) and ineffectual for the negative earnings change information.

Ansari V.A. and Mahmood F. (2007) studied the market efficiency with respect to price-earnings ratio. They analyzed the market for the period 2005. The paper reflected the fact that PE ratio anomaly is non-existent in India as the lowest portfolio earned the lowest returns. The findings also suggested that there was limited or absent predictive power of PE ratios in explaining cross-section returns. Furthermore, there was no relationship found between beta and return.

Malhotra et al. (2007) examined the stock market reaction and liquidity changes around the bonus issue announcement of the chemical companies in India. The period used for the study ranges from January 2000 to January 2006 the analysis is done through the use of standard event study methodology. The result of their study showed that bonus issue announcement yielded negative abnormal returns around the announcement date implying that there was persistence of semi-strong form of EMH.

Raja M., Sudhahar J.C. and Selvam M. (2009) tried to study the Semi-strong efficiency in the Indian market in relation to stock split announcement. Their study showed the fact that the securities prices reacted to the announcement of stock splits and they concluded that the market is efficient one but not perfectly efficient to the announcement of stock split.

Thus many studies have been conducted to test the semi-strong efficiency of the market for events, where stock splits, right issues, bonus issues, earning announcements and share price adjustment in response to budget were the vital issues. However, prior research could not explain the exact period to say probable effect of announcements in the share price.

OBJECTIVE DATA AND METHODOLOGY

This paper is aimed to test the market price of share in response to date of declaration of accounting information empirically. The rationale of studying the paper is to analyze the situation how quickly any information dissemination meliorate the behavior of different communities. To fortify our assumptions the studies is done in eight different window periods with respect to the facility of electronic interface introduced by NSE for public listed companies. The facility of electronic interface means to announce all those important corporate actions and reports in the site of NSE in lieu of their own site. With the availability of electronic interface the information is quickly responding to the market. The prime objective of the study is to examine the information content of the quarterly earnings announcement made by the companies. In other specification the study is aimed to examine the speed with which the quarterly earnings news are instantaneously and unbiased mannerly impounded in the share price. To carry out the above fortified objectives the study is best fitted in the linear regression model where we found the linear normal return of daily share prices of tested company by using market model throughout window period. To console the study of above objectives we framed two set of hypothesis and tested the sample companies.

Set-I: For testing **Average Security Returns Variability (ASRV)** null and alternative hypothesis are as follows

H_0 : Security prices do not react to quarterly earnings announcement i.e. $ASRV = 1$.

H_1 : Security prices react apparently to quarterly earnings report i.e. $ASRV > 1$.

Set-II: For testing **Average Abnormal Returns (AAR)** null and alternative hypothesis are as follows

H_0 : There is no reaction and hence the abnormal returns are zero. To aver, $AAR = 0$.

H_1 : There is either positive or negative reaction to the announcement of quarterly earnings. To aver, $AAR \neq 0$.

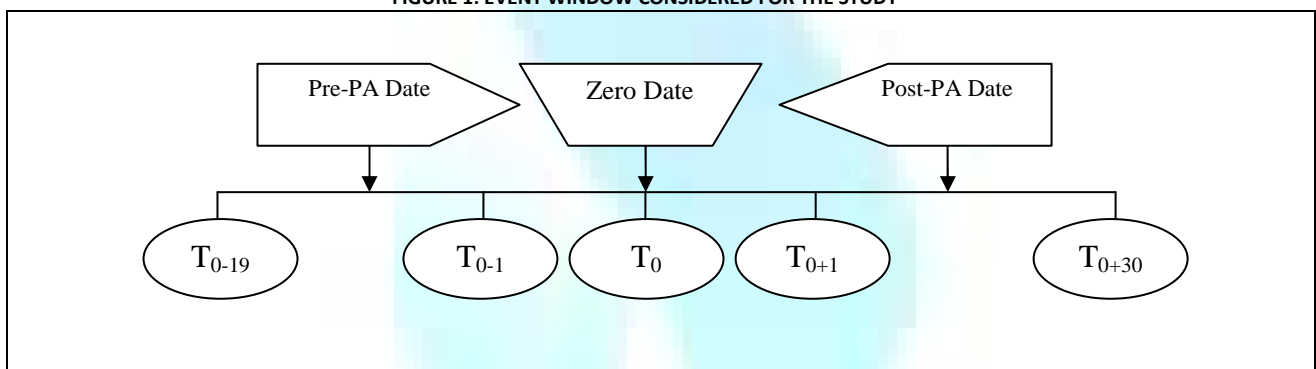
DATA FOR THE STUDY

The event of the study is earning announcement for the period from 2008 to 2009 were taken from a sample frame of current constituents of S&P CNX Nifty. The 'event day' for each company is taken as the date of 'Board of Directors Meeting' in which the decision to declare the earning reports were taken. In the quarterly earnings reports we have chosen all the four quarter announcements for the study, thus we have 8 window periods for the analysis.

EVENT DATE AND WINDOWS

Public announcement date of accounting information (earning reports) is considered as zero date. The zero date is the date on which price-sensitive information has been released. For the study, the event window construed in respect of zero date giving a total of 50 observations by taking 19 days observation prior to zero date and 30 days observation after the announcement.

FIGURE 1: EVENT WINDOW CONSIDERED FOR THE STUDY



METHODOLOGY

The daily returns were calculated for both individual securities as well as market index using the following equation

$$R_{i,t} = \frac{P_t - P_{t-1}}{P_{t-1}}$$

Where, $R_{i,t}$ = Return on Security i on day t

P_t = Closing Price of the security on day t

P_{t-1} = Opening Price of the security on day t .

For the statistical models, the assumption that returns are jointly multivariate normal and independent and identically distributed through time is imposed. This distributional assumption is sufficient for the constant mean return model and market model to be correctly specified. Although, there are different models for computing expected returns. Despite of all those models the famous model is market model which is widely used by researchers.

In this study, we used the market model to manifest expected return on a stock given in the following equation:

$$R_{i,t} = \alpha_i + \beta_i R_{mt} + \epsilon_{it}$$

Where, $R_{i,t}$ = observed daily return for the security ' i ' on day ' t '

α_i = intercept for the security ' i '

β_i = beta factor for the security ' i '

R_{mt} = observed daily return for the market index for the security ' m ' on day ' t '

$$\epsilon_{it} \sim \text{iid}(0, \sigma^2)$$

The parameters of the market model have been estimated for 3 years pertaining to the sample study. Our study used analysis for the period from 2008-09 whereas the parameters of the market model have been determined for the period from 2007 to 2009 on daily return basis, to have compounded effect on the parameter of the market model. The alpha (α) and beta (β) of each sampled stock is exhibited in the following table:

TABLE 1: PARAMETERS OF REGRESSION COEFFICIENT

S.N.	Name of the Company	Alpha (α)	Beta (β)
1	ABB Ltd.	-0.00186	0.597906
2	Bharat Petroleum Corporation Ltd.	-0.00053	0.39279
3	GAIL (India) Ltd.	-0.00095	0.620059
4	Hindalco Industries Ltd.	-0.0019	0.98735
5	Idea Cellular Ltd.	-0.00381	0.748346
6	Infrastructure Development Finance Co. Ltd.	-0.0017	1.075939
7	I T C Ltd.	-0.00096	0.422712
8	Mahindra & Mahindra Ltd.	-0.00036	0.654583
9	NTPC Ltd.	-0.00106	0.596096
10	Oil & Natural Gas Corporation Ltd.	-0.00084	0.682019
11	Ranbaxy Laboratories Ltd.	-0.00142	0.496246
12	Steel Authority of India Ltd.	-0.00097	1.017548
13	Siemens Ltd.	-0.00175	0.660473
14	Unitech Ltd.	-0.00334	1.20527
15	Wipro Ltd.	-0.00126	0.653739

The above parameters of the regression model were gratified into the regression model with respect to the return of market index. The outcomes of model were compared against the actual returns of the sample companies daily share price returns.

The abnormal returns of the company were calculated by getting the difference of expected returns over actual returns. Then these calculated abnormal returns were averaged for their respective quarters for a particular sample company. To serve the purpose of our study, we cumulated all the available average abnormal returns (AAR) for their respective lags known as Cumulative Average Abnormal Returns (CAAR). The significance of CAAR is tested through t-statistics. The reaction in the security prices to the announcement of an information item is studied in this paper with the help of Security Returns Variability (SRV) model. SRV model can be calculated as the square of abnormal returns to the variance of abnormal returns of window period. Further, SRV for the entire quarters were averaged to yield the Average Security Returns Variability (ASRV). The significance of reaction in ASRV is applied using t-statistics on the value of (ASRV-1).

ANALYSIS

TABLE 2: ANALYSIS OF ASRV AND CAAR

Days	ASRV	T-Test	CAAR	T-Test	Days	ASRV	T-Test	CAAR	T-Test
-19	1.039723	0.232099	-0.00986	-0.24634	6	0.749091**	-2.02979	0.050127	1.05233
-18	1.105995	0.661788	0.061148	1.504172	7	1.271844	0.831852	-0.04269	-1.16841
-17	1.040385	0.290828	0.002381	0.039595	8	1.046902	0.248693	-0.00011	-0.0023
-16	1.03568	0.302734	0.000504	0.008448	9	1.123511	0.816047	0.026482	0.599738
-15	1.130058	0.781452	0.080957*	1.757412	10	1.186106	1.059079	-0.08818	-1.49367
-14	1.244038	0.720454	0.021015	0.460898	11	1.068198	0.398416	0.019034	0.423315
-13	1.293861**	1.710747	-0.04707	-0.98387	12	0.818464**	-1.82827	0.02254	0.505288
-12	1.013096	0.074793	-0.0413	-0.96756	13	0.786514**	-1.83608	0.061153	1.491223
-11	1.054612	0.616841	-0.03658	-0.92553	14	0.847594	-0.92606	-0.01128	-0.23252
-10	1.035592	0.211895	0.005296	0.172297	15	0.752127***	-2.39267	-0.01669	-0.39714
-9	1.06161	0.367945	0.077274	1.43702	16	0.63073***	-4.21341	0.003887	0.12353
-8	1.073071	0.33804	-0.01115	-0.28539	17	0.678484***	-3.7703	0.063996	1.38631
-7	0.949167	-0.32642	-0.0696	-1.48992	18	0.820375	-0.93612	-0.00839	-0.30047
-6	1.225388**	1.72299	0.06475*	1.909892	19	0.801444	-1.30382	0.031389	0.61537
-5	1.229639*	1.471825	-0.12351***	-3.06162	20	0.898951	-0.78822	0.070235	1.37563
-4	1.167589	0.773611	-0.09852	-1.54231	21	0.65294***	-2.73726	-0.00718	-0.1846
-3	1.154793	0.577417	-0.02256	-0.20696	22	0.861482	-0.98607	0.057423	1.37722
-2	1.155106	0.780803	-0.04459	-0.78909	23	0.708812***	-4.60169	-0.05579	-1.89578
-1	1.038803	0.268009	-0.01246	-0.23239	24	0.784755**	-1.78288	0.055026	1.551424
0	1.597374***	2.699646	-0.0687	-1.14663	25	0.712342***	-3.72656	0.038596	1.257903
1	1.87944***	3.290749	-0.0663	-1.05372	26	0.772416	-2.13877	0.056066	1.385384
2	1.19261*	1.421301	-0.01121	-0.18593	27	0.990777	-0.04575	0.096429	1.820024
3	1.153909	0.952014	-0.02957	-0.79477	28	0.718997***	-2.36055	0.044031	1.152402
4	0.931334	-0.83397	-0.03397	-0.74996	29	0.881781	-0.8433	0.014385	0.529113
5	0.916824	-0.59198	-0.00597	-0.14585	30	0.753163**	-1.92884	-0.02103	-0.5192

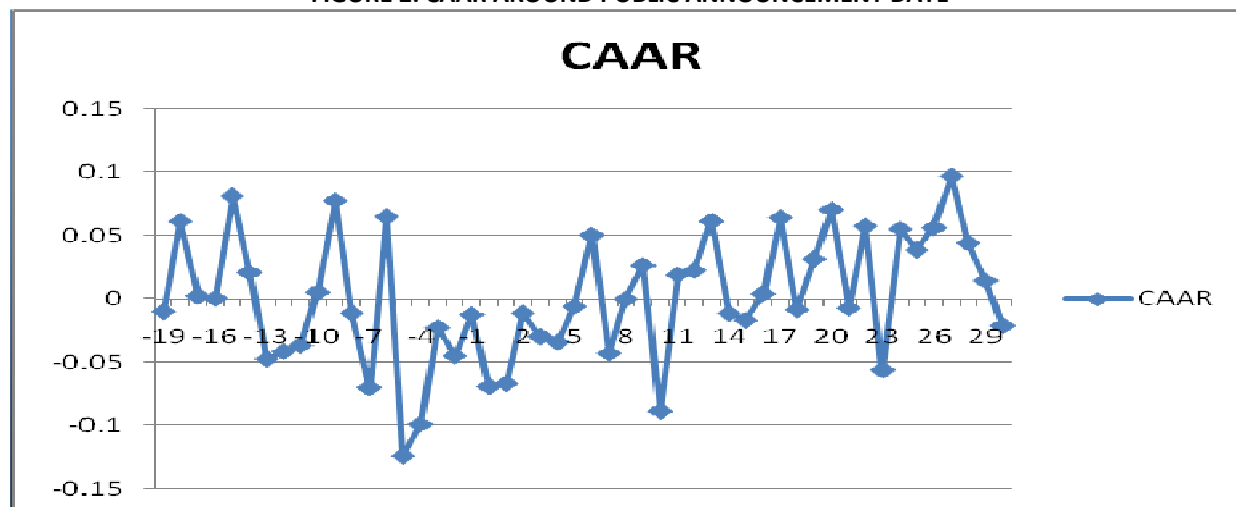
*10% significant, **5% significant and ***1% significant.

Above table depicts the analytical values of ASRV as well as CAAR. ASRV is showing how efficiently, the information regarding corporate action (in our case earning announcement) impound in share price returns. In an informational efficient market the ASRV is expected to be one. If the ASRV is greater than 1 shows the significant reaction in the security price. The mean ASRV during the window period of 50 days is 1.00075. During the event day the ASRV is 60 percent greater than the average and on the day 1 the ASRV is 88 percent. Alas, the t-test clearly indicates that the prices of the securities are not significantly reacted to the announcement, particularly the day surrounding to the event day. With the help of above testing of ASRV, it can easily be inferred that there is fast flow of information in security prices leaving no scope for investors to gain abnormally.

The CAAR shows the relationship between the magnitudes of change in earnings to that of price change. The CAAR is expected to be zero in case of semi-strong form of efficient market. As regards to the CAAR, it is assumed that it should be zero before the announcement day and then shift to a positive level right after the event and remains at that level in an efficient market. In this study we found that the CAAR is close to zero as -0.00986 and remains close to zero up to the announcement date. The shift to a positive level right begins a week later to the announcement date. On 6th day of post announcement period this magnitude of CAAR is about 0.050127 that arose to around 0.096429 on 20th day of post-announcement period. The insignificant CAAR on the day of earning announcement

signifies that the investors could not gain with respect to their adherent information of earning announcement. The following figure provides a clue that returns on share price is quickly adjusting to the information date which is pre-decided date so that the investors became much cautious to that of their trading rules leading CAAR towards zero.

FIGURE 2: CAAR AROUND PUBLIC ANNOUNCEMENT DATE



CONCLUSION

The main thrust of the study is to examine the efficiency of stock market returns for accounting information viz. earning report. To establish the reliability of the results, the study used market model in two different ways- the ASRV and the CAAR for window period of 50 days. The result of the study support that the stock market is efficiently performing leading towards no scope for investors to earn positive abnormal returns. In this study, it has been observed that public announcement of earning reports has a significant impact on investors' behavior while selecting securities. On zero date CAAR is around zero while ASRV is nearly one (1). CAAR increased substantially from 6th to 20th of post-announcement window period.

REFERENCES

1. Ansari V.A. and Mahmood F. (2007). Stock Market efficiency in India: An empirical scrutiny of the Price earning ratio anomaly *Banking Finance*, 19-23.
2. Babu K.A. and Selvam M. (2006). Testing Informational Efficiency of Indian Capital Market: A study on Banking Industry *The Management Accountant* 516-523.
3. Malhotra et al. (2007) Stock Market Reaction and Liquidity Changes Around Bonus Issue Announcement: Evidence from India http://papers.ssrn.com/sol3/papers.cfm?abstract_id=962830.
4. Obaidullah M. (1992). How do Stock Prices React to Bonus Issues? *Vikalpa* 17(1) 17-22.
5. Raja M., Sudhahar J.C. and Selvam M. (2009) Testing the Semi-Strong form Efficiency of Indian Stock Market with Respect to Information Content of Stock Split Announcement – A study in IT Industry *International Research Journal of Finance and Economics*. 25. http://www.eurojournals.com/irjfe_25_01.pdf
6. Rao and Geetha (1996). Indian Capital Market- Informational Signalling and Efficiency *A.P.H. Publishing Corporation* New Delhi.
7. Selvam M. and Babu K.A. (2009). Analysis of Quarterly Earnings Announcement and Informational Efficiency of Indian Capital Market. *Finance India* XXIII (2). 575-604.
8. Sharma Anamika (2009). Impact of Public Announcement of Open Offer on Shareholders Returns: An Empirical Test for Efficient Market Hypothesis, *Applied Finance* 37-51.
9. Srivastava S.C. (1968). Share Prices, Dividends and Earnings *Economic and Political Weekly*, 89-95.
10. Thomas S. and Shah A. (2002) The Stock Market Response to the Union Budget *Economic and Political Weekly*. XXXVII (5), 455-458.

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