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OBJECTIVES

HYPOTHESES

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

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HIGH PERFORMANCE ORGANIZATION AND ORGANIZATIONAL EFFECTIVENESS IN BAPPEDA (DEVELOPMENT AND PLANNING BOARD), ACEH- INDONESIA

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ABSTRACT

The purpose of this paper is to identify the factors that effects High Performance Organizations and examining the relationship between High Performance Organization and organizational effectiveness. A model was designed based on the literature, linking factors of High Performance Organization and organizational effectiveness. Two hypotheses were build based on the literature and the model and were tested in perspective of the previous studies and literature. The study focuses on the practice and observance of the two central factors, High Performance Organization which leads to organizational effectiveness. A total of 40 of usable questionnaire were distributed. The finding shows that the independent variable was an important in determining and influencing organizational effectiveness. Therefore, the organizations should design their rules, policies and organizational structures that give space to the employee to work well and appreciate them on their tasks fulfillment and achievements. This will surely lead to organizational growth.

KEYWORDS

High Performance Organizations, Organizational Effectiveness, Quantitative analysis.

1. INTRODUCTION

Organizational effectiveness is one of the most complex problems in the study of social organizations. High performance organization is one of the important factor that can influence organizational effectiveness. In this paper, researcher has investigated whether High performance Organization affects organizational effectiveness in BAPPEDA Aceh-Indonesia. Furthermore, BAPPEDA ACEH is one of the Development and Planning Board in Aceh Province have strong willingness and motivation to increase their organization effectiveness after Tsunami disaster and earthquake December, 2004. BAPPEDA is government organizations in ACEH that have mission to improve their performance and increasing their performance as soon as possible. In addition, based on BAPPEDA's priorities in developing Aceh, researcher interesting to explore their performance to achieve continuous improvement and effectiveness after tsunami and earth quake. Organizational effectiveness is a concept that has mostly come from studies within the academic and business world on which organizations are most successful. There are many ways to measure organizational effectiveness and this in itself can be an issue. Deciding what you want your organization to accomplish is the first step in making it effective. Many issues have been identified as important to making an organization more effective. Change can be a major issue for an organization, but organizations that manage change the most effectively tend to be those that succeed in the government sector or another sector.

A very few organizations believe that the human personnel and employees of any organization are its main assets which can lead them to success or if not focused well, to decline. Unless and until, the employees of any organization are satisfied with it, are motivated for the tasks fulfillment and goals achievements and encouraged, none of the organization can progress or achieve success. The focus of this study is to enlighten that how an organization through its employees can achieve effectiveness. The purpose of the study is to analyze the impact of High Performance Organizations on organizational effectiveness.

ORGANIZATIONAL EFFECTIVENESS

Organizational effectiveness is the notion of how effectual an organization is in accomplishing the results the organization aims to generate. It plays an important role in accelerating organizational development. It is the net satisfaction of all constituents in the process of gathering and transforming inputs into output in an efficient manner (Matthew et al, 2005). Organizational effectiveness is defined as the extent to which an organization, by the use of certain resources, fulfils its objectives without depleting its resources and without placing undue strain on its members and/or society. It is the maximum combined utility of the primary constituents. It can be conclude that organizational effectiveness is the results of the developing employees effectively to get the successfully progress in the organization. This implies that increased organizational effectiveness will play an important role in accelerating organizational development.

HIGH PERFORMANCE ORGANIZATIONS

The concept of high performance organizations referred to as high commitment or high involvement organizations. Now days high performance organization become the issue that the organization should achieved it. It is because of the competition among the organization each year increasing dramatically.

THE HIGH PERFORMANCE FACTORS

The five HPO factors are described underneath (DeWaal, 2011):

1. HPO FACTOR 'MANAGEMENT QUALITY'

Management quality holds people on achieving better results by being supportive, helping and protecting the people from outside interference, and by being available. Managers and employees that have good management quality are can gets ability to communication effectively.

2. HPO FACTOR 'OPENNESS AND ACTION ORIENTATION'

The managers or employees who have a open mind, likely openness and action orientation can achieve the opportunity results. The results could be right or wrong, but it is called as learning improvement. It also can enhance flexibility in order to obtain new ideas to improve their work and make organization performance high.

3. HPO FACTOR 'LONG-TERM ORIENTATION'

The employees, suppliers, clients and society are extend to long term orientation. Long term orientation is more important than short term orientation. It can be achieve by learning what customers want, understanding their values, building excellent relationship and focusing on continuously enhance customer value.

4. HPO FACTOR 'CONTINUOUS IMPROVEMENT'

Continuous improvement is processes to improve its ability to respond to events efficiently and effectively and to eliminate unnecessary procedures, work, and information overload. The organization continuously innovates products, processes and services, constantly creating new sources of competitive advantage by rapidly developing new products and services to respond to market changes. It also masters its core competencies and is an innovator in them by deciding and sticking to what the company does best, keeping core competencies inside the firm and outsourcing non-core competencies.

5. HPO FACTOR 'WORKFORCE QUALITY'

Workforce quality can doing by training staff to be both resilient and flexible, letting them learn from others by going into partnerships with suppliers and customers, inspiring them to work on their skills so they can accomplish extraordinary results, and holding them responsible for their performance so they will be creative in looking for new productive ways to achieve the desired results.

BAPPEDA ACEH-INDONESIA

Shortly after the devastating tsunami of December 26, 2004 that hit the coast of Nanggroe Aceh Darussalam, Indonesia, spatial information was being used to assess damage and plan emergency response. Initially driven by BAPPEDA, spatial information was used to prioritize areas of greatest need and to help coordinate the response of the plethora of agencies that came to Aceh to provide assistance. The BAPPEDA was established as a provider of information products of Planning and Developing and services and enabled the humanitarian community to deliver assistance more effectively

This study focuses on effectiveness in BAPPEDA Aceh-Indonesia. For some province in Indonesia, it is not attached by the Huge Tsunami, December, 2004 but Aceh at that time should come on preparing all the things likely the government start from zero. The effectiveness in that particularly area come an important things of ACEH for planning and developing soon.

STATEMENT OF PROBLEM

HENCE THIS PARTICULAR STUDY FOCUSES ON THE "HIGH PERFORMANCE ORGANIZATIONS AND ORGANIZATION EFFECTIVENESS IN BAPPEDA ACEH-INDONESIA".

OBJECTIVES OF THE STUDY

The objectives of the research include;

1. To analyze the relationship between High Performance Organization on Organization Effectiveness of Aceh – Indonesia
2. To analyze the influence of High Performance Organization on Organization Effectiveness of Aceh – Indonesia

HYPOTHESIS OF THE STUDY

This study aims to investigate relations between High Performance Organizations and Organization effectiveness. According to researcher frame work the following hypotheses are formulated.

H1: High Performance Organizations may have significant relation on Organizational Effectiveness

H2: High Performance Organization may significantly influence of Organizational Effectiveness

POPULATION OF STUDY

The population is the study unit or element which information is gathered to achieve the study purpose. The population as a collection of elements which the study is interested to examine. The target population for this study is employees from BAPPEDA in Aceh- Indonesia. The unit analysis for this study consists of employees who are continuous study at University Utara Malaysia to increase their performance on theirs government.

RESEARCH DESIGN

This chapter presents the procedures to investigate the relationship between the different variables in this study. These procedures comprised of the research design to development of an instrument for this research. A research in general can be considered as a systematic process to find answers for certain issues. A research design is perceived as a road map for the researchers. In other words, a research design is a comprehensive plan on how a research is to be accomplished, how the variables are operationalized, how the data from the proposed sample are collected and subsequently, how the results are derived by analyzing the data. A research design is a master plan specifying the methods and procedures for collecting and analyzing the needed information (Zikmund, 2003). It is a framework or blueprint that plans the action for the research project. A research design depends primarily on the nature of research questions or research purpose which may be broadly grouped into three (3) types of studies namely, (a) exploratory; (b) descriptive; and (c) experimental.

The descriptive studies aim to provide an accurate description of a situation or of an association between variables from which one can then make some statements about a certain group or population. Accuracy and reliability become important considerations in description research and to attain findings, description studies often require quantitative measures for variable under investigation, as well as sufficient number of cases or units for data collection and analysis.

The descriptive research using quantitative analysis method selected for this research study was the most appropriate given the purpose and problem statement for the research study. The description method of research is used in this study. It is a fact-finding study with adequate and accurate interpretation of the finding. It describes what is it with emphasis what actually exists with such current conditions, practices, situations, or any.

Quantitative analysis is employed on data that have been assigned with some numerical value. The analysis can range from the examination of simple frequencies to the descriptive statistics and to investigation of correlation and casual hypothesis using various statistical tests.

SAMPLING

The employees who are having different socio background are considered as the criteria for the selection of sample. A total of 40 employees were request to complete a questionnaire. the questionnaire were distributed to the respondents by using simple random sampling method. Under simple random sampling method, all elements in the employees are considered and each element in the employees are considered and each elements has an equal chance of being chosen as the subject (Sekaran, 2003).

The research sample was selected from a range of demographic elements for processing based on non probability sampling in Aceh-Indonesia with focus point on BAPPEDA Aceh

Non probability sampling techniques are in which units of that sample are selected on the basis of personal judgment or convenience. The probability of any particular member/ customers of the population being chosen is unknown (Zikmund, 1997).

HYPOTHESES TESTING

In this study, design employed a testable to investigate the relationship between variables and can be considered as a descriptive and hypotheses testing study in nature. Using the descriptive statistics to determine the main attributes of the population can be provide a better understanding on the nature of the population. Hypotheses are also used to investigate the relationship between the independent and dependent variables to determine any differences between them.

DATA COLLECTION AND TYPES OF ANALYSIS

The dimensionality of the Effectiveness scale was analysed using Statistical Package for the Social Science (SPSS) version 14.0 software programme. It was reported that SPSS is now known as PASW (Predictive Analytics Software). The BAPPEDA employees responses were analysed using One-way Analysis of Variance (ANOVA) and Regression Analysis,

The other types of analysis that are conducted in this study as follows:-

- (a) Reliability – an assessment of the degree of consistency between multiple measurements of a variable.
- (b) Factor Analysis – an interdependence technique which primary purpose is to define the underlying structure among the variables in the analysis.
- (c) Frequency distribution – the score values and their frequency of occurrence.
- (d) Analysis of variance (ANOVA) - statistical techniques used to determine, on the basis of one dependent measure, whether samples are from populations with equal means.
- (e) Regression Analysis – the relationship between two or more variables for prediction.
- (f) Correlation coefficient – quantitatively the magnitude and direction of the relationship.

ANALYSIS AND RESULTS**TABLE 1: FACTOR ANALYSIS-ORGANIZATIONAL EFFECTIVENESS**

Variables (Independent Variable)	Number of items	% of variance explained	Cronbach's alpha
Continuous improvement (X1)	8 items	0.009	0.956
Openness and action Orientation (X2)	6 items	0.074	0.961
Management quality (X3)	11items	0.091	0.868
Workforce quality (X4)	4 items	0.015	0.904
Long term orientation (X5)	6 items	0.168	0.808

All the 5 factors (X1, X2, X3, X4, X5) that included infactor analysis were found most vital in survival skill explaining 0.009, 0.074, 0.091, 0.015, and 0.168 of the variance respectively. Thus all the factors then considered for further analysis.

RELIABILITY TEST

Reliability test was conducted on independent and dependent variables, services quality, marketing and customer loyalty. Reliability test used to view the reliability of instruments has been declared invalid. Instrument say reliable, using the coefficient alpha cronbach. If the value cronbach alpha coefficient > 0.60. the Cronbach's alpha values of the study variables are shown in the table. As the a result, cronbach's alpha for the customer loyalty variables range from 0.808 to 0.961 and considered for the study.

VALIDITY TEST

Validity test is done by using the correlation between the score of each - each item questions with a total score. Techniques used in this study is factor analysis. For the calculation process, the researcher uses SPSS 14.00. The method used Varimax Rotation and variables have factor loading more than 0.4 otherwise appropriate for factor analysis. Testing with Kaiser's MSA method shows the value of 0.500. This value means the data obtained is valid or appropriate for factor analysis.

**TABLE 2: VALIDITY TESTING RESULT
KMO AND BARTLETT'S TEST**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.500
Bartlett's Test of Sphericity	Approx. Chi-Square	152.035	
	Df	1	
	Sig.	.000	

SOCIO DEMOGRAPHIC ANALYSIS

The data collected of socio demographics were analyzed on the basis of descriptive statistics. SPSS 14.00 version was used to analyzed the data collected. The details of the analysis are given below.

GENDER OF RESPONDENT

Table 3.1 shows the gender of respondents. From the table most of the respondents are female 27.5% (11) and male 72.5% (29).

TABLE 3.1: GENDER OF RESPONDENT

GENDER	FREQUENCY	PERCENT
Male	29	72.5
Female	11	27.5
Total	40	100

AGE OF RESPONDENTS

Table 3.2 shown that 12,5% or 5 respondent's age between 21-25 years. 25% or 10 respondents answered the questionnaire are age between 26-30 years, while 35 % or 14 respondent's age between 31-35 years. On the other hand, 17,5 % or 7 respondent's age between 36-40 years. The remaining of 10% or 4 no's of the respondents were age between 41 – 45 years

TABLE 3.2: AGE OF RESPONDENT

AGE	FREQUENCY	PERCENT
21-25 years	5	12.5
26-30 years	10	25
31 – 35 years	14	35
36-40 years	7	17.5
41 – above	4	10
Total	40	100

EDUCATION LEVEL OF RESPONDENTS

The result of respondents' education level is shown in Table 3.3 The finding shows that 72,5% (29 respondents) were master degree, while 27,5% (respondents) were Phd degree.

TABLE 3.3: EDUCATION LEVEL OF RESPONDENT

EDUCATION LEVEL	FREQUENCY	PERCENT
Master degree	29	72.5
PhD degree	11	27.5
Total	40	100

EDUCATION BACKGROUND OF RESPONDENT

The result of respondent's education background is shown in Table 3.4. The finding shows that 25% (50 respondents) were management background, while 7,5 % or 3 respondents are accounting education background and 3 respondents are come from business education. The respondent of marketing background is 1 or 2.5 % , similarly with economics, which is the respondent is just 1 or 2.5 % . The remaining of 55% or 22 no's of the respondents were come from differences education background. It is indicated that they had other qualification.

TABLE 3.4: EDUCATION BACKGROUND OF RESPONDENT

Education background	FREQUENCY	PERCENT
Marketing	1	2,5
Business	3	7,5
Economics	1	2,5
Accounting	3	7,5
Management	10	25
Others	22	55
Total	40	100

YEARS OF EXPERIENCE OF RESPONDENTS

The data shown in Table 5 62% or 31 respondents' experience below 5 years, while 24% or 12 respondents' experience are 5-10 years and 12% or 6 respondents experience are between 11-15 years.

TABLE 3.5: YEARS OF EXPERIENCE OF RESPONDENT

Years	FREQUENCY	PERCENT
< 5 Years	31	62
5-10 Years	12	24
11-15 years	6	12
Total	40	100

ANALYSIS OF VARIANCE (ANOVA)

In statistics, analysis of variance (ANOVA) is a collection of statistical models, and their associated procedures, in which the observed variance is partitioned into components due to different explanatory variables. The initial techniques of the analysis of variance were developed by R .A. Fisher statistician and geneticist in the 1920s and 1930s, and is sometimes known as Fisher's ANOVA or Fisher's analysis of variance.

The basic procedure is to derive two different estimates of population variance from the data, then calculate a static from the ratio of these two estimates (One of these estimates (between-groups variance) is a measure of the effect of the independent variable combined with error variance while within-group variance is a measure of error variance by itself. A significant F-ratio indicates that the population means are probably not all equal.

The result of the independent variable combined is significance at 0.000 or less of 0.05 level ($p < 0.5\%$). It can be explained that all independent variables are continuous improvement, openness and action orientation, management quality, workforce quality and long term orientation have significant relation with organizational effectiveness. And R-square at 0.898 or 89.8 % independent variables have capability to influence or as predictors of dependent variables. The results of ANOVA are shown in the table below.

TABLE 4: ANOVA (b)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	344.005	1	344.005	334.371	.000(a)
	Residual	39.095	38	1.029		
	Total	383.100	39			

a Predictors: (Constant), X

b Dependent Variable: Y

TABLE 5: MODEL SUMMARY (b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.948(a)	.898	.895	1.01430	.898	334.371	1	38	.000	1.827

a Predictors: (Constant), X

b Dependent Variable: Y

CORRELATION

A number of different coefficients are used for different situations as mentioned by Coakes & Steed (2007). The best known is the Pearson product-moment correlation coefficient, which is obtained by dividing the covariance of the two variables by them product of their standard deviations. Pearson's correlation reflects the degree of linear relationship between two variables. It ranges from +1 to -1. A correlation of +1 means that there is a perfect positive linear relationship between variables. A correlation of -1 means that there is a perfect negative linear relationship between variables. A correlation of 0 means there is no linear relationship between the two variables. Correlations are rarely if ever 0, 1, or -1. A certain outcome could indicate whether correlations are negative or positive.

TABLE 6: CORRELATION BETWEEN HIGH PERFORMANCE ORGANIZATION AND ORGANIZATIONAL EFFECTIVENESS

Analysis	Dependent Variable : Customer's loyalty
Continuous improvement	0.991 (**)
Openness and action orientation	0.926 (**)
Management quality	0.909 (**)
Workforce quality	0.985 (**)
Long term orientation	0.832 (**)

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

Table.6 shows there is a significant positive correlation between High Performance Organization and Organizational effectiveness with a significant value at 0.000. Hence we accept the Hypothesis. In other words High Performance Organization and Organizational effectiveness are related with a high relationship ($r = 0.948$)

REGRESSION ANALYSIS

To determine the influence continuous improvement, openness and action orientation, management quality, workforce quality and long term orientation of Organizational effectiveness in BAPPEDA, Nanggroe Aceh Darussalam- Indonesia, then conducted multiple regression analysis as shown in Table.7 below.

TABLE 7: MULTIPLE REGRESSION

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.2.452	.1.230		-.1.993	.053		
	Continuous improvement	.663	.014	.991	46.394	.000	1.000	1.000
	Openness and action orientation	.890	.053	.926	15.075	.000	1.000	1.000
	Management quality	.499	.037	.909	13.478	.000	1.000	1.000
	Workforce quality	1.299	.037	.985	35.386	.000	1.000	1.000
	Long term orientation	.942	.102	.832	9.234	.000	1.000	1.000

As for the relationship and contribution of continuous improvement, openness and action orientation, management quality, workforce quality and long term orientation on organizational effectiveness at BAPPEDA, Nanggroe Aceh Darussalam, can be seen correlations coefficient and determinants in the summary table as follows.

From the table were obtained as following equation:

$$Y = -2.452 + 0.663 X_1 + 0.890X_2 + 0.499 X_3 + .1.299 X_4 + 0.942 X_5$$

TABLE 8: SUMMARY OF HYPOTHESES

The hypotheses	Finding
H1:High Performance Organizations may have significant relation on Organizational Effectiveness	Accepted
H2:High Performance Organization may significantly influence of Organizational Effectiveness	Accepted

DISCUSSION

The objective of this study is to explore the relationship between high performance organizations and organizational effectiveness and further analyze the significant influence of these variables. This study showed that there is a positive correlation between factors of high performance organization and organizational effectiveness at 0.01 level. The 30 factors of high performance organization (continuous improvement, openness and action orientation, management quality, workforce quality and long term orientation) having significant impact on organizational effectiveness. This finding supported by Manzoor (2011); Hasan et al. (2011).

Further more, Continuous improvement is a set of guiding principles which represent the foundation of a continuously learning, developing, and improving organization, readily able to adapt to the changing needs of its constituents. The finding showed that Implementing continuous improvement in government sector have a significant relationship with organizational effectiveness. The continuous improvement provide an overview of the role, responsiveness and activities of the employees of an improvement team or initiative. Especially for BAPPEDA Aceh, by creating and developing suitable improvement can makes them going concern, this finding is supported by previous finding (Dewall, 2011); Musarat and Sarwar and Azhar. (2011)

Openness and action oriented organization have a positive relationship with organizational effectiveness. It means everyone devoted much time and attention to communication, exchange of knowledge and learning in order to think of new ideas with which employees can continuously improve their work in order to bring organization to a higher level and get the effectiveness communication. Effectiveness communication can express the employees achieving satisfied results. This condition, can create the organization effectiveness. Dewall, (2011); Tung and Baird and Schoch, (2011).also found the positive relation with organizational satisfaction.

Clearly, the previous researcher have asserted that management quality has powerful influence on organizational effectiveness (Gupta,2011; Dewall,2011; Nwokah and Ahiauzu, 2009). Usually, the management quality is always focus in along term orientation. The quality of management is also can improve the performance of the organization. If the performance are high, it is possible that the effectiveness of organization will high as well. The explanation above supported this finding, which is there is significant relationship between management quality and organizational effectiveness.

More, work force quality have a significant relationship with organizational effectiveness. Work force quality is substantial factors that can enhance effectiveness organization. Work force quality is related to the quality of employees effectiveness. Based on the fact that employees are varied, the employees should able to work effectively together. The continually effectively make the organization more successfully. This finding appeared to be consistent with the results of Dewall, (2011); Thompson and Mathys, (2008).

Closely, in relation to the above discussion, another factor which is influences the organizational effectiveness is long term organization. The results of this study is there is significant relationship between long term organization and organizational effectiveness. This results is stand for the fostering of various oriented towards future rewards. This study is consistent with Dewall, (2011); Papadimitriou, (2007).

IMPLICATION

BAPPEDA Aceh is one of the government planning that play an important rule in Nanggroe Aceh Darussalam. This study focus on an implementation of High Performance Organization of BAPPEDA Aceh to increase the effectiveness after tsunami and earthquake. The right implementation of High Performance can be the potential challenge for the government to achieving the desired results. With managing the performance in government can help the organizations to be efficiently and effectively.

CONCLUSION

The objective of this study was to see the influence and relationship between high performance organization and organizational effectiveness. The finding showed that high performance organization such as management quality, openness and action orientation, long term orientation, continuous improvement, and work force quality) have strong relationship with organizational effectiveness. It means high performance Organizations play an essential part in enhance employee motivation towards organizational effectiveness. BAPPEDA Aceh as government sector should concern about that particular area to get successful results and going concern.

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SOCIAL ENTREPRENEURS IN BANGLADESH

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ABSTRACT

Over the years, the issue of entrepreneurship has gone beyond the conventional profit making theme. Besides the traditional/economic entrepreneurs, the social entrepreneurs are getting much importance. In the management literature, the issue of social entrepreneurship is a relatively new and fast-growing topic. The study focuses on the issue of 'social entrepreneurs' in Bangladesh with the help of two case studies of two individuals as founders of two prominent social entrepreneurship ventures. They are, Dr. Muhammad Yunus of Grameen Bank and Mr. Fazle Hasan Abed of BRAC. Their biographies and entrepreneurial journeys were analyzed and compared with those of the so called 'traditional' business/economic entrepreneurs basing on some published literature. In this study, it was found that though both these parties vary in their biographical background, entrepreneurial mission and motivation, at the end of the day, both these parties are 'entrepreneurs' as they are future-oriented, innovators, risk takers and good organizers.

KEYWORDS

social entrepreneurs, entrepreneurship.

CHARACTERISTICS OF BANGLADESHI ENTREPRENEURS: PRIOR RESEARCH

For the last few decades in all over the world, entrepreneurs are regarded as value adding people to the society. According to Holt (1992), the term entrepreneur may be properly applied to those who incubate new ideas, start enterprises based on those ideas, and provide added value to society based on their independent initiatives. These people are considered as value adding persons because as a result of their own initiatives jobs are created in the society, capital formation is promoted, country's export trade is increased, concentration of economic power is reduced, balanced regional development becomes possible, forward and backward linkages among the industries are created and equitable redistribution of wealth, income and even political power is ensured (Khanka, 1999). An entrepreneur should have several special characteristics that help them to become successful businessmen. An entrepreneur should be a risk taker, innovative, self-confident, goal-setter, hard worker and accountable (Siropolis, 1997). In other words, entrepreneurs must be persistent, self-confident, creative, optimistic and independent minded (Holt, 1992). They are realistic about working hard and driving toward measurable results, tend to have superior conceptual abilities and are generally emotionally stable (Welsh and White, 1981). In a workshop on entrepreneurship conducted at the East-West Center, Honolulu, in 1977, a list of characteristics and traits of the entrepreneurs was prepared (Meredith, et al, 1982). This list says an entrepreneur should have characteristics like self-confidence, task-result orientation, risk-taking, leadership, originality and future orientation. It is not necessary that an entrepreneur should have all these characteristics at a very high rate. But the more a person has these qualities, the greater chance there is for him/her to become an entrepreneur (Meredith, et al, 1982) because he/she will be able to perform the 'entrepreneurial functions' properly because of these traits. Khanka (1999) says, the three broad categories of an entrepreneur's function are: Risk-taking, Organization and Innovation. Hisrich and Peters (1998) characterizes entrepreneurship as a process of creating something new and assuming the risks and rewards. Kirzner (1972 and 1982) argued that an entrepreneur might simply identify an opportunity for profit, rather than create one and they could benefit from education in general and managerial training in particular, without necessarily requiring the skills to be innovative. Tripathi (1997) identifies that there is a general consensus that conceptually the entrepreneurship process can be divided into three stages. These are: perception of new opportunities of profit, marshalling of resources and creation of a viable organization to exploit the perceived opportunities and, responsiveness to changes in perceivable opportunities. Timmons (1999) found that though it needs some in-born qualities to become a successful entrepreneur, necessary education, training and experience are also crucial factors for this.

Several studies on topics like entrepreneurship and entrepreneurs were done by several academicians all over the world in different countries. The issue got immense importance in the eyes of the researchers. The case of Bangladesh is also similar. After the period of British ruling when two new states India and Pakistan came, the economy of this subcontinent was backward, highly agricultural and characterized by massive poverty (Ray, 1992). During the ruling of Pakistanis, though the other side of Pakistan (West Pakistan) saw some economic developments, the portion which is now called Bangladesh (the then East Pakistan) could not see that light. Bangladesh got rid of Pakistani ruling in December 1971. But because of one-eyed behavior of the then Pakistani rulers huge economic problems were already prevailing in East Pakistan even at the pre-independence period. After independence, as a result of the post-war crisis, massive political unrest etc. the overall economy became more backward and stagnant. From then, even today Bangladesh is known all over the world for its mass-poverty and poor economic growth (Kamal, 1985). Even now-a-day, the dominant sector of economy is the agricultural sector. But investment in agriculture from commercial point of view has not been made much due to ownership problems, existing inheritance laws, uneconomic size of farm, socio-cultural traditions of the people and absence of governmental commitment for restructuring agricultural sector etc. (Saha, 1990). In case of industrial sector it can be said that as a result of the post-war industrial policy (which included nationalization of industries) discouraged the growth of enterprises in the private sector and it hampered the development of entrepreneurship in the newly born country (Sadeq, 1989). After 1975, when the political situation of the country changed, an encouraging environment for entrepreneurship development was created (Sadeq, 1989). A huge number of articles have been written and published in several journals discussing several aspects of entrepreneurs and entrepreneurship in Bangladesh. Both theoretical and empirical studies have been done by several academicians. Hossain (2006) found that the main issues that got huge attention from the part of the academicians of Bangladesh (on the issue of entrepreneurs and entrepreneurship in Bangladesh) can be divided into four categories: the characteristics and profiles of Bangladeshi entrepreneurs, issues related to problems and prospects of entrepreneurship development in Bangladesh, entrepreneurship training, and, women entrepreneurs.

Several studies were done in order to identify the characteristics or profiles of Bangladeshi entrepreneurs (Hossain, 2006). Papanek (1969) observed psychological trait of risk taking among the people of the then East Pakistan (now Bangladesh). Farouk (1983) did a survey on Bangladeshi entrepreneurs and in this survey he focused on the biography of successful Bangladeshi entrepreneurs. He found that Bangladeshi entrepreneurs are generally hard working, honest, religious, trustworthy, reliable, less educated and live simple lives. Most of the entrepreneurs in this survey had poor educational background and were not good students. Generally these entrepreneurs come from three groups:

- Those families who have been in business or industry by tradition and their children are now in business,
- Retired government officers or politicians or their family members.
- Those who began small but achieved considerable success by their personal efforts.

Rahman (1989) found that Bangladeshi Entrepreneurs possess some characteristics that are similar to characteristics of entrepreneurs in other countries. He did an extensive survey on 5 living Bangladeshi entrepreneurs and found that they are hard workers, truthful, religious, simple living, honest, sincere, good leaders, task oriented and had capacity to influence others. The highest educational degree they achieved was the Bachelors degree. Most of them started their businesses after the age of 35. All of them came from non-business family backgrounds. They had previous job experience that helped them to acquire practical knowledge in decision making process, managing workers, handling accounts and dealing with the bureaucracy. They were moderate risk takers and innovative. They diversified their risks in different types of industries, trade, building houses etc. after gaining the initial success. The entrepreneurs studied in this survey had the sense of perceiving opportunities around them and utilized them gainfully. It was seen that once an entrepreneur commits himself to a job or task, he absorbs himself fully in performing this task. These people have will power, self-confidence, creativity adaptability etc. Though Papanek(1969) found that the people of this region have risk taking capability, Sadeq (1989) stated that in Bangladesh, risks and uncertainty discourage potential entrepreneurs from undertaking highly profitable and socially desirable new ventures. He also comments that there is a shortage of experienced entrepreneurs in the country, which is unfavorable for entrepreneurship development in the country. Another important finding of his study is that as the religion of most of the people in this country is Islam, Islam provides inspiration for entrepreneurial activity. Rahman (1993) found that the attributes of an entrepreneur could be instinctive, as well as, taught by educational institutions. Begum (1993) in her study of entrepreneurs in engineering industry focused on the nature of small units started by relatively youthful entrepreneurs. Prior experience in engineering units, self-motivation and confidence influenced them to venture into new business. In 44% cases, the first generation entrepreneurs came from families engaged in agriculture. It is observed that there is no relation between industrial health and level of education.

Mainly all these studies focused on the biographies and characteristics of Bangladeshi entrepreneurs who mainly had business and profit motives for starting a business. These entrepreneurs are called Business/Economic Entrepreneurs (EE hereafter). In recent years another type of entrepreneurs got attention all over the world and these people are called *social entrepreneurs* (SE hereafter) or *civic entrepreneurs*. According to Seelos and Mair (2005), what seems to be a common feature of social entrepreneurship is its primarily social mission and social entrepreneurship, seen as a field of experimentation and innovation, has the potential to contribute new insight to the discipline of entrepreneurship, and also the wider social sector.

OBJECTIVES AND METHODOLOGY OF THE STUDY

Firstly, the study through an extensive literature survey identifies the definition and the characteristics of social entrepreneurs and draws a distinctive line between the concepts EE and SE. The main objective of this study is to analyse the biographical characteristics and the entrepreneurial journey of Bangladeshi SEs. In order to do this, *case study* method was followed. The purpose of case study method is to obtain information from one or a few situations that are similar to the researcher's problem situation (Zikmund, 2003). In case studies, the researcher explores in depth a program, an event, an activity, a process, or one or more individuals (Creswell, 2003).

This study is basically a desk research. To identify and analyze the characteristics and the entrepreneurial journey of the SEs of Bangladesh, the article analyses the cases of two of the prominent Bangladeshi SEs and they are, Mr. Muhammad Yunus (Grameen Bank) and Mr. Fazle Hasan Abed (BRAC). Information about these people was collected from several sources like *magazine interviews*, *both biographical and autobiographical books*, some *research articles* and of course from the *World Wide Web*. In analyzing the biographical characteristics of these two SEs, the study focuses mainly on the issues like family background and educational background. The motivation working behind becoming a SE is identified. Brief historical overviews of their organizations were also given and analysed. At last, the findings of this study were compared with the findings of other studies that are related to mainly the EEs in order to differentiate the characteristics of these two types of entrepreneurs.

One *limitation* of case study research is that generalization from a few cases is dangerous because most situations are atypical in some sense (Zikmund, 2003). But even if situations are not directly comparable, case studies can provide with a number of insights and hypotheses that can be used for future researches.

SOCIAL ENTREPRENEURS (SE): AN INTRODUCTION

According to Johnson (2000), the increasing concentration of wealth in the private sector is promoting calls for increased corporate social responsibility and more proactive responses to complex social problems. That is why, the issue of entrepreneurship, long hallowed in the context of business and economic ventures, has been increasingly applied to the context of social problem solving (see Dees, 1998a; Thake and Zadek, 1997; Alvord, Brown and Letts, 2002). In light of this, social entrepreneurship is emerging as an innovative approach for dealing with complex social needs (Johnson, 2000). In recent management literature, the term SE has become an important topic of discussion. The term social entrepreneurship is used to refer the rapidly growing number of organizations that have created models for efficiently catering to basic human needs that existing markets and institutions have failed to satisfy (Seelos and Mair, 2005).

Entrepreneurs are highly innovative, hugely motivated, and critical thinkers. When these traits are united with the drive to get to the bottom of social problems, SEs are born. According to CCSE (2001), SEs are leaders in the field of social change, and can be found in the private, public and not-for-profit sectors and these social innovators combine an entrepreneurial spirit with a concern for the 'social' bottom line, as well as the economic one, recognizing that strong, vibrant communities are a critical factor in sustaining economic growth and development. SEs have a commitment to promote a social mission and improve society. Over last few years several academicians tried to define the term SE (or civic entrepreneurs) in their own languages and ideas. Some of the selected definitions are presented in Table 1:

TABLE 1: DEFINITIONS OF SE GIVEN BY DIFFERENT AUTHORS

Author and year	Definition
Henton et al (1997) [Used the term "civic entrepreneur"]	"... a new generation of leaders who forge new, powerfully productive linkages at the intersection of business, government, education and community".
Schulyer (1998)	".....individuals who have a vision for social change and who have financial resources to support their ideas....exhibit all the skills of successful business people as well as a powerful desire for social change".
Boschee (1998)	"...non-profit executives who pay increased attention to market forces without losing sight of their underlying mission"
Thompson et al. (2000)	"...people who realize where there is an opportunity to satisfy some unmet need that the state welfare system will not or cannot meet, and who gather together the necessary resources (generally people, often volunteers, money and premises) and use these to 'make a difference'".

The definition from different authors have created confusions among the people who have gone through several literature related to the concept SE. It is because various terms were used by different authors in order to clarify this idea. According to Johnson (2000):

To add to the confusion of these somewhat differing descriptions of social entrepreneurs, several other terms are currently also used to describe similar activities and initiatives, including, but not limited to: social purpose venture; community wealth venture; non-profit enterprise, venture philanthropy; caring capitalism; social enterprise and civic entrepreneurship.

Another confusion may arise from the definitions that whether these people are 'social problem solvers' or 'entrepreneurs'. There should not be any doubt that these people are definitely entrepreneurs. They are risk takers, innovators and good organizers. They are entrepreneurs with a social mission and definitely they are 'one species in the genus entrepreneur' (Johnson, 2000 and Dees, 1998b).

Sayani (2003) argued that two common characteristics of socially entrepreneurial activities are problem solving and social innovation and combined, these qualities become agents that bring together public, private, and non-profit sectors across traditional boundaries for a common goal. According to Alvord, Brown and Letts (2002) the concept of SE has taken variety of meanings as several authors have defined it in many ways like:

1. Some have focused on social entrepreneurship as *combining commercial enterprises* with social impacts. In this perspective, entrepreneurs have used business skills and knowledge to create enterprises that accomplish social purposes in addition to being commercially viable. Not-for-profit organizations may create commercial subsidiaries and use them to generate employment or revenue that serves their social purposes, or for-profit organizations may donate some of their profits or organize their activities to serve social goals. These initiatives use resources generated from successful commercial activities to advance and sustain their social activities.
2. Others have emphasized social entrepreneurship as *innovating for social impact*. In this perspective, attention is focused on innovations and social arrangements that have consequences for social problems, often with relatively little attention to economic viability by ordinary business criteria. Social entrepreneurs are focused on social problems, and they create innovative initiatives, build new social arrangements, and mobilize resources in response to those problems rather than the dictates of the market or commercial criteria.
3. Others see social entrepreneurship as a way to *catalyze social transformation* well beyond the solutions of the social problems that are the initial focus of concern. From this perspective, social entrepreneurship at its best produces small changes in the short term that reverberate through existing systems to catalyze large changes in the longer term. Social entrepreneurs in this tradition need to understand not only immediate problems but also the larger social system and its interdependencies, so that the introduction of new paradigms at critical leverage points can lead to cascades of mutually-reinforcing changes that create and sustain transformed social arrangements. Sustainable social transformations include *both* the innovations for social impacts and the concern for ongoing streams of resources that characterize the other two perspectives on social entrepreneurship – and they also lead to major shifts in the social context within which the original problem is embedded and sustained.

From this discussion it can be understood very clearly that a SEs do not run any kind of 'charitable' organizations rather they run 'economically viable' organizations that help in solving some social problems.

BANGLADESHI SOCIAL ENTREPRENEURS: TWO CASE STUDIES

This section of the article will present two case studies (Mr. Muhammad Yunus of Grameen Bank and Mr. Fazle Hasan Abed of BRAC) of Bangladeshi Social Entrepreneurs. The cases of these two individuals were selected for analysis because these individuals were accepted as social entrepreneurs worldwide. Researches like Seelos and Mair (2005) and Alvord, Brown and Letts (2002) have mentioned Grameen Bank and BRAC as the renowned cases for 'social entrepreneurship'. These articles mainly focused on the organizations rather than the entrepreneurs themselves.

The main focus of the current study is on the biographies and entrepreneurial characteristics of the entrepreneurs themselves. Focusing on their organizations is a secondary concern. In this respect, this article is different from those previously published articles. As mentioned in the methodology section, the cases were prepared with the help of several sources like *magazine interviews, both biographical and autobiographical books, some research articles* and of course from the *World Wide Web*. It is very tough to present the highly active and successful lives of these world renowned people through short cases. So, definitely so many (even some very important) activities of them could not be mentioned here. It is a *limitation* of this study.

Case 1: Muhammad Yunus: The case was prepared with the help of an autobiographical book of Dr. Muhammad Yunus (Yunus, 2004) and the website of Grameen Info. (www.grameen-info.org)

Muhammad Yunus is the founder and managing director of the Grameen Bank. He was born in 1940 in Chittagong, a prominent business centre of the then Eastern Bengal. He was the third of 14 children of his parents. His grandfather (Father's father) used to be a small businessman who had some lands and farms. His grandfather changed his business and started a business of gold ornaments. Yunus' father joined his grandfather's business at a very early age. At that time most of the people who used to deal with gold ornaments, were Hindus. Customers used to have huge confidence on those jewelers. But Yunus' father got huge fame in this business as a Muslim jeweler and earned confidence of the customers. Muhammad Yunus started his education life in a primary school of Lamarbazar, Chittagong. Only the children of the very poor people used to read in this school, as there were no tuition fees in this. Most of the students could not continue school because of their poor family condition. After that Yunus was admitted in Chittagong Collegiate School. He got a better environment there. Students in that school had good family background and from well off families. He joined Boy Scout and in 1953, he went to join Jamboree held in Karachi. He got an opportunity to visit India by train. In 1955, he finished his school and got himself admitted in Chittagong College. In 1957, he became a student of University of Dhaka. He finished his university education there and in 1961, at the age of 21, he joined as a teacher of economics in Chittagong College and he worked there up to 1965. At this point of time he joined his family business with his elder brother Salam. Both of them were very innovative and always used to search for new opportunities and businesses. They realized that East Pakistan did not have any kind of packaging industry and packaging of all kinds of products in East Pakistan was done by importing packaging materials from West Pakistan. But they needed loans from financial institutions for establishing this kind of industry. At first their father did not give permission to take loan as most of the businesspeople were used to be very much conservative about taking loans and they did not like doing business with borrowed money. Yunus and his brother could convince his father and took loan from Industrial Development Bank of Pakistan. They started the business in 1964. They hired some skilled printers from West Pakistan and recruited 100 labors in the factory. They used to produce the packets of cigarettes, medicines, cosmetics and they used to print calendars also. In 1965, Yunus was awarded a Fulbright scholarship and he went to the USA for his Ph.D. and his brother started running the business alone. He received his Ph.D. from Vanderbilt University, Nashville, Tennessee. He got married there. He came back to the newly born Bangladesh in 1972. He got a job in Government's Planning commission. But this job could not attract him as he did not get any scope of applying his talent and education. He left the job and he joined as the head of the Economics Department at Chittagong University in 1972. In 1974 he led his students on a field trip to a poor village. They interviewed a woman who made bamboo stools. It was found that this woman had to borrow an amount of 15 paise to buy raw bamboo for each stool made. She used to make a very small amount of profit, as she had to bear a huge amount of interest expense (sometimes 10% a week). Dr. Yunus found that it was the disadvantageous rate of interest that made this woman poor. He, from his own pocket, lent the equivalent of £ 17 to forty-two basket-weavers. He found that these people got motivated with this loan and they survived with this tiny amount. Yunus carried on giving out 'micro-loans' though he did not get much support from the Government and other banks. According to Amin (2007), at first Dr. Yunus did not have any interest to leave the teaching job and start banking, rather he wanted the other banks to take over his activities and run smoothly. But the banks did not rely on this concept of giving loans to the very poor people. As the banks did not change their mind, Dr. Yunus formed Grameen Bank himself. The Grameen Bank Project came into process with the following objectives (as per www.grameen-info.org):

1. extend banking facilities to poor men and women;
2. eliminate the exploitation of the poor by money lenders;
3. create opportunities for self-employment for the vast multitude of unemployed people in rural Bangladesh;
4. bring the disadvantaged, mostly the women from the poorest households, within the fold of an organizational format which they can understand and manage by themselves; and
5. Reverse the age-old vicious circle of "low income, low saving & low investment", into virtuous circle of "low income, injection of credit, investment, more income, more savings, more investment, more income".

The action research demonstrated its strength in Jobra, a village close to Chittagong University) and some of the nearby villages during 1976-1979. With the support of the central bank of the country and support of the nationalized commercial banks, the project was widened to Tangail district in 1979. With the achievement in Tangail, the project was extended to quite a few other districts in the country. In 1983 he formed the Grameen Bank; this bank was founded on principles of faith, hope and togetherness.

According to the website of Grameen-info:

The Grameen Bank is based on the voluntary formation of small groups of five people to provide mutual, morally binding group guarantees in lieu of the collateral required by conventional banks. At first only two members of a group are allowed to apply for a loan. Depending on their performance in repayment the next two borrowers can then apply and, subsequently, the fifth member as well. The assumption is that if individual borrowers are given access to credit, they will be able to identify and engage in viable income-generating activities - simple processing such as paddy husking, lime-making, manufacturing such as pottery, weaving, and garment sewing, storage and marketing and transport services. Women were initially given equal access to the schemes, and proved not only reliable borrowers but astute entrepreneurs.

As of July, 2007, Grameen bank is having 7.24 million borrowers (97 percent of whom are women). With the help of its 2452 branches, Grameen Bank provides services in 79,152 villages, covering more than 94 percent of the total villages in Bangladesh. Loan recovery rate in this bank is 98% that is higher than any other banking system. Grameen Bank model is now well appreciated all over the world and it was applied in projects in 58 countries (including the US, Canada, France, The Netherlands and Norway) in the world. Dr. Yunus led the world's first Micro Credit Summit in Washington, DC in 1997. Dr. Yunus also introduced Grameen Phone, a mobile telecommunication company (with some partners from abroad) in Bangladesh in 1997. This mobile company is the biggest in its industry in Bangladesh. In garments sector, from the 90s, Grameen Check, introduced by Dr. Yunus, created a whole new dimension of fashion. Dr. Yunus, in true sense, is a visionary organizer, a good economist and a patriot. Though he came from a family of business background, he never did a business in traditional method. He tried to do businesses with the help of his intellectual honesty and ability. Social welfare always remained as his primary concern. He introduced new kind of products, organization, market and above all, a new kind of industry - Micro Credit in Bangladesh. Though it can be said that it was his family tradition that led him to come to the world of business, but it was definitely his education and intellectual capability that led him to the kind of business that he has done. In October 2006, Dr. Yunus and his Grameen Bank became the first Nobel Prize winners in Bangladesh for their immense contribution in poverty alleviation. The famous business journal *Business Week* has named Dr. Yunus as "one of the greatest entrepreneurs of all time".

Case 2: Fazle Hasan Abed: The case was prepared with the help of a biographical book *About Mr. Fazle Hasan Abed (Mortoza, 2006)* and the official web site of BRAC (www.brac.net).

Fazle Hasan Abed was born in 1936 in Hobigonj. His father used to work as the District Sub-registrar in Hobigonj. In his childhood when he was studying in Hobigonj Government High School, his father got paralysis. At that point of time he was sent to his uncle who was the district judge in Comilla. He got admitted in Comilla Jilla School. After two years, his uncle was transferred to Pabna. Abed moved with his uncle to Pabna and got himself admitted in Pabna Jilla School. He passed his matriculation from that school in 1952. After that he went to Dhaka and in 1954 he passed his intermediate examination from the famous Dhaka College. Then he got admitted to University of Dhaka for the Bachelor Degree in Physics. He did not complete his degree in this university rather he went to his uncle who was working in England. There he again got admitted in Glasgow University to study Naval Architecture. He had a dream at that time that he will be the first naval architect in his country. But after visiting several shipyards in Glasgow, he could understand that he shall not be able to apply his knowledge of naval architecture in his home country. So, after studying this subject for two years, he left the university and went to London. There he completed professional accounting course. During his study of professional accounting, his mother died. As a result, he lost interest of coming back to the home country. So he stayed in London and worked there. After that he went to Canada for another service. Then he went to New York and worked there. After that he went to several countries with his jobs. In 1968, he came back to his home country and started working as the Head of Finance in Shell Oil Company. In 1971, when the liberation war started, he left the job and joined the war. After nine months, Bangladesh got independence. At that time Abed started BRAC. In the life sketch of Mr. Abed, given in the official web site (www.brac.net) of BRAC the description is as follows:

The war dramatically changed the direction of his life. In the face of the brutality and agony of war, the comforts and perks of a Corporate Executive's life ceased to have any attraction for him. As the then East Pakistan was under virtual occupation, Fazle Hasan Abed left his job and went to London to devote himself to Bangladesh's War of Independence. There, Abed helped initiate a campaign called Help Bangladesh to organize funds for the war effort and raise awareness in the world about the genocide in Bangladesh. The war over, Abed returned to the newly independent Bangladesh to find the economy of his country in ruins. Millions of refugees, who had sought shelter in India during the war, started trekking back into the country. Their relief and rehabilitation called for urgent efforts. Abed decided to initiate his own by setting up BRAC to rehabilitate returning refugees in a remote area in a northeastern district of Bangladesh. This work led him and his organization BRAC into dealing with the long-term task of improving the living conditions of the rural poor.

Within three decades BRAC became the largest Non-Governmental Development Organization (NGO) in the world in terms of the scale and diversity of its interventions. Abed ensured that the service of BRAC should go to the landless poor, especially the women living in rural Bangladesh. As a large percentage of these women live below the poverty line, they did not have any access to almost any kind of resources. According to the official web site of BRAC:

BRAC now works in more than 69 thousand villages of Bangladesh covering over an estimated 110 million poor people in the field of income generation, health care, population control, primary education for children and the like. Abed felt that in the face of the enormity of Bangladesh's problems BRAC had to think big and act on a large canvas.... In Abed's multidimensional poverty reduction approach, there is no single anti-poverty panacea and therefore, a range of interventions, often at large scales, comprises BRAC programs..... Many of the innovations pioneered by BRAC in education as well as in health, poverty eradication and rural development have been replicated in many developing countries. Impact study of BRAC programs shows a consistent improvement in the quality of life of the rural poor.

BRAC also deals with several commercial ventures. For example, the BRAC Bank, launched in the year of 2001 is acting as a complete commercial bank. It strives increase admission to economic opportunities for all individuals and businesses (specially for small and medium enterprises). Some other commercial ventures include Aarong (a retail outlet selling handicrafts, fashion products and some other things) and Brac Dairy and Food Project. Aarong is a successful brand name in Bangladesh today. It sells the products of rural artisans. The BRAC Dairy puts forward a fair price to BRAC members who had invested their loans in cows and cannot enter the local markets very easily. The most important feature of these commercial ventures is that the profits earned from these commercial ventures goes back into BRAC's core development fund.

From the year of 2002, BRAC is operating internationally. It is operating its activities in the war-ravaged Afghanistan. It registered as a foreign NGO in Afghanistan. By now BRAC has extended its services to 24 out of 34 provinces focusing on the needs of Afghan people. A full fledged commercial bank named BRAC Afghanistan Bank is also operating there focusing on the Small and Medium Enterprise sector. BRAC also registered itself as a foreign NGO in Sri Lanka (after the Tsunami) in 2004. According to BRAC's web site:

The fact that Abed has turned his large organization, with an annual budget of US \$ 436 million, 78% self-financing, speaks of his financial acumen and superb management skills.

For his huge contribution to the society, Mr. Abed was honored with so many national and international awards. Some of the prominent awards of him include: The Ramon Magsaysay Award for Community Leadership (1980), Unesco Noma Prize for Literacy (1985), Alan Shawn Feinstein World Hunger Award (1990), Unicef's Maurice Pate Award (1992), Honorary Doctorate of Education, University of Manchester, UK (2003) and some others.

FINDINGS AND ANALYSIS

Though Rahman (1989) did not find any relationship between the family background/occupation of the entrepreneurs and their becoming an entrepreneur, Farouk (1983) found that the children of some families who have been in business or industry by tradition (like the Ispahanies, the Ismailies, the Sawdagars and the Sahas) are becoming businesspersons. Farouk comments that, the number of these people is small. From these results a rough conclusion may be drawn that family background has a little influence on somebody becoming an entrepreneur in Bangladesh (Hossain, 2006). The two case studies of SEs also support this. Though Dr. Yunus had a business-family background, Mr. Abed did not have that as his father used to be a government employee. Another important thing that is to be mentioned here is that though Dr. Yunus comes from a business-family background, the venture that he took in the real life was far different from a traditional business.

In case of Bangladeshi successful EEs, it was found that most of them had poor educational backgrounds. Farouk (1983) found that most of them left home at a very early age. It was also identified by Begum (1992) that Bangladeshi entrepreneurs have poor business education. It was found that though these successful entrepreneurs in Bangladesh did not have good educational background, they had the need for high achievement (Rahman, 1989). Again all of these researches are talking about the EEs. Basing on these research results, Hossain (2006) comments that:

It may be inferred from these facts that as they had this need (for achievement) and did not have enough qualifications to go for a highly paid job, they moved towards self-employment and got success.

The evidences in the two cases of SEs discussed in this article show different results. Both of them were highly educated and they studied in some of the best educational institutions both inside and outside their home country. Yunus completed his Doctorate in USA and Abed is a professional accountant. Whether higher education encourages people to go for establishing ventures that solve social problems, can be an issue for future research.

It can be identified from the researches of Farouk (1983) and Rahman (1989) that Bangladeshi entrepreneurs are self-confident, task result oriented, future oriented, innovative, good leaders and risk takers. Both these researches were done on the basis of the characteristics of the business/ economic entrepreneurs (EEs). If the two case studies of the SEs presented in this article, are analyzed carefully, it can be said that both of the two SEs had these characteristics in them, especially they were self-confident, future oriented, good leaders, risk takers and innovative. But undoubtedly, EEs differ with the SEs in terms of the motivations behind becoming entrepreneurs. On one hand, EEs want to become entrepreneurs mainly with a profit motive and on the other hand SEs become entrepreneurs with a social mission.

Both of the SEs, discussed in the cases, were *self confident*. Even after getting very disappointing response from the part of the Government and the commercial banks, Dr. Yunus started Grameen Bank by taking own initiatives with an experimental concept called micro credit. Again, Mr. Abed started his organization BRAC in a war-destroyed feeble economy. Without being self confident, initiatives like these cannot be taken by anybody.

There is no doubt that both of them were highly *future oriented*. They wanted to perform a mission with a vision to solve social problems. They had social mission and their activities had positive social impacts. Yunus' micro credit model had such good impact in Bangladesh that many other countries are now following this model. Fazle Hasan Abed's BRAC has become the largest NGOs in the world. Both of them were awarded by some of the best authorities in the world.

They had *good leadership* capability. Both of them were visionary leaders and their efficient management styles are definitely praiseworthy. A huge establishment like Grameen Bank can only be handled by a good leader. Mortoza (2006) in his book on BRAC has expressed himself as follows:

In order to work for this book I have visited BRAC office so many times in the last two or three years. I have visited several district offices of BRAC also. I found BRAC's management very transparent and efficient. It cannot be compared with the government offices at all. Among the private organizations also, only a very few can work as efficiently as BRAC. Fazle Hasan Abed puts high emphasis on the transparency and efficiency of management. This is the main reason why BRAC could establish itself as the biggest NGO in the world.

They were *risk takers*. When several officials of the commercial banks discouraged Dr. Yunus to go for the venture as they did not think the concept of 'micro credit to the poor' as a viable project, Yunus took the risk himself and established Grameen bank. Again, Fazle Hasan Abed started his social entrepreneurship venture in a country which had a shabby war-destroyed economy. As they had a social mission and passion for their work, they went for establishing the organizations.

Innovation can be treated as the key entrepreneurial trait for both of these SEs. Yunus' concept of 'micro credit to the poor' has become world renowned for its uniqueness. On one hand, they have created economically viable organizations with social missions and on the other hand they have created some commercial ventures (like EEs) so that their 'social entrepreneurship' organizations can survive with the help of those. Over the years, they have developed new products and services, new ways to serve people, entered into new markets (both within national boundaries and in international arena) and industries.

CONCLUSION

The main difference between an EE and a SE is that, an EE will start his/her business mainly for his/her own benefit and that is why his/her primary concern will be profit (social commitment will be a secondary concern) but a SE should have a social mission as the basic concern for establishing an organization. Both of these parties run economically viable projects. The characteristics of both these types are almost similar. They are hard workers, opportunity seekers, innovators, good organizers, future oriented and risk takers. In this study also it was found that though both these parties vary in their biographical background and entrepreneurial mission and motivation, at the end of the day, all of them are 'entrepreneurs' as they have so many characteristics (essential for an entrepreneur) that are similar. The results/findings of this study may not be generalized. Rather than applying a case study method, a survey with a greater number of SEs could have given a better and efficient result. But a problem in this case is that, the total number of SEs in our country is not that much. In-depth face-to-face interviews with these people may produce a better research and for that research, this study may be considered as an exploratory material.

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IMPACT OF WORKING CAPITAL MANAGEMENT ON FIRM'S PERFORMANCE: EVIDENCES FROM LISTED COMPANIES OF INDIA

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ABSTRACT

Working capital management is very significant course of action for any organization which decides the flow and availability of cash and thus results in the effective firm's performance. An attempt has been done to investigate the established traditional relation between working capital management and organization's performance. For the study, a random purposive sample selection is done. All the selected samples are listed in Security Exchange Board of India, Mumbai. Annual reports were collected for the selected samples from the financial year 2006 to 2011. For the analysis purpose advanced statistical tools were used to obtain the result.

KEYWORDS

working capital management, control variables, ratios, firm's performance, India.

INTRODUCTION

Working capital management has recognized as a crucial decision of organization's financial management decisions. Liquidity and profitability is very essential issue for any organization which should be balanced in daily conduct of the firm. To meet daily or short term obligations, liquidation is important and it again ensures the venture as profitable. Again it has been observed that traditional studies were primarily focused on the long-term strategies like capital structure, investment, debt etc. Short – term assets and liabilities were overlooked but it is important to discuss here that these are very significant part of total asset and thus play an important role in firm's profitability. Effective working capital management is very necessary for any firm to create and maximize its' shareholders value. In general, current asset is an important part of total asset. Excess of current asset may reduce firm's profitability but in the meantime, reduced may result as less liquidity and can be risky to the value of a firm. World has witnessed the impact of short liquidity as recent financial slow-down. Hence, an optimum WCM is expected for the growth of the firm. Previous studies have already established a positive relation between WCM and performance of the firm.

OBJECTIVE OF THE STUDY

The objective of the study leads to investigate impact of WCM on the performance of the selected Indian companies, listed in Security Exchange Board of India, Mumbai in particular. Subsequently, the study is emphasized on one aspect only:

A. To know whether there is any impact of working capital management over the performance of the firm in the name of profitability.

SCOPE OF THE STUDY

This study will investigate the impact of WCM on to performance of the firms and in this ways it will lead to some guidance for the financial managers. By previous researches, it has been cleared that WCM significantly influence the performance but majority of the studies have been conducted for the small scale firms. In the given study, big giants from Indian economy are selected and an attempt will be done to establish the relation. Furthermore, an attempt will be made to clarify, if there is any specific cause among the industries, if any difference is found in the trend of WCM. It will be much benefited for the managers as they can modify their strategies.

LITERATURE REVIEW

Several researches have been conducted on the issue working capital management and its impact on the firm's performance from various aspects in different given economic environment. Some research has been done for small scale industry while some are related with big giants. Deloof (2003) has argued that majority of the firms invest huge amount of cash to maintain the working capital and have significant impact on firm's profitability. He found negative relationship between the gross operating income and different component of working capital for the firms in Belgium. A study is conducted in Pakistan, Raheman and Nasr (2007) who studied on 94 firms listed on Karachi Stock Exchange for a period ranging for 6 years. He defined net operating profit as dependent variable while other components (e.g. average collection period, inventory turnover, average payment period in days, CCC etc.) as independent variable. In analysis, they identified a strong negative relationship between dependent and independent variable. They again found a considerable negative relation between profitability and liquidity while in meantime a positive relation between profitability and the size of the firm.

Another study conducted by Lazaridis and Tryfonidis (2006) in Athens to know relation between WCM and profitability. For the study purpose, a cross-sectional analysis was done with a sample data of 131 listed firms in Athens stock exchange from the year 2001 to 2004. For the study purpose, they defined gross operating profit as dependent and other components as independent and they found significant negative relationship between dependent and independent variables. They offered a suggestion further that managers can increase profitability with effective handling of CCC and other components at an optimum level. For the analysis purpose, they used correlation and regression models. In another study, Filbeck and Krueger (2005) have selected 32 non-financial firms from USA to know the significance of efficient working capital management. They found significant differences among the firms' WCM practices.

An issue of aggressiveness and WCM was examined by Weinraub and Visscher (1998) by using the short-term data ranging from the year 1984 to 93 in USA. For the study purpose, 10 different industry groups were selected to examine the relative relation between aggressiveness and conservative working capital policies. They analyze that one industry significantly follows different WCM policies from another. The study, further, found that there is significantly negative relation between asset and liability policies and they concluded that when firms follow relatively aggressive working capital policies, assets and liabilities are balanced. In the same way another study was conducted by Afza and Nazir (2007) who investigated the relation between aggressive and conservative working capital policies with a sample of 263 public limited firms divided into 17 industrial groups listed in Karachi stock exchange. They collected data from the year 1998 to 2003 and applied ANOVA model for analysis along with LSD test. This study supports the previous study conducted by Weinraub and Visscher (1998). Further, researchers applied rank order correlation and result clarifies that the significant difference was stable over all six years study. They also applied OLS regression model to find out the relation between profitability and aggressiveness of working capital and they found significant negative relation.

HYPOTHESIS

Present study discusses WCM and its' impact over the profitability on the selected Indian companies. Previous studies have already established a relationship between the WCM and the variables used in the present study, but the study was for small scale organizations and firms belong to small economies. Present study is focused for big giants and they belong to a very influencing economy. For the convenience of the study following research hypothesis is defined (present paper follows research methodology adopted by Azam & Haider (2011), Padachi (2006) and B Bagchi and Khamrui (2012) :

H₀: Working capital management has insignificant impact on Firms' performance.

H₁: Working capital management has significant impact on Firms' performance.

For the study purpose, different variable has been identified and defined as below:

Variable	Formula	Abbreviation	Nature of Variable
Operating Profit Margin	PBIT/Sales	OPM	Independent
Return on Total Asset	PBIT/ Total Asset	ROTA	Dependent
Asset Turnover	Sales/Total Asset	A_TURN	Independent
Gearing	Debt/Total Asset	GEAR	Independent
Current Ratio	Current Asset / Current Liabilities	CR	Independent
Quick Asset Ratio	(Current Asset–Stocks)/Current Liabilities	QAR	Independent
Current Asset to Total Asset	Current Asset / Total Asset	CA_TA	Independent
Current Liabilities to Total Asset	Current Liabilities / Total Asset	CL_TA	Independent
Stock to Current Asset	Stock / Current Asset	SK_CA	Independent
Trade debtor to Current Asset	Debtor / Current Asset	TD_CA	Independent
No. of days Accounts Receivables	(Account receivables *365) / Sales	AR_DAYS	Independent
No. of Days Accounts Payable	(Accounts Payable*365)/Sales	AP_DAYS	Independent
Current Asset Turnover	Sales / Current Asset	CAT	Independent
LOG10 of Sales		LNS	Independent

DATA COLLECTION

Present study is based on published data in the name of annual reports available on the concerned websites. However, where annual reports were not published at website, researcher has personally requested for the same. All the collected data are from selected Indian companies; listed in Security Exchange Board of India, Mumbai. For the study, data from 97 companies have been collected. All the values considered in this study are from audited and published annual reports. All the annual reports varied from financial year 2006 to 2011 from different sectors of Indian economy. These sectors are: Food and health – 21 companies, Machinery and infrastructure 19, minerals 15, oil and gas 7, steel 15 and utility 20 companies.

TABLE 1: SELECTION OF THE SAMPLE

TABLE 1: SELECTION OF THE SAMPLE					
Industry		No. of Organizations selected	Percentage	No. of years for analysis	No. of observations made
VALID	Food and health	21	21.6	6	8
	MACH & INFRA	19	19.6	6	8
	Minerals	15	15.5	6	8
	Oil and Gas	7	7.2	6	8
	Steel	15	15.5	6	8
	Utility	20	20.6	6	8
	Total	97	100.0	6	8

The descriptive statistics of the variables are listed in table two

TABLE 2: SUMMARY STATISTICS

	N	Minimum	Maximum	Mean	Std. Deviation
OPM	97	.012	.721	.32242	.236056
ROTA	97	.002	.389	.15395	.091022
A_TURN	97	.010	2.903	.83609	.897968
GEAR	97	.002	1.195	.25223	.379074
CR	97	.674	9.796	2.56364	1.902826
QAR	97	.235	9.562	1.85611	1.928998
CA_TA	97	.006	.739	.39328	.214963
CL_TA	97	.002	.502	.23067	.133931
SK_TA	97	.003	.941	.34073	.179327
TD_CA	97	.035	.359	.18626	.080851
AR_DAYS	97	7.362	220.725	86.20843	80.328960
AP_DAYS	97	11.607	256.158	90.93445	67.975605
CAT	97	.413	7.910	1.96970	1.335628
LNS	97	3.409	5.771	4.28764	.453505
Valid N (list wise)	97				

TABLE 3: SUMMARY STATISTICS (Industry wise)

	Industry											
	FOOD & HEALTH		MACH & INFRA		MINERALS		OIL & GAS		STEEL		UTILITY	
	Mean	Std*	Mean	Std*	Mean	Std*	Mean	Std*	Mean	Std*	Mean	Std*
OPM	.440	.235	.196	.181	.351	.300	.186	.170	.259	.170	.393	.220
ROTA	.211	.028	.144	.069	.225	.110	.087	.066	.065	.087	.140	.070
A_TURN	.840	.895	.850	.557	1.456	1.227	1.305	1.093	.373	.756	.538	.619
GEAR	.203	.416	.191	.278	.578	.530	.217	.218	.154	.316	.204	.273
CR	2.282	.969	1.422	.926	4.072	3.635	2.327	2.103	3.040	1.059	2.537	1.072
QAR	1.383	.791	1.000	.752	3.308	3.936	1.651	2.345	2.063	.841	1.994	1.105
CA_TA	.538	.126	.395	.114	.488	.209	.316	.186	.165	.240	.367	.212
CL_TA	.280	.077	.333	.110	.239	.117	.217	.136	.092	.122	.184	.124
SK_TA	.396	.096	.284	.145	.374	.235	.484	.309	.351	.088	.253	.182
TD_CA	.184	.072	.174	.101	.189	.071	.152	.073	.183	.044	.213	.099
AR_DAYS	130.6	95.45	55.99	67.71	97.767	67.458	24.59	14.26	66.85	67.30	95.72	83.24
AP_DAYS	109.46	61.68	86.43	44.89	124.87	113.62	48.52	32.57	58.16	58.16	89.75	47.66
CAT	1.426	1.096	2.106	.815	2.171	1.295	3.531	2.040	2.119	1.787	1.602	.885
LNS	4.218	.213	4.245	.585	4.194	.337	4.963	.564	4.496	.206	4.079	.435

Std*: Standard Deviation

For the purpose of the analysis, return on total asset is used to measure profitability (used by Padachi 2006). Rota is defined as profit before interest and tax divided by total asset. Table no. 1 gives the details for sample selection while table no. 2 and 3 highlights the summary statistics of the variable which are used in the study. Return on total asset is reported as 15.395% (Padachi has reported 5.6%) while it is highest in the minerals (22.5%). No industry has reported negative ROTA. It has been observed from the table that account receivable days are 86 days while companies clear their accounts payable in 90 days. However, in food and health industry accounts receivable days are 130 while they pay in 109 days. So, funds are required in this industry some more in compare to others.

Working capital is the difference between current assets and current liabilities. Working capital (gross) includes cash and bank balances, debtors, inventories etc. An efficient working capital management depends on a number of factors e.g. level of operation, efficiency, inventory policies, book debt policies and nature of the industry (Padachi 2006). Table 4 presents an analysis of the factors of working capital.

TABLE 4: COMPONENTS OF CURRENT ASSET AND LIQUIDITY RATIO

		CR	QAR	CA_TA	CL_TA	SK_TA	TD_CA
Industry	FOOD & HEALTH	2.282	1.383	.538	.280	.396	.184
	MACH & INFRA	1.422	1.000	.395	.333	.284	.174
	MINERALS	4.072	3.308	.488	.239	.374	.189
	OIL & GAS	2.327	1.651	.316	.217	.484	.152
	STEEL	3.040	2.063	.165	.092	.351	.183
	UTILITY	2.537	1.994	.367	.184	.253	.213

METHOD OF THE ANALYSIS

For analysis purpose, Pearson Correlation Coefficient was run to investigate the impact of working capital management on firm's profitability. ROTA has significant positive correlation with the measure of working capital (Padachi 2006 has reported negative correlation) except current liability, stock and accounts payable day. Hence, an efficient working capital measure will increase the profitability of the organizations. Further, organizations will be able to obtain the desired trade credit whenever they require. However, an extra precaution was taken while interpreting the data, but, still care is expected from the readers' side as this statistical tool does not provide a valid indicator of association. As Padachi (2006) also mentions "examining simple bivariate correlation in a conventional matrix does not take account of each variable's correlation with all other explanatory variable". To support our study, further an OLS regression model tool will be run.

TABLE 5: PEARSON CORRELATION COEFFICIENT

	OPM	ROTA	A_TUR	GEAR	CR	QAR	CATA	CLTA	SKTA	TDCA	ARDAY	APDAY	CAT	LNS
OPM	1	.412**	.539**	-.462**	.595**	.564**	.605**	-.418**	-.437**	.241*	.661**	-.261**	-.755**	-.283**
ROTA		1	.211*	.063	.284**	.268**	.790**	.364**	.076	-.325**	.204*	.224*	-.170	-.297**
A_TUR			1	.874**	-.269**	-.332**	.107	.635**	.665**	-.079	-.025	.798**	.659**	.245*
GEAR				1	-.155	-.223*	-.042	.389**	.530**	.175	.110	.866**	.520**	.270**
CR					1	.979**	.250*	-.623**	-.526**	-.130	.183	-.196	-.486**	-.054
QAR						1	.200*	-.614**	-.639**	-.147	.070	-.292**	-.473**	-.127
CATA							1	.341**	.049	-.016	.594**	.192	-.349**	-.112
CLTA								1	.544**	-.167	-.068	.453**	.420**	.025
SKTA									1	-.064	.007	.452**	.591**	.268**
TDCA										1	.613**	.165	-.143	.032
ARDAY											1	.356**	-.477**	.008
APDAY												1	.246*	.184
CAT													1	.244*
LNS														1

*Correlation is significant at the 0.05 level (2-tailed)

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

For the further analysis, OLS Regression model is used with following models to investigate the impact of WCM on firms' performance. In the equation explanatory models as ARDAY, APDAY and CAT will be replaced according. Equations are as follows:

$$ROTA = f(\text{sales, gear, cata, clta, caturn, ardays/apdays/cat})$$

....Equation (1)

$$ROTA = \alpha + \beta_1 \text{sales}_i + \beta_2 \text{gear}_i + \beta_3 \text{cata}_i + \beta_4 \text{clta}_i + \beta_5 \text{caturn}_i + \beta_6 \text{ardays}_i + \beta_7 \text{Dummy}_1 + \beta_8 \text{Dummy}_2 + \beta_9 \text{Dummy}_3 + \epsilon_i$$

....Equation (2)

$$ROTA = \alpha + \beta_1 \text{sales}_i + \beta_2 \text{gear}_i + \beta_3 \text{cata}_i + \beta_4 \text{clta}_i + \beta_5 \text{caturn}_i + \beta_6 \text{apdays}_i + \beta_7 \text{Dummy}_1 + \beta_8 \text{Dummy}_2 + \beta_9 \text{Dummy}_3 + \epsilon_i$$

....Equation (3)

$$ROTA = \alpha + \beta_1 \text{sales}_i + \beta_2 \text{gear}_i + \beta_3 \text{cata}_i + \beta_4 \text{clta}_i + \beta_5 \text{caturn}_i + \beta_6 \text{cat}_i + \beta_7 \text{Dummy}_1 + \beta_8 \text{Dummy}_2 + \beta_9 \text{Dummy}_3 + \epsilon_i$$

....Equation (4)

For the analysis purpose, stepwise ordinary least square regression is done and in this way, all the independent variables were replaced accordingly. Relation between dependent and independent variable is analyzed together for all the industries and thus final impact of independent variable is checked on the profitability. All the analysis is given from table number 6 to 8. The analysis from table 6 shows that when there is change in GEAR by one unit has negative

impact over return on total asset by .003 statistically at 1% level of significant and further change in current liability over total asset has also negative impact with 2.2% at 1% level of significant when current asset turnover ratio is independent variable while in the case of account receivables in day (as independent variable), change in GEAR and current asset to total asset have positive impact over ROTA i.e. .103 and .496 consequently while all other variable are negative. In the case where, accounts payable is independent variable, only current liability to total asset is negative with the value .013 while others are positive at 1% level of significant.

TABLE 6: COEFFICIENTS (WHERE CAT IS INDEPENDENT VARIABLE)

	R	R ²	Adjusted R ²	Std. Error of the Estimate	Change Statistics				
					R ² Change	F Change	df1	df2	Sig. F Change
	.904 ^a	.818	.801	.040566	.818	49.414	8	88	.000
Standardized Coefficients				t-statistic		Sig.	95.0% Confidence Interval for B		
Beta							L B	U B	
				4.324		.000			
-.267				-4.427		.000	-.078		
-.012				-.089		.929	-.070		
.775				9.544		.000	.260		
-.032				-.373		.710	-.139		
.067				.660		.511	-.009		
.181				.964		.338	-.020		

TABLE 7: COEFFICIENTS (WHERE ARDAY IS INDEPENDENT VARIABLE)

R	R ²	Adjusted R ²	Std. Er of the Estimate	Change Statistics				
				R ² Change	F Change	df1	df2	Sig. F Change
.919 ^a	.844	.830	.037566	.844	59.452	8	88	.000
		Unstandardized Coefficients		Standardized Coefficients	t-statistic	Sig.	95.0% Confidence Interval for B	
		B	Std. Er	Beta			L B	U B
(Constant)	.223	.041			5.412	.000	.141	.305
LNS	-.047	.009	-.235		-5.098	.000	-.065	-.029
GEAR	.103	.028	.431		3.683	.000	.048	.159
CA_TA	.496	.030	1.172		16.365	.000	.436	.557
CL_TA	-.090	.046	-.132		-1.971	.052	-.180	.001
A_TURN	-.017	.013	-.163		-1.248	.215	-.043	.010
AR_DAYS	-.001	.000	-.551		-8.071	.000	-.001	.000

Dependent variable ROTA

RESULTS OF ANALYSIS

The statistical testing of hypothesis is the important technique in statistical inference (Bagchi & Khamrui, 2012). For the study purpose, two hypotheses were framed as: working capital management has insignificant impact on firm's performance and working capital management has significant impact on firm's performance. From the table researcher found that t-value is more than the significant value in the case of components of working capital management, hence null hypothesis is rejected and alternative hypothesis: working capital management has significant impact on firm's performance is accepted.

CONCLUSION

In the era of cut-throat competition, maximum utilization of the resources at optimum level is very important to enhance the shareholders' and customers' value. Again liquidity is very crucial for the lucid and continues performance of the organization. This is known that if current asset's components are cut, profitability can be increased but it has a significant disadvantage and i.e. it will reduce the liquidity and may be harmful to the firm. Present study wanted to investigate the impact of efficient working capital management over the performance of any firm in Indian economy and the investigation shows that yes, there is significant impact. The study supports some other studies as well e.g. Bagchi & Khamrui (2012) and some other while is inverse with some studies like Padachi (2006). It is further recommended to the organizations that profitability can be enhanced with liquidity if working capital is managed effectively. For the future studies, again it is recommended that it should incorporate some more samples as with much samples only, result may be indicative not conclusive. Further, it is recommended to use some other advance econometrics tools apart from correlation and OLS regression.

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ENGLISH TEACHERS' EMOTIONAL INTELLIGENCE AND ITS IMPACT ON THEIR ORGANIZATIONAL CITIZENSHIP BEHAVIOUR IN SRI LANKAN SCHOOLS

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ABSTRACT

The purpose of this study was to investigate the impact of English teachers' Emotional Intelligence on their Organizational Citizenship Behaviour in Sri Lankan schools. The data were collected from a sample of 470 English teachers who work in North Central, Western and southern provinces in Sri Lanka using convenience sampling method. A standard questionnaire with two instruments was administered among the teachers. The collected data were analysed using regression analysis and correlation coefficient. The results of the study indicated that Emotional Intelligence of English teachers had a significant positive relationship with their Organizational Citizenship Behaviour and Emotional Intelligence had significantly correlated with altruism, conscientiousness and civic virtue.

KEYWORDS

emotional intelligence, organizational citizenship behavior.

INTRODUCTION

The job performance of the teachers is a key success factor in achieving the goals and objectives of schools. The quality of the teachers has the greatest impact on the performance levels of students (Santibanez, 2006). In the past the teachers' job performance has primarily defined in terms of how well a teacher completes his/her assigned duties. However, recent theoretical and empirical evidence suggest that the need of teachers' willingness to go above and beyond the call of duty to achieve the mission of the schools. Success of schools fundamentally depends on teachers who are willing to go beyond role expectations voluntarily (DiPaola & Tschannen-Moran, 2001). They have to illustrate more discretionary behaviours that are not explicitly recognized by the formal organizational reward system. This concept is called Organizational Citizenship Behaviour (OCB) and referred to as a set of discretionary workplace behaviours that exceed one's basic job requirements. When teachers invest more time in creating stimulating activities and staying after school to ensure students learn the concepts, student achievement increases (Rosenholz, 1989).

OCB has received considerable attention among the researchers during the past decade as its importance to an organization. According to Organ (1988), OCB is vital to the survival of an organization and it maximizes the efficiency & productivity of both the employees and the organization which ultimately contributes to the effective functioning of an organization. Some researchers argued that OCB has positively correlated with performance of an organization (Borman & Motowidlo, 1993; Organ, 1988; Organ & Near, 1983). OCB has contributed favorably to efficiency & effectiveness of work teams (Podsakoff, Mackenzie, Paine, & Bachrach, 2000), service quality (Betten Court & Brown, 1997), Leader-member exchange (Bhal, 2006), Job involvement (Dimitriades, 2007), Organizational Commitment (Podsakoff, Mckenzie & Bommer, 1996).

In the school setting, the concept of OCB acts as a crucial factor because all the cooperative behaviours extended by the teachers help to build the relationship with colleagues, bosses and students. Such teachers can extend their hand to the colleagues with heavy workload and prepare special programme for different level of students in their needs. They always give their suggestions for the improvement of the schools and take initiatives to enhance the image of the school to the outsiders (Van Dyne, Cummings, & McLean Parks, 1995). Empirical evidences show that OCB helps to free up the resources in more effective way and coordinates activities within the school and enables teachers to adapt to the environmental changes more effectively. (Podsakoff et al., 2000).

According to the empirical evidence OCB of the employees is one of the key factors in deciding the success or failure of any organization. Therefore, many researchers and practitioners have focused their research to find out the antecedents of OCB. Among them personality characteristics (George, 1991; Moorman & Blakely, 1995), leadership behaviours (Farh, Podsakoff, & Organ, 1990; Niehoff & Moorman, 1993), perceptions of organizational/supervisor support (Randall, Cropanzano, Borman, & Birjulin, 1999), conscientiousness (Organ & Ryan, 1995), affectivity (George, 1990), agreeableness (Konovsky & Organ, 1993), job satisfaction and organizational commitment (O'Reilly & Chatman, 1986, Williams & Anderson, 1991, Organ & Konovsky, 1989, Organ & Ryan, 1995, Shapiro et al. 2004, Bateman & Organ, 1983; Lee & Allen, 2002, Smith, Organ, & Near, 1983, VanYperen, Van den Berg, & Willering, 1999), job involvement (Shapiro et al. 2004) are the most investigated antecedents of OCB. Jain & Sinha (2003) and Sitter (2005) found that Emotional Intelligence (EI) as an antecedent of OCB. EI becomes a stronger predictor of task performance and OCB (James, Velayudhan, Gayatri, 2010).

Over the last decade, EI has become a topical issue within the management literature (Jordan and Ashkanasy, 2002). Goleman who brought the concept to the world's attention and said that EI explains a higher proportion of variance in individual performance and effectiveness than intellectual intelligence. EI can affect an individual's success in an organization (Goleman, 2001). According to Carmeli & Josman (2006) employees who are high in EI are expected to attain higher achievements in both the work place and their personal life and to contribute significantly to the performance of their organization.

In the Sri Lankan educational settings especially in schools, there were no researches between EI and OCB even though these two concepts are fundamentally more important for the success of the schools. Therefore, it is important to study the EI – OCB relationship. The empirical evidence suggest that the OCB teachers are more committed to their respective institutions and are also likely to exert more effort on behalf of the organization. The teachers with discretionary behaviour are needed to the Sri Lankan schools because they are limited in numbers in Sri Lanka. There are 21132 English teachers in Sri Lanka. In turn the performance of the students in English is poor comparing with other subjects. Thus it is important to find out the new ways to improve OCB of the teachers.

IMPORTANCE OF THE STUDY

Although the concepts of EI and OCB have given more attention in research studies in other countries, these concepts were not considered more in Sri Lankan literature. This study was the first research study on EI and OCB of English teachers in Sri Lankan education sector. This study fills the gaps currently existing in the literature in Sri Lanka. The results of this study will help those researchers who are interested in similar topics. In turn, this information can help administrators to develop their teacher training programmes and teacher evaluation in Sri Lankan schools.

PROBLEM STATEMENT

In reviewing the literature, lots of researchers have identified the importance of OCB of employees in improving the overall performance of organizations. In order to improve the OCB of the teachers, the administrators have to identify the antecedents of OCB. Among them, the research literature found that the importance of EI as one of the influential factors which can shape the OCB. Anyway there was no empirical evidence on the relationship between EI and OCB of

English teachers in Sri Lanka. This issue may serve as a good research gap for investigation. Therefore, the research problem of this research is to examine how and in what ways does EI of English teachers affect on their OCB.

OBJECTIVES OF THE STUDY

The main objective of this research is to investigate the impact of EI of English teachers on their OCB in Sri Lankan schools. The specific objectives are;

1. To investigate the impact of EI on OCB of English teachers who work in Sri Lankan schools
2. To investigate the effect of each dimension of EI on OCB of English teachers who work in Sri Lankan schools
3. To identify the effect of EI on different dimensions of OCB of English teachers who work in Sri Lankan schools

LITERATURE REVIEW

EMOTIONAL INTELLIGENCE

Two psychologists Peter Salovey and John Mayer first introduced EI in 1990. They developed the ability model of EI and defined it as "the ability to perceive, appraise and express emotions accurately and adaptively; the ability to understand emotions and emotional knowledge; the ability to access and generate feeling where they facilitate cognitive activities and adaptive actions; and the ability to regulate emotions in oneself and others" (Mayer et al., 2004).

Goleman (1995) opened the eyes of the world about the concept of EI and defined EI under the trait perspectives or mixed model as "one's ability to motivate oneself and persist in the face of frustration; to control impulses and delay gratification; to regulate one's moods and keep distress from swamping the ability to think; to empathize and to hope". In 1997 Goleman redefined EI as "the capacity for recognizing our own feelings and those of others for motivating ourselves and for successfully managing emotions in ourselves and in our relationship with others" (Dulewicz and Higgs, 2000).

Goleman's model of EI introduced in 1998 outlined five main EI constructs and twenty-five competencies. Later, Goleman and Boyatzis (2000) introduced four dimensions of EI which are self-awareness, self-management, social awareness and relationship management. According to Goleman & Boyatzis (2000) self-awareness refers to the competencies that enable manager to recognize their own feelings and thoughts as well as personal strengths and weaknesses. Self-management is the ability to regulate distressing affects and to inhibit emotional impulsivity. Social awareness includes the ability to sense, understand and react to others' emotions while comprehending social networks. Relationship management refers to the ability to inspire, influence, and develop others while managing conflicts.

ORGANIZATIONAL CITIZENSHIP BEHAVIOUR

Organ (1988) defined OCBs as an individual behaviour that is discretionary not directly or explicitly recognized by the formal reward system and that in the aggregate promotes the effective functioning of the organization. The word discretionary means that the behaviour that goes beyond the call of duty and it is not a requirement of formal job description. Allen, Barnard, Rush, and Russell (2000) defined OCB as behaviour which embodies the cooperative and constructive gestures that are neither mandated by formal job role prescriptions nor directly or contractually compensated for the formal organizational reward system. Bolino and Turnley (2003) identified it as an organization's ability to elicit employee behaviour that goes beyond the call of duty. They found that citizenship behaviours generally have two common features: they are not directly enforceable and they are representative of the special or extra efforts that organizations need from their workforce in order to be successful.

Several measures and OCB domains have been developed such as altruism, conscientiousness, loyalty, civic virtue, voice, functional participation, sportsmanship, courtesy and advocacy participation (Bateman & Organ, 1983). Organ (1988) has identified five dimensional model which are altruism, conscientiousness, sportsmanship, courtesy and civic virtue. These dimensions are frequently recognized in research (LePine, Erez & Johnson, 2002). According to Organ (1988) Altruism refers to employee behaviours directed toward helping or cooperating with other employees in face to face interactions on organizationally relevant issues. Conscientiousness is defined as dedication to the job which exceeds formal requirements such as working long hours and volunteers to perform jobs besides duties. Organ (1988) has identified sportsmanship as a willingness to tolerate the inevitable inconveniences and impositions of work without complaining. Courtesy includes behaviours which focus on the prevention of problems and taking the necessary step so as to lessen the effects of the problem in the future. Civic virtue is referring to the responsibility of the subordinates to participate in the life of the firm such as attending meetings which are not required by the firm and keeping up with the changes in the organization.

EMOTIONAL INTELLIGENCE AND ORGANIZATIONAL CITIZENSHIP BEHAVIOUR

Research on the relationship between EI and OCBs has received a little attention to date. Some empirical evidence found that mixed results between these two constructs (Schmidt, 2006; Sitter, 2005). However the limited research that does exist offers some support for this relationship (Carmeli and Josman, 2006). Sitter (2005) found that EI of leaders had significant relationship with subordinates' OCB. Abraham (2004) said that EI had significant relationship with several OCB of the followers. EI is positively significant with both altruism and compliance (Carmeli and Josman, 2006). Charbonneau and Nicol (2002) found same results in their research. According to Korkmaz and Arpacı (2009), Modassir and Singh (2008), James, Velayadhan & Gayatri Devi (2010), Ilgin et al. (2009), Jain & Sinha (2003), Sitter (2003), Cote & Miners (2006), Kappagoda (2011), Dulewicz & Higgs, (2003) found that there is a positive relationship between EI and OCB. Hence the following hypothesis is suggested:

H1: There is a positive and significant relationship between Emotional Intelligence and Organizational Citizenship Behaviour of English teachers who work in Sri Lankan schools.

RESEARCH METHODOLOGY

POPULATION AND SAMPLE

The sample of this study was drawn from a population comprised of 21132 English teachers in Sri Lanka. The study was conducted using 470 English teachers. 58 teachers of English from North Central province, 250 teachers of English from Western province and 162 English teachers from Southern province were randomly selected for this study. Although 500 questionnaires were administered the researcher could obtain only 470 usable questionnaires. 276 of the respondent English teachers were women; 150 were married. Their average age and tenure in the organization were 36.20 years ($SD = 8.97$) and 12.2 ($SD = 9.03$), respectively.

MEASURE

Two variables in the research: EI and OCB were measured through standard questionnaires with five -point Likert scales, ranging from 1 (strongly disagree) to 5 (strongly agree). The level of EI and OCB of the English teachers was evaluated by themselves.

Organizational Citizenship Behaviour: The dependent variable of the research, OCB of English teachers was measured using a standard questionnaire consisting 24 statements developed by Podsakoff et al. (1990). This variable was measured in terms of five dimensions as Altruism, Conscientiousness, Sportsmanship, Courtesy, and Civic Virtue. These dimensions have been conceptualized by Organ in 1988 and selected for this study because they have been most frequently examined by researchers (LePine, Erez & Johnson, 2002).

Emotional Intelligence: The EI of English teachers was the independent variable of the research. It was measured by an instrument consisting of 70 statements developed by Goleman, Boyatzis, and Rhee, (2000). Four dimensions and twenty sub-dimensions were used to measure the EI.

VALIDITY AND RELIABILITY

The content validity of these instruments was secured by including an adequate number of questions for each dimension of the variables. As shown in table 01, the instruments possess high test retest reliability as there is a significant high correlation between the responses of the two administrations. The results of Cronbach Coefficient Alpha (table 01) which suggested each item is correlated with other item across the entire sample and the internal consistency reliability is satisfactory.

TABLE 01 - RESULTS OF RELIABILITY

Variables	Test – retest coefficient	Cronbach Alpha Coefficient
Emotional Intelligence	0.94	0.87
Organizational Citizenship Behaviour	0.91	0.80

TECHNIQUES OF DATA ANALYSIS

The collected data were analysed using SPSS version 17. The data analysis included univariate and bivariate analyses. Regression analysis and correlation coefficient were used to assess the relationship between EI and OCB.

RESULTS AND DISCUSSION**RESULTS**

Table 02 shows Correlation Coefficient between the dimensions of EI and OCB used in the analysis. According to the results which is reported in the table, the correlation between EI and OCB was significant and strong positive ($r = .42, p < .01$). Furthermore the researcher examined the relationship between four dimensions of EI and dependent variable. The data indicated that the relationship management ($r = .51, p < .01$) and social awareness ($r = 0.45, p < .01$) positively and significantly correlated to OCB. The relationship between self-management and OCB was significant and positive ($r = .29, p < .01$). The weak, positive relationship was reported between self-awareness and OCB ($r = .15, p < .05$).

The researcher further investigated the relationship between EI and five dimensions of OCB. The data given in the table 03 indicates that EI was significantly and positively correlated to altruism ($r = .49, p < .01$). The findings also showed that EI is significantly and positively correlated to civic virtue ($r = .57, p < .01$). The relationship between EI and conscientiousness was significant and weak positive ($r = .34, p < .01$). The relationship between EI and courtesy showed similar result ($r = .29, p < .05$). According to the data no relationship was reported between EI and Sportsmanship.

Table 04 presents the results of the regression analysis. The data revealed that there is a positive and significant relationship between EI and OCB ($\beta = .37, p < .01$). Furthermore, R square value represents that EI has an ability to explain 28% variance of dependent variable (OCB). F value (24.13) suggests that there is a significant linear relationship between EI and OCB.

TABLE 02 - CORRELATION COEFFICIENT - DIMENSIONS OF EMOTIONAL INTELLIGENCE & ORGANIZATIONAL CITIZENSHIP BEHAVIOUR

Variables	1	2	3	4	5	6
1. Self-Awareness						
2. Self-Management	0.67**					
3. Social Awareness	0.59**	0.61**				
4. Relationship Management	0.69**	0.76**	0.65**			
5. Emotional Intelligence	0.86**	0.92**	0.89**	0.92**		
6. Organizational Citizenship Behaviour	0.15*	0.29**	0.45**	0.51**	0.42**	
Mean	3.10	3.80	3.87	3.61	3.59	3.48
SD	0.51	0.69	0.61	0.59	0.51	0.45

* $p < .05$, ** $p < .01$

TABLE 03 - CORRELATION COEFFICIENT BETWEEN EMOTIONAL INTELLIGENCE AND DIFFERENT DIMENSIONS OF ORGANIZATIONAL CITIZENSHIP BEHAVIOUR

Variables	1	2	3	4	5	6	7
1. Altruism							
2. Conscientiousness	0.11*						
3. Sportsmanship	0.36*	0.40**					
4. Courtesy	0.57**	0.22	0.49**				
5. Civic Virtue	0.34*	0.11	0.24*	0.41**			
6. Organizational Citizenship Behaviour	0.79**	0.61*	0.57*	0.91**	0.86**		
7. Emotional Intelligence	0.49**	0.34**	0.19	0.29*	0.57**	0.42**	
Mean	3.77	3.57	2.49	3.34	3.61	3.48	3.59
SD	0.59	0.61	0.37	0.51	0.53	0.45	0.51

* $p < .05$, ** $p < .01$

TABLE 04 - THE RESULTS OF REGRESSION ANALYSIS: EMOTIONAL INTELLIGENCE AND ORGANIZATIONAL CITIZENSHIP BEHAVIOUR

	AL	CN	SP	CO	CV	OCB
Emotional Intelligence β	0.42**	0.24**	0.27	0.28	0.20**	0.37**
R^2	0.21	0.14	0.18	0.05	0.19	0.28
F value	26.23	14.15	2.32	1.54	12.25	24.23

AL = Altruism, CN = Conscientiousness, SP = Sportsmanship, CO = Courtesy, CV = Civic Virtue

** $p < .01$

DISCUSSION

The main objective of this study was to examine the impact of EI on OCB of the English teachers in Sri Lanka. According to the results of Pearson's Product Movement correlation analysis and regression analysis it was found that EI of the English teachers was positively and significantly correlated with their OCB. Hence, there are statistical evidences to support the research hypothesis which posited a positive relationship between EI and OCB. According to the results of the analysis, the R Square is 0.28 which is significant at 1% (Sig. $p = 0.01$) suggesting that the English teachers' EI has significantly explained 28% of the variance of their OCB. Furthermore F value (64.13) suggests that there is a significant linear relationship between EI and OCB.

The impact of each of the four branches of EI on OCB was assessed to provide more specific examination of EI on OCB. The data showed that the relationship management was the most influencing factor in improving the OCB. In this study, the relationship management was conceptualized as the ability to inspire, influences, and develops others while managing conflicts. The second most influencing factor of EI on OCB was social awareness. It is the ability to sense, understand and react to others' emotions while comprehending social networks. Goleman (2008) categorized these two factors under the social competence. This indicates that Emotionally Intelligent English teacher will be better facilitator of relationships. If the English teacher has social competence they can build up positive relationship with different stakeholders. Thus developing social competences among the English teachers are important to enhance the OCB among them. Self-awareness and self-management, the personal competence according to Goleman has not much influenced on OCB of English teachers comparing with the social competencies.

Furthermore, the researcher investigated the impact of EI on each branch of OCB. The EI of English teachers was found to have a positive correlation with their altruism. That means emotionally intelligent teacher always voluntarily helps to students, other teachers and administrators to accomplishment. This finding is

consistent with the findings of Abraham (1999). He has found that EI may enhance altruistic behaviour as it enables employees to recognize and understand their coworkers' feelings; they subsequently respond more appropriately than do employees with low EI due to their ability to shift easily from negative to positive moods (Abraham, 1999). The EI of teachers had a positive correlation with their conscientiousness. They dedicate to the job which exceed formal requirements such as working long hours and volunteer to perform jobs besides duties. They are highly committed to achieve the goals and objectives of the schools. In addition a positive significant relationship was reported between EI and civic virtue of English teachers. Emotionally intelligent teacher recognize them as a part of organization and participate in the life of the school such as attending meetings which are not required by the school and keeping up with the changes in the organization. The study found that EI of the teacher positively but not significantly related to both courtesy and sportsmanship behaviours.

CONCLUSION

The findings of this research emphasized that the importance of EI on the improvement of the OCB of English teachers. The Emotionally Intelligent teacher is able to monitor his or her own behaviour, understand those of others and make relationship with others thus, enhancing the extra - role behaviour of the members of the organization. It may help to enhance the performance of the students and overall performance of the schools.

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A QUALITATIVE INQUIRY OF LEADERSHIP PRACTICES AND ITS BEHAVIORAL AND PSYCHOLOGICAL OUTCOMES

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ABSTRACT

The study aims to explore the leadership style and its related behavioral and psychological outcomes of the teachers. Leadership is an important predictor for the teacher's feeling and perceptions about their job. In this study, job satisfaction, commitment, citizenship behavior and teacher's morale are taken as the criterion variables. This is a qualitative cross-sectional case study based on 35 interviews from the faculty and head of the institutions and departments. The study employs the triangulation method for data sources to validate the findings. The study reveals interesting findings about the nature of the relationship between the leadership style and its related outcomes and a conceptual model is devised based on the empirical findings. Study in the end offers practical implications for future studies and recommends measures for the leaders under study.

KEYWORDS

Participative leadership, satisfaction, commitment, citizenship behavior, morale.

INTRODUCTION

Education and educational theory are embryonic in nature. Development in curriculum and new methods of refining the educational program are always the vanguard of educational debates. The ever-present challenge is to find modern ways to reach students. Millions of dollars are spent yearly in an attempt to cope up with this challenge. There are various factors that play significant role in improving existing curriculum and developing the new one; broad vision, leadership, infrastructure, faculty and teaching methods are salient among them. It has been generally accepted that human resource is the most vital capital of any organization especially in the educational institutions where resource persons are involved in making up the mind set of their customers. Teachers are so important component that educational institutions are ranked on this basis. Hence, by accepting this notion it can be asserted that one of the most fundamental concepts to improve an educational institution performance is by focusing on teacher perceptions, which can be largely affected by feelings teachers draw from environment provided at the institutions (Evans, 1997; Hunter-Boykin & Evans, 1995). These feelings can be described as morale, which can greatly affect the motivation and achievement of students, or this feeling can take the form of satisfaction or commitment. Hence these feelings result in an extra effort put by the teacher for the improvement of the academic environment.

A substantial proportion of effective schools' research has been directed at exploring the influence of principal's leadership behaviors and their related outcomes (Shum & Cheng, 1997). The most common among them are the relationship between principal's leadership style and their consequent effects on the factors like teachers' satisfaction, their efficiency and effectiveness and the amount of effort they are willing to exert on their job (Bass & Avolio, 1997). New paradigms of leadership (Burns, 1978; Bass, 1985; Bass & Avolio, 1994; Leithwood & Jantzi, 1990) have allowed these effects to be examined from new perspectives, with particular emphasis given to the question of the type of school leadership that teachers find satisfying.

Although there is somehow nebulous domain that connect the management concepts with the educational theory however, prominent among these are leadership paradigms like transformational and transactional models (Burns, 1978; Bass, 1985; Bass & Avolio 1997) that are applied in the educational institutions. These models posit that followers' performance can be lifted up to a level beyond formal roles expectations. Moreover, advocates claim that while transactional leadership is effective, "a greater amount of extra effort, effectiveness and satisfaction is possible from employees by augmenting transactional with transformational leadership" (Bass and Avolio, 1997, p. 22).

The present study builds upon previous research by addressing a variety of methodological limitations that have limited the generalisability of earlier findings. To date, the majority of work on leadership in educational theory has focused on the school principals and their leadership approach. Consequently, the current research investigates the leadership style in the university setting and explores the leadership of the head of the institutions and departments of a university selected as a single case.

Another limitation within this area of research is that the majority of previous studies have employed questionnaire designs (e.g., Hart and Quinn, 1993; Silverthorne and Wang, 2001). Although such designs indeed have their place, there are a number of commonly acknowledged problems associated with the use of questionnaires, including common method variance and other biases. Silverthorne and Wang (2001) recently included some qualitative techniques in their study of leadership to support the quantitative data. Avery and Ryan (2002) also employed qualitative techniques to investigate the leadership styles of 17 practicing Australian managers. Moreover, Rowland (2008) in a quantitative study recommended that qualitative aspect of leadership could lead to greater insight as to why teachers answered as the way they did.

Because of the exploratory nature of the questions to be addressed in the present study, qualitative approach to data collection is selected. Qualitative analysis enables researchers to explore emerging themes and aid with the theory building process. Although qualitative research has left its mark both conceptually and theoretically on the social sciences but qualitative leadership studies have been rare (Beyer, 1999; Bryman, 1996; Conger, 1998). The recent growth of qualitative research in the area of leadership may be associated with the contextually rich subject matter associated with leadership studies and the greater depth of understanding that one can derive from qualitative research methods. Qualitative research on leadership is distinctive from quantitative research in the field in a number of significant ways. According to Bryman (2004), one important difference is that qualitative research on leadership "tends to give greater attention to the ways in which leaders and styles of leadership have to be or tend to be responsive to particular circumstance" (p. 752.) In other words, qualitative leadership research appears to be more sensitive to the effects of situational factors and different contexts on leadership styles.

Hence by keeping in mind the need to add the knowledge to the existing one, this study is undertaken to discover the leadership in the qualitative facet. University of the Punjab, Lahore is taken as the case and its leadership style is studied in depth. Also the teachers' perceptions about their contribution in the form of the satisfaction, morale, commitment and extra roles are also investigated.

Building on the observations of Burns (1978) and Greenleaf (1977) that leaders have the potential of enhancing the moral development of followers, this paper proposes theoretical linkages between a range of outcomes related to leadership behavior.

The study is performed to address two distinct areas: first the level of the participation in the leadership style of the heads has been explored. Secondly, in this study the some significant outcomes related to leadership style are conferred in detail and their linkages have been established through empirical evidences.

RESEARCH QUESTIONS

This study addresses the following research questions:

1. What is the perception of the teachers about the leadership style of the head of the departments in University of the Punjab?
2. What is the level of the participative leadership style of the heads?

3. What are the major leadership related factors that teachers feel more important for them?
4. What are the outcomes related to the leadership style of the head of the institutes and departments?

SIGNIFICANCE OF THE STUDY

At the first place the study is significant to the field of education because it builds upon the available body of knowledge relating teachers' outcome and leadership in the university setting. There have been several studies that look at the relationship between teacher morale, their satisfaction, their commitment and principal leadership in school settings. The present study focuses on university of the Punjab, Lahore taken as the case study. Most of the recent literature reviewing teacher satisfaction has examined particular intrinsic and extrinsic factors that have acted as either satisfiers or dissatisfiers. Dinham & Scott (1997, p. 375) have argued the existence of a "third domain" of factors that fall between intrinsic satisfiers and extrinsic dissatisfiers. This third domain is made up of school based factors, such as school leadership, climate and decision making, school reputation, and school infrastructure, and has been demonstrated to influence teachers' perception of satisfaction as well as teacher's morale. Hence these factors are also applicable to the university setting. This study will validate the effect of these factors that are related to the teachers' related outcome.

Moreover this study is undertaken by taking into consideration the previous recommendations. In many studies researcher have recommended studying the leadership style from the qualitative aspect too. Rowland (2008) recommended to expand the research to include a qualitative aspect could lead to greater insight as to why teachers answered as they did. This information could lead to recommendations that might improve practice and give administrators more information as to what might improve the morale and satisfaction of their teachers. Additionally, teachers might suggest aspects of leadership that affect their morale that are not included on the survey. An interview format that allowed teachers to express their opinions in detail would provide the data to expand this understanding. Hence it will bridge the gap that exists due to the limited number of qualitative studies on leadership.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Introducing productive contributions in organizations from its members has been a serious concern for the organizational scholars. The role of the leaders to inspire and encourage the members towards common goals is the topic that has been globally attended.

This study is developed upon the leader member exchange theory. Its framework not only links down the leadership style with the behavioral and the psychological contribution of the teachers but also connects different outcomes together so that potential mediators in this framework can be gauged.

Teachers are the largest professional body of educational institutions and have frequent interaction with students. They play a vital role in shaping the environment of the institution. The way they feel about their job, roles and responsibilities have a significant impact on the students and the institutions they are working for. Interestingly there is a vice versa situation also. The environment notably contributes in modeling teachers' perceptions about their job, culture and the overall organization. There are several environmental factors that are likely to affect the teachers' perceptions. If these perceptions are positive, the teachers together with a leader participate in fostering an effective culture. Among these factors leadership style is the prominent one that has a significant effect on the teachers' behavioral as well as psychological outcomes. Therefore it is imperative for educational leaders to be aware of factors that affect teacher related outcomes like satisfaction, commitment morale and job involvement and how they may affect student achievement. Departmental head as a leader in the university has the power to influence the teacher perception in their department by their actions or practices they execute (Hunter-Boykin & Evans, 1995; Lester, 1990; Rhodes, Nevill, & Allan, 2004). It is often reported in the literature that teachers feel that they are not considered as professionals and are not esteemed by management which cause demoralization. In this regard a leader must understand that they are not only considered the role model but have to exhibit emotional intellect so that the faculty feels integrated with the overall ideology of the university.

LEADERSHIP APPROACH

Although there has been a lack of consensus on the definition of the leadership, a variety of leadership practices do share common factors: Leadership is a group phenomenon, and it involves processes of influence. Leadership emerges through the interaction between two or more persons during the process of achieving group or organizational goals. Additionally, leadership is not solely attributed to a leader's characteristics, but rather should be understood in the context of collaborative endeavors by all group members.

Reflecting on these common elements, the present study defines participative leadership as an organization-wide process of encouragement through which subordinates are involved in all the major decision of the institute and hence remain concerned about the overall organizational goal. The scope of the leadership discussion in this study will thus center on participative leadership style with organizational members. Literature provides the three broad strands of leadership theories; trait-based approach, behavioral-based approach and contingency based approach (Derue, Nahrgang, Wellman, Humphrey, 2011) as shown in Table 1. The present study espouses the behavioral perspective. At the first place, traits relatively remain constant in individual and seldom fluctuate through trainings. Behavioral patterns, however, can be learned and shaped through training. Since this study doesn't intend to select leaders rather explores the practical implications for the effective leaders hence the behavioral approach is more helpful.

TABLE 1: LEADERSHIP APPROACHES

Trait	Behavioral	Contingency
Focus: Personal attributes of leaders specific managerial skills, such as conceptual and interpersonal skills.	Focus: observable process or behavior rather than intangible characteristics	Focus: consider that effects of traits and behaviors are not consistent across all situations
Underlying characteristics: Personality and motivational traits—such as self-confidence, locus of control, stress tolerance, and managerial motivation	Underlying characteristics: Initiating structure, consideration, or empowerment—are associated with team performance	Underlying characteristics: situational factors, such as leader-member relations, task structure, characteristics of followers, and reward systems, were found to affect leader behaviors and their effectiveness.

Source: Literature Review

Participatory leadership includes all team members in ascertaining vital goals and strategies for achieving these goals (Caine and Caine, 1997). From this perspective, leader acts as a facilitator and not simply issue orders. One of the major benefits of participatory management is the process that allows the development of other leaders who can serve the organization later on. Such leadership approach fosters creativity and encourages people to demonstrate the skills and talents that will not be visible otherwise. Discovering these hidden assets help leaders to take advantage of current team performance. Participatory leadership also extends the range of opportunities for the team. When the leadership style encourages others to be involved in the decision making process, a given course of action can be treated by a variety of perceptions. This can often highlight strengths or weaknesses of the approach that would have gone unnoticed and unresolved.

One potential shortcoming of participative leadership is the time factor (Pollack, 2001). Participative leadership seeks input from every member and this extra time though delay but ultimately benefit everyone to a greater degree than faster decisions that are more limited in scope (Goodlad, 1994). According to Perkins (1999) the participative leader is "able to unleash the innate strengths of followers so that they can become "self-leaders" who experience commitment and ownership of their work". Unlike the other leadership approaches, the focus of the participative leader is always on relationship with the members. It is inherently "other-centered" approach.

A participative leader is the one who seeks people involvement that improve understanding of the issues. The people involved in the decision making process possibly includes subordinates, peers, higher authorities and other major stakeholders. However the level of influence and the type of issues in which the

participation is sought may be the whim of the leader solely. This is also dependent upon the leader's preferences and beliefs and the way he/she view a situation.

According to Schlechty (1990, 2001) participative leadership is common in almost every leadership style but the difference emerges from the level of authority and delegation. . There is a model that helps to explain the main demarcations between the leadership style and the level of participation encouraged from the leader. The theoretical model is based on spectrum on which the level participation is determined. According to Brown (n.d.) this is the most applicable model to the dynamic field of education. A complete spectrum of level participation is shown in the Table 2 below:

TABLE 2: PARTICIPATIVE LEADERSHIP SPECTRUM

1. Autocratic decision by leader	2. Leader proposes decision, listens to feedback, then decides	3. Team proposes decision, leader has final decision	4. Joint decision with team as equals	5. Full delegation of decision to team
< Not participative		Highly participative >		

Source: <http://www.rose-hulman.edu/StudentAffairs/ra/files/CLSK/PDF/Section%20Three%20Campus%20Involvement%20&%20Leadership/Leadership%20Styles.pdf>
Involvement in decision-making foster a culture in which people feel committed and adhere to the decisions made. People appear to be less competitive and more collaborative while working on mutual goals. Several people mutually taking a decision are considered as more favorable and hence attain more acceptances in leadership theory. There is variety of situations on this spectrum, including stages where the leader just passes on the decision to the team. Another extreme is to describe the objectives and goals and let them decide the process to achieve them. This phenomenon is often describes as Management by Objectives (MBO). A study conducted by Hallinger (1998) confirms this notion of setting the goals that teachers who were "more satisfied" with their jobs, worked in an environment where teachers perceived greater influence over their use of time. In a further study Hallinger (1998) describes teachers believing to have some control over their classrooms but limited control over things that go on outside the classroom. When the researchers probed deeper into teacher's perceptions of their control, "there was a "marked decline in teachers' sense of powerfulness as the focus moves from the classroom to the school as a whole" (p. 190).

In a study reported by Hammond (1995) teachers reported that when policies are implemented with flexibility they are the most effective. However, policies that are highly prescriptive with few options lead to resistance in a variety of ways. Fewer than 10% of the teachers in the study wanted strict guidelines. Those teachers also did not address student learning, only concern for covering the curriculum (Hammond, 1992).

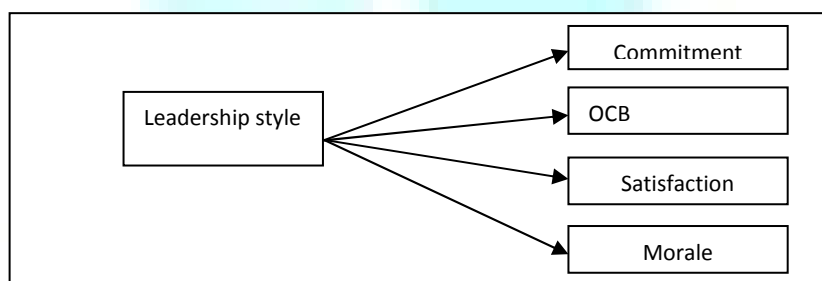
It is also revealed through research that teachers perceive the environment as constructive when they participate in decision making, and are allowed flexibility in pedagogical strategies. Positive effects of teaching are achieved when teachers can adjust imposed policies based on their best beliefs about student learning. Researchers describe a variety of strategies that create an environment where teacher's perception of their work is positive. Barth (1990) for example, describes the need for a community of leaders that will offer "independence, interdependence, resourcefulness, and collegiality" (p. 145).

By keeping in view the importance of the teacher's perception about the environment around them it is also essential to study the outcomes of teacher's perception about the environment they are working in. Studying these factors is central because this will in turn affect their decisions and actions like intentions to leave or stay with the institution, their extra contributions and overall their morale. The environment of the any institute is the reflection of the personality of the head of the institute. So if it is important to study the environment then the most fundamental job is to examine the leadership style of the head. This is the primary building block of any environment. Moreover, its effects on teachers' satisfaction, their morale, their performance are lasting and are critical to study.

BEHAVIORAL AND PSYCHOLOGICAL OUTCOMES

There are several psychological and behavioral outcomes of the teachers that are resultant of the perception about the leadership style. For this study only some but salient outcomes are identified and studied in response to the teachers' perception about the leadership style of the director. These outcomes that are identified for the study at hand are teacher morale, job satisfaction, commitment, and extra role behavior. Hence the framework devised for this study can be explained as Figure 1:

FIGURE 1: CONCEPTUAL FRAMEWORK



Source: Review of Literature

The literature on teacher's commitment can be concentrated in the ways that teachers define and characterize this concept. Kanter (1974) and Mowday, Steers and Porter (1979) presented, in their research, the widely referred conceptualizations of commitment. Teachers are supposed to be committed the social context what Kanter (1974) describes as 'social system'. It's not the one-dimensional concept and has many layers (Day, 2000; 1996; Tyree, 1998). According to Kanter (1974) there are certain determinants that are crucial for commitment intrinsically and extrinsically but leadership is prominent among them. Meyer and Allen (1991) also presented the most widely accepted component model of organizational commitment.

Research on OCB has benefited greatly from Organ's (1988) conceptualization of OCB as consisting of five distinct factors: Altruism (e.g. helping specific individuals), Conscientiousness (e.g. going beyond minimally required levels of attendance), Sportsmanship (e.g. tolerating the inevitable inconveniences of work without complaining), Courtesy (e.g. informing others to prevent the occurrence of work-related problems), and Civic Virtue (e.g. participating in and being concerned about the life of the company). Thus, there is a substantial amount of evidence employees in well- functioning organizations consistently go beyond the formal job descriptions and contracts. Hence they tend to demonstrate goodwill, smooth functioning and efficiency of organizations. A wide range of employee, task, organizational and leader characteristics are consistently found to predict different types of OCB across a range of occupations (Podsakoff et. al, 2000).

Job satisfaction is another important criterion variable in this study. It is defined as "how people feel about their jobs and different aspects of their jobs. It is the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs" (Spector, 1997). It has been the frequently investigated concept in psychology, sociology, economics and management sciences. Many experts believe that job satisfaction can affect employee behavior and influence work productivity, work commitment, absenteeism and their turnover. Furthermore, job satisfaction is considered to be a strong predictor of "overall individual well-being" (Diaz-Serrano and Cabral Vieira, 2005).

Teacher morale has been defined by Bentley and Rempel (1980) as "the professional interest and enthusiasm that a person displays toward the achievement of individual and group goals in a given job" (p. 2). It is affected by the leadership and has a consequent effect on students' performance. It is more like an intervening concept that ripens in the supportive culture and effective management. In most of the cases literature supports the positive relationship between leadership traits and teachers' morale. Morale is more like the motivation of the person. Teachers' motivation is attempted to be explained by several factors and surprisingly pay incentives are found to be ineffective in creating motivation. Sylvia & Hutchinson (1985) asserted that teacher motivation is the

outcome of the freedom one enjoys at workplace, achievement of roles and responsibilities and other intrinsic work elements. Factors like merit pay have proven to be counterproductive. These intrinsic factors like independence and liberty to try innovative ideas are related to leadership style because these are the factors that is provided only by a supportive leader.

This research is intended to unfold the qualitative aspects of the relationship between leadership practices and its related outcomes. This study not only examines the teachers' perception about their institutional heads but also explicate the reasons of why they perceive such factors as important to them. Also teachers' behavioral and psychological outcomes that are identified above are studied as the result of their perceptions. Although the outcomes identified are one way or the other relates to the leadership style but this study explores whether the particular nature of the relationship is same as hypothesized or somewhat different in the selected case.

RESEARCH METHODOLOGY

This is the qualitative investigation of the phenomenon and University of the Punjab, Lahore is selected as a case. This approach incorporates in-depth study of a single case. This study is intended to deeply analyze the leadership style, faculty's perception regarding the leadership approach and the outcomes associated with it. Moreover triangulation method for data collection is adopted. Data is collected from two sources. At the first place teachers are interviewed in order to find their perception about the leadership approach of their respective heads and secondly heads are interviewed to get their own perception about their style. Case study approach uses this concept of dual informants which helps to validate the findings (Yin, 1994). The rationale for this approach is the validation of the data. According to Flick (2006) data from more than one source make it more valid and reliable.

Population of the study is the entire lecturers included in all the faculties of University both at the permanent and contract basis. 3 faculties (Behavioral and Social Sciences, Commerce and Economics and Management Sciences) are taken into account due to the time and cost limitations. The rationale to have only lecturers in the population is that the lecturers are in the majority and hence the results can be generalized more accurately. A sample of 35 respondents is selected. The teachers selected as samples are permanent lecturers. Visiting faculty is not taken into account in this study. Sample is purposively selected for having at least 2 years of work experience in the university. Apart from the teachers heads of the institutes and departments are also interviewed for validating the results from the lecturers.

Semi-structured in-depth interviewing technique has been utilized as the method of the data collection. Interview guides are designed flexibly in order to amend it according to the discussion taking place. Several questions are added during the interviews and some are revised. Interview time and places have been decided through appointments 2 weeks before the schedule. Interviews lasted for 90 minutes on average. Interviews are recorded in the form of field notes and transcribed at the earliest to preserve the purity of the statements.

The procedure used to analyze and summarize the collected data was generating categories and developing themes, a process that was called content analysis. Similar patterns, themes and categories were discovered in different transcriptions of the interviews. Based on the opinions and the ideas of the respondents typologies are created and placed under the similar and coherent views. The findings are summarized by transcribing the descriptive data and placing it under the developed constructs.

Transcribed data is reduced to the meaningful minor themes or categories. This is done by identifying the similar themes from each transcription. These minor themes are then placed under the major themes that represent the most important findings of the study. There are several themes of the construct (leadership) that explain and describe it. Some excerpts from the transcription are also quoted for each code.

As described above the similar ideas and statements are placed under the minor theme and then similar minor themes are coherently categorized as the major themes. All the related themes are classified in the codes that are made of the construct. The construct here is the leadership and teacher's outcome. The codes of these constructs are made. Leadership is codified as: intellectual capacity, inspire a shared vision, interpersonal skills, cooperation and cohesiveness, democratic approach and evaluation. On the other hand different teachers' outcomes are identified and their major themes are identified as: morale, satisfaction, commitment of the teachers and extra role behavior exhibited by them.

RESULTS AND DISCUSSION

The codes and themes have been identified by transcribing the data. These codes as well as the major and the minor themes excerpted are discussed in detail and the key statements supporting the themes are quoted.

From the overall analysis of the data it can be said that teachers' perception about the leader's intellectual capacity is positive. They appear to be appreciative about the way the director stimulate the interest in the faculty and encourage them to take initiatives. According to them they keep their faculty focused and provide them with the adequate directions they need. They are satisfied and feel committed to their work. Since they feel that they are treated equally they have strong commitment with their institute. Director also appears to feel satisfied about his intellectual capability and feels that he always motivates teachers for taking initiatives. As according to Rowland (2008) the ability to enable others to act, and encourage the heart is highly related with the teachers' satisfaction similar patterns have been emerged in the data also.

The major theme that emerges from the data is the intellectual capacity. According to them they feel that the director has the strong intellectual capacity that not only provides him thrust to take initiative but also stimulate others to work hard. Director himself has positively response to these characteristics and hence appears to have the intellect. The perception of the director pertaining to his own ability to take initiative steps seems positive. Director himself admits that he has some constraints but wherever he has the empowerment they keep things updated.

Another important theme that emerged from the data is that the teachers also acknowledge visionary nature of the heads and feel that they have the ability to keep himself as well as his staff focused towards the overall goal of the university. Goal orientation is the quality that teachers feel is commendable.

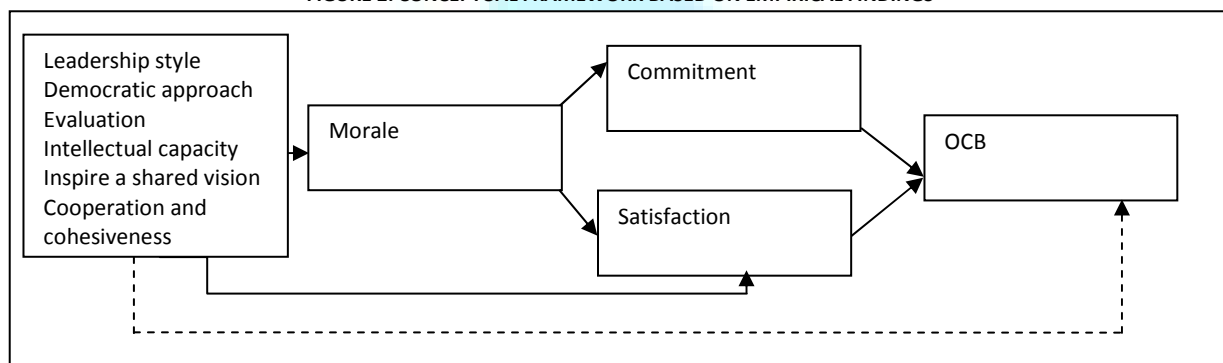
Participative approach is another important theme that has been identified by the data. Teacher has the very positive reaction about the issue of the input in decision making. They really feel satisfied and valued by having a say in the decision making. Wentworth (1990) listed the essential factors that determine teacher satisfaction and willingness to go for the extra role behavior and among them the top most is the input into decision-making that directly affects curriculum, instruction, and climate. Teachers feel recognized and appreciated and feel that they have the contribution in the institute. From this it can be inferred that the teachers feel satisfied. Although there are certain issues that are out of the sphere of their authority but in terms of courses, teaching methodology and books they have the discretion. Director is considered participative and teachers perceive that their opinions are being heard and are made part of the major decisions. According to them this helps to build trust and increase teachers' morale (Kouzes & Posner, 2002). Most of the responses reflect this pattern and teachers feel valued by having a major part in the decision making. Hence the major path that emerged is that participative style boost employees morale and create satisfaction. The present study confirms the previous researches where there is found that the leadership style influence the subordinate behavior; as the behavior of the leader produces the motivation mechanism which consequently shapes the behavior of the individual in the organization (Shamir, 1993). It appears from the teachers interviews that head of the institutions and departments have the special consideration towards the faculty problems and have the positive rapport with them. Teachers appreciate this quality and are really feel satisfied. When the teachers feel that their opinions and views are always considered their morale increases and they often think to take initiatives regarding the way they teach. Bass and Avolio (1997) have also endorsed this mechanism where effective leadership produces extraordinary outcomes in terms of increased commitment to organizational goals. This is done through raising follower awareness to the importance of achieving group goals, transcending self-interests for the sake of the team, and developing follower's needs to higher levels in areas such as achievement. Hence stimulating interest in the teachers and provoking the need to take initiatives results in positive outcomes especially extra role behavior. With this satisfaction they are always ready to help students and adopt the facilitative point of view. This relationship is also supported by the previous studies. According to them the leader is the single most important individual in developing the climate of the institute (Maxwell, 2001). Effective principals have a leadership style that establishes good interpersonal relations among teachers and initiates actions that lead to the attainment of the goals (Yukl, 2002). Collegial leadership meets the social needs of the faculty and the goal-achieving needs of the school. Principals treat teachers as

professionals and are open, egalitarian, and friendly. Moreover, the principal sets clear teacher expectations and standards for performance. Hence this study also found that there is a strong relationship between the leader's interaction with the faculty and the extra role behavior. Director believes in encouraging teachers for their devotion and commitment. In turn this affects the teacher commitment towards their job as well as towards the institute.

But there are some areas where teachers feel that the director should pay attention. The most important one is the provision of the training and developmental programs that will ultimately improve the teachers' performance. According to them, although they have authority of inviting the people from the corporate sector but formal approvals are always necessary. Moreover teachers feel that there should be stronger link between their institute and corporate sector and this network can only be developed by the director's initiatives.

Through the review of analysis we can strongly infer that although teachers have certain issues regarding the academic policies but they feel encouraged and valued by the way director seeks their participation in any decision. Hence the study clearly indicated that there is a high level of participation from the faculty in the important matters of the department and institutes. It can be said that it is one of the important aspects of the academic climate that not only increases the performance of the institute but has enduring effects on the teachers' outcome. Opportunities for professional development and organizational climate endorse teacher collaboration and hence leadership style cultivates the satisfaction and the motivation of the teachers (Newmann, Rutter & Smith, 1989). Hence a processual link as shown in Figure 2 can be made through the evidences from the data. The data revealed some patterns that have modified the status of some dependent variables as mediating. Morale is hypothesized to be the dependent variable but it actually acts as a mediating variable between the leadership style and job satisfaction and job commitment. It can be strongly inferred that the faculty feel morally high due to their participation in the main academic areas. This high level of morale creates a sense of commitment in the faculty and they feel satisfied. Once the faculty feels satisfied and performs their roles and responsibilities with full zest and zeal they extend their domain of work and go an extra mile to help the colleagues and students as indicated by the respondents. Smith, et al. (1983) and Bateman and Organ (1983) conducted the first research on the antecedents of OCB, finding job satisfaction to be the best predictor. After two decades of research, job satisfaction is still the leading predictor of OCB (Organ, 1997). This is problematic because, descriptively, job satisfaction is in and of itself a challenging outcome sought by organizational managers. Hence this study also studies one of the contextual variable- leadership that helped to validate these research notions. A healthy environment characterized by participative leadership not only creates a learning culture but also improves the overall performance of the university.

FIGURE 2: CONCEPTUAL FRAMEWORK BASED ON EMPIRICAL FINDINGS



Source: Data Transcriptions

CONCLUSION

So from the data analysis and the above summarized points it can be significantly concluded that the leadership style of the institutions and departments in the university appears to be participative. They feel that the director's major positive point is that he makes the faculty participate in all decisions although the sole authority is not given but their opinions and views are always encouraged. Hence the director has got the participatory leadership style according to the teachers. With reference to the model that is presented in the introduction, the director seems to appear at the 4th level of the participative leadership style model. This emerges from the data analysis and the findings are validated by this model presented in the literature.

RECOMMENDATIONS AND PRACTICAL IMPLICATIONS

Drawing inferences from the results and conclusions lead to three major recommendations. These recommendations are meant to provide a more widespread and deeper understanding of the relationships of the variables studied as well as their relationship to student achievement. They are also meant to provide additional information to aid and guide university administrators in a practical manner. First, the researcher recommends expanding the research to include both sector of universities as this study has studied Public Sector University only. There may be unique differences in the culture of universities that created differences in the relationship between teachers and administrators. Expanding the research over both sectors could provide greater insight into the relationship of leadership and teacher-related outcomes. Secondly, expanding the research to include a quantitative aspect could lead to measurement of the strength of the relationships between the leadership style and the teacher's outcome. This is also recommended to take this case study as a ground and build the theory by conducting the research on the related disciplines of management. Third, it would be imperative to include measure of student achievement in future research in the conceptual model and analyze its linkages with on teacher outcomes like satisfaction, morale, commitment and extra role behavior, and leadership. This would expand the current knowledge in this area. Student achievement is the key factor that is always the goal of improvement initiatives and projects in educational institutions.

This study has many practical applications as well. The deeply analyzed leadership style of the institutes and departments, that is part of the management faculty in the university, will help in conducting the future studies on leadership. This study can give a fine picture of the style that the leaders as heads adopt in such a larger context. The findings of this study help to amend the practices according to the insights given by the teachers about their experiences. This study provides a fruitful insight into the teachers' perception and can prove a valuable work to the heads as well as the vice chancellor of the university. The deeper insight of the leadership style and the teachers' behavioral and psychological outcomes can also be used in the future studies to examine its impact on the organizational effectiveness.

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LINKING ORGANIZATIONAL CULTURE, STRUCTURE, AND ORGANIZATIONAL EFFECTIVENESS

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ABSTRACT

This study examines the mediating role of knowledge management in the relationship between organizational culture, structure, and organizational effectiveness. A survey was conducted of 600 organizations. The results suggest that knowledge management mediates the impact of organizational culture on organizational effectiveness, and partly mediates the impact of organizational structure on organizational effectiveness. The findings carry theoretical implications for knowledge management as they extend the opportunity of research on knowledge management from examining a set of independent management practices to examining a system-wide mechanism that connects internal resources and competitive advantage.

KEYWORDS

Knowledge management, Organizational culture, Organizational structure, Organizational effectiveness.

INTRODUCTION

Internal organizational context focuses widely and relatively stable categories of organizational characteristics such as structure, culture, and power and political characteristics (Pettigrew, 1979). They constitute an environment where organizational activities take place. There has been a large number of studies that examine how the fit organizational context and explains variances in organizational performance (Daft, 1995; Robbins, 1990). Knowledge management plays a mediating role in connecting organizational context with organizational effectiveness. Skyrme and Arnindon (1997) state that knowledge management enhancing an organization's competitive advantage, customer focus, employee relations and development, innovation. In turn, knowledge management is context, because context determines who participate and how they participate in the knowledge management process (Nonaka et al., 2000). Knowledge management could work as one of the circumstances mechanisms through which organizational context influences organizational effectiveness. However, the mediating role of knowledge management has not been satisfactory investigated. Exploring of its role as a mediating factor would provide better understanding of how to achieve desirable organizational goals. This study sets out to do that. The purpose of this study is to examine the mediating effect of knowledge management on the relationship between organizational culture, structure, and organizational effectiveness. This study try to discover and explain one of the mechanisms through which organizational contextual are used to achieve higher levels of organizational effectiveness.

1. RATIONALE

Knowledge management is "an integrative process of a wide coordinating organization to follow a major of organizational goals" (Rastogi, 2000, p. 40). Researcher found that knowledge management practices need to fit with organizational context in order to create a competitive edge (Davenport and Prusak, 1998). The literature on the mediating role knowledge management plays several important missing pieces. First, existing studies cover some ground of the contextual preceding events of knowledge management (Gold et al., 2001; Lee and Choi, 2003). However, these studies investigate that knowledge-related environment rather than the general contextual environment of the whole organization. They focus on exploring the preceding events of knowledge management rather than examining knowledge management as a mediating mechanism between organizational context and organizational effectiveness. But Gold et al. (2001) and Lee and Choi (2003) examine the aspects of organizational culture, structure, and technology that are directly related to knowledge management. They did not investigate the cultural, structural, and technological characteristics of the whole organization. The restriction of knowledge problem structural and contextual factors allows the assumption that knowledge management is a set of relatively independent managerial practices rather than a central mechanism through which organizational factors are using a lever to achieve organizational goals. This assumption may have low estimation and the actual influence of knowledge management. This study takes a new perspective on knowledge management in its capacity to transmit contextual influence onto organizational effectiveness. It is time to construct a more complex picture of how organizational structural, cultural, and characteristics using a combined effect on knowledge management and organizational effectiveness. Second, the link between knowledge management and organizational level performance has not been sufficiently established. But measuring knowledge management is difficult (Lee and Choi, 2003), and the relationship between knowledge management processes and organizational effectiveness has not been satisfactory studied (Davenport and Prusak, 1998; Shin, 2004). This study tries to address the abovementioned missing pieces in literature.

2. THEORETICAL AND HYPOTHESES**2.1. KNOWLEDGE-BASED VIEW AND RESOURCE-BASED VIEW**

The knowledge based view of the firm state that the firm's capability to create and utilize knowledge is the important source of a firm's sustainable competitive advantage (Grant, 1996; Nonaka, 1991). Nonaka (1991) suggest that, in the current economy, where "the only certainty is uncertainty, the source of lasting competitive advantage is knowledge" (p. 96). The resource-based view assumption is that firm competitiveness comes from unique number of tangible and intangible assets that are valuable, rare, and sustainable (Barney, 1991). The resources a firm possesses include management skills, organizational processes, and the information and knowledge it controls (Barney, 1991). Firm resources include all assets, capabilities, organizational processes, firm attributes, knowledge, and others, as controlled by a firm (Daft, 1995). Organizational structure and culture are two key organizational assets that have been studied extensively in their association with organizational effectiveness. The knowledge-based view of the firm is at the center of the resource-based view (Conner and Prahalad, 1996).

2.2. ORGANIZATIONAL EFFECTIVENESS AND KNOWLEDGE MANAGEMENT

Organizational effectiveness is "the degree to which an organization realizes its goals" (Daft, 1995, p. 98). In this study, measures assessing organizational effectiveness were adopted from Lee and Choi (2003) which consist of organizational members' processes of the degree of the overall success, market share, profitability, and growth rate of the organization in comparison with competitors. Therefore knowledge is managed contributes to organizational effectiveness. Knowledge management consist of the managerial efforts in facilitating activities of ability creating, storing, sharing, developing, and deploying knowledge by individuals and groups (Rowley, 2001; Soliman and Spooner, 2000). This study examines three processes: knowledge generation, sharing, and utilization (Davenport and Prusak, 1998). Knowledge generation refers to the process in which knowledge is acquired by an organization from external sources and those created from within (Davenport and Prusak, 1998). Knowledge sharing, called knowledge transfer refers to the process by which knowledge is transferred from one person to another, from individuals to groups, or from one group to another group (Davenport and Prusak, 1998). Knowledge utilization, also called knowledge implementation, refers to the process that is oriented toward the actual use of knowledge (Gold et al., 2001). Some empirical studies show a significant linkage between knowledge management and organizational effectiveness. Knowledge integration could lead to product development effectiveness, reduced density, lowered warranty, and increased software development efficiency (Tiwana, 2004). According to these studies, it is hypothesized that knowledge management positively contributes to organizational effectiveness.

H1. Knowledge management relates positively to organizational effectiveness.

2.3. MEDIATING ROLE OF KNOWLEDGE MANAGEMENT

Organizational knowledge reflective of cultural, structural, and characteristics of the organization is utilized to help produce new products and services, improve efficiency, and enhance effectiveness. In turn, Knowledge resources are an outcome of organizational culture and structure, because knowledge is created, a sense, and utilized in accordance with a set of cultural values and norms, embedded in structural relationships (Nonaka et al., 2000). Grant (1996) state that the challenge of the knowledge-based view of the organization is effective coordination among organizational members as their knowledge and needs to be integrated. The division of tasks between individuals and the specification of the interface between them lie within the dimension of organizational design (Grant, 1996). Organizational culture and structure constitute critical dimensions of organizational design. Their influence on organizational effectiveness may be channeled through their interface with knowledge management.

2.3.1. Organizational culture-knowledge management-organizational effectiveness

Organizational culture is a source of sustained competitive advantage (Barney, 1991) and empirical research shows that it is a key factor to organizational effectiveness (Gordon and Di Tomaso, 1992; Peters and Waterman, 1982; Wilkins and Ouchi, 1983). Organizational culture does not directly lend its influence on organizational effectiveness; rather, it exerts its influence through shaping the behavior of organizational members. In an uncertain environment, the important part of decision-making is to change the information from the environment to structure (Waterman, 1990). Denison and Mishra, 1995; Denison and Neale, 1996; Fey and Denison, 2003 identified three dimensions of organizational culture that are helping to produce to organizational effectiveness: adaptability, involvement, and mission. Adaptability refers to the degree to which an organization has the ability to alter behavior, structures, and systems in order to survive in the wake of environmental changes. Involvement refers to the level of participation by an organization's members in decision making. Mission refers to the existence of a shared definition of the organization's purpose. This study uses this framework. Existing literature implies a positive relationship between organizational culture and knowledge management. Brockman and Morgan's (2003) find the positive relationship between entrepreneurship and innovation; Young et al.'s (1999) study of the favorable influence of flexibility on knowledge transfer ability; O'Reilly's (1989) identifying the significant role of involvement in facilitating innovation; and Davenport and Prusak's (1998) focus on clarity of vision in knowledge management. Therefore, organizational culture is positively associated with knowledge management. Knowledge management practices make the process of how new external and internal information is absorbed, changed, and integrated into an organizational memory. The whole process is conditioned by organizational culture, because the values and behavioral norms held by organizational members serve as a filter in the sense-making and meaning-construction processes (De Long and Fahey, 2000). Further, the sense-making mechanisms entailed in knowledge management also serve as preceding events to other outcomes of culture such as ethical behavior, job stress, and self-confidence (Posner et al., 1985) that have a bearing on organizational effectiveness.

H2. Organizational culture (adaptability, mission, and involvement) relates positively with organizational effectiveness.

H3. Organizational culture (adaptability, mission, and involvement) relates positively with knowledge management.

H4. Knowledge management mediates the relationship between organizational culture and organizational effectiveness.

2.3.2. Organizational structure-knowledge management-organizational effectiveness

Organizational structure indicates configuration of tasks and activities (Skivington and Daft, 1991). A most studied dimension is centralization (Rapert and Wren, 1998). Centralization refers to extent the decision-making power is concentrated at the top levels of the organization" (Caruana et al., 1998, p. 18). A minority studies shows a positive impact of high centralization on organizational effectiveness (Ruekert et al., 1985), the majority of scholars have agreed that a decentralized organizational structure is helping to produce to organizational effectiveness (Burns and Stalker, 1961; Dewar and Werbel, 1979; Floyd and Wooldridge, 1992; Rapert and Wren, 1998; Schminke et al., 2000). It is found that a decentralized structure encourages communication (Burns and Stalker, 1961) and increases employee motivation and satisfaction (Dewar and Werbel, 1979), because in less centralized environments, free flow of the side and vertical communication is encouraged, expert on the subject had greater say in decision-making than the designated authority (Burns and Stalker, 1961), and responsiveness to market conditions is enhanced (Schminke et al., 2000). In a similar way, regarding the relationship between organizational structure and knowledge management (Tsai, 2002), a decentralized structure has often been seen as facilitative to knowledge management success (Damanpour, 1991; Deal and Kennedy, 1982; Gold et al., 2001). High centralization unwilling to express interactions among organizational members (Gold et al., 2001), reduce the opportunity for individual growth (Kennedy, 1983), and prevents using solutions to problems (Deal and Kennedy, 1982). On the contrary, decentralization facilitates internal communication (Bennett and Gabriel, 1999), adoption of innovation (Miller, 1971), and higher levels of creativity (Khandwalla, 1977). The knowledge-based view emphasizes the importance in understanding the processes through which organizations access and utilizes knowledge possessed by its individual members (Grant, 1996). Structure can influence knowledge management processes through shaping patterns and number of communication among organizational members, locations of decision-making and affecting efficiency and effectiveness in implementing new ideas. Knowledge management can transfer the structural impact onto organizational effectiveness, because the way knowledge is organized, knowledge management activities are coordinated, and the extent of knowledge management practices are embedded in the daily work processes influence the effectiveness and efficiency of organizational performance. At the same time, structure influences organizational effectiveness through channels other than knowledge management. It influences organizational effectiveness through no knowledge-related functions, especially through regular processes, tasks, and systems, because of their smallest in degree of involvement of active knowledge management.

H5. Organizational structure relates negatively to organizational effectiveness.

H6. Organizational structure relates negatively to knowledge management.

H7. Knowledge management partially mediates the relationship between organizational structure and organizational effectiveness.

METHOD

In this study we collect data on organizational members' process of the four constructs: organizational culture, structure, knowledge management, and organizational effectiveness. The data were collected from two HR organizations members in a west of Iran constituted which target response group. HR organizations were chosen as the respondents because they usually have good knowledge of organizational members (Gilley and Maycunich, 2000) and a realistic view of what the organizational characteristics are rather than what they should be. The member base of the two organizations totaled 3200. A total of 700 responses were received, that constitutes a response rate of 24%. Among the respondents, 38.6% were at the middle management level, 22.9% at the senior management level, 29.2% at the non-management level, and 9.3% at the supervisory level. A MANOVA test was conducted on the mail-based survey results (Wilks' lambda=0.79, p=0.71). To assess nonresponse bias (Armstrong and Overton, 1977), all responses received within the first five weeks were treated as early responses and the rest as late respondents. No statistical differences were detected between the samples (Wilks' lambda=0.77, p=0.45). The unit of analysis in

this study is the organization as each organization has unique sets of cultural, structural, and knowledge management characteristics. A total of 600 organizations were represented by the respondents. Seventy-one percent of them were in the service sector, 28.7% in manufacturing, and 0.3% in the agricultural sector (Fig. 1). Average scores were used for those organizations with multiple respondents. Among the 600 organizations, 72 of them had multiple respondents (ranging from two to five), and the rest with single informants. Responses from the same organization were averaged to derive the organizational scores on the variables. In order to assess the interrater reliability of the multiple respondents on the variables, interclass correlation tests were used. The average Cronbach's alpha was 0.60, indicating that there is a generally acceptable inter-rater among the multiple respondents.

In this research we used the existing instruments which were available in past research. Measures assessing organizational culture were adapted from Denison and Mishra, 1995; Denison and Neale, 1996; Fey and Denison, 2003; that consist of three functional dimensions: adaptability, involvement, and mission. The scale measures on organization are extended to display the three dimensions of characteristics. Organizational structure was measured by centralization. A scale measuring centralization was taken and used from Ferrell and Skinner (1988). The scale measures how to centralize on an organization is based on respondents' questioner. A sample item is "my organization which tries to develop thorough analysis with a major decision is confronted". Organizational effectiveness is "the degree to which an organization realizes its goals" (Daft, 1995, p. 98). In this study, measures assessing organizational effectiveness were adopted from Lee and Choi (2003) and the items measuring knowledge management were modified from Gold et al. (2001), assessing respondents' process of the existence of the three knowledge management processes. A sample item is "matching sources of knowledge to problems and challenges". As this study utilized we have to collect data on all of the variables, common method. In order to assess the possible common method bias, Harman's one-factor test was used on the variables, following Konrad and Linnehan (1995) and Simonin (1997). The results of the principal component factor analysis given 8 factors with eigenvalues greater than 1.0, which accounted for 70% of the variance. In addition, the first factor did not account for the majority of the variance (37%). It seems that common method bias is not a serious problem (Podsakoff and Organ, 1986). Structural equation modeling (SEM) and the LISREL program was used for assessing confirmatory measurement models (factor analysis) and confirmatory structural models (path analysis) (Jöreskog and Sörbom, 1989).

4. RESULTS

Results from the confirmatory factor analysis showed that all of the scales used satisfactory and thus provided evidences for the construct validity of the measures. Table 1, show the measurement models and table 2 shows the descriptive of the constructs. The hypothesized model was compared to the structural model (Alternative Model 1 where all paths relating to the constructs were to be estimated), as well as one alternative models, one fixing the path from organizational structure to organizational effectiveness to zero (Alternative Model 2). The two alternative models are shown in Figs. 2. The hypothesized model shows a better model fit than the two alternative models because (1) it contains no insignificant paths while other models do; and (2) chi-square/df ratios in the alternative models (4.92, 4.91) are slightly larger than that of the hypothesized model (4.90), indicating that the hypothesized model fits the data slightly better than the rest. Table 3 shows all the structural models. Fig. 4 shows the hypothesized model with parameter estimates and model fit indices. As Hypotheses 1, 2, and 5 predict, are all significantly related to organizational effectiveness, judging from the results of bivariate correlations (Table 2). Knowledge management ($r=0.50, p<0.01$), and culture ($r=0.50, p<0.01$), showed a positive relationship with organizational effectiveness, and structure ($r=-0.22, p<0.01$) had a negative relationship with organizational effectiveness. As hypotheses three, and six, predict, organizational culture ($r=0.86, p<0.01$) were positively related to knowledge management, and structure ($r=-0.20, p<0.01$) was negatively associated with knowledge management. Hypothesis 4 predicts that knowledge management fully mediates the relationship between organizational culture and organizational effectiveness. Our structural model analyses showed that organizational culture shows a significant direct impact on knowledge management ($\gamma=0.71, p<0.05$). There was also a significant relationship between knowledge management and organizational effectiveness ($\beta=0.26, p<0.05$). The condition for total mediation was supported by the fact that in Alternative Model 1, the direct path between organizational culture and organizational effectiveness was close to zero ($\gamma=0.07, p>0.05$) when knowledge management was modeled as the mediator. Hypothesis 7 predicted that knowledge management partially mediates the relationship between organizational structure and organizational effectiveness. The findings supported this hypothesis. Organizational structure had a small and positive influence on knowledge management ($\gamma=0.12, p<0.05$), and a small and negative influence on organizational effectiveness ($\gamma=-0.14, p<0.05$), while knowledge management had a positive influence on organizational effectiveness ($\beta=0.26, p<0.05$). The direction of structure's influence on organizational effectiveness and knowledge management is different. However, the bivariate relationship between structure and organizational effectiveness and that between structure and knowledge management were both negative. Therefore culture may have fully expected for structure's negative influence on knowledge management but only liking for organizational effectiveness. Therefore, this is consistent with the hypothesis that there are other channels for structure to influence organizational effectiveness other than knowledge management.

5. CONCLUSIONS

The study findings showed several unresolved issues in the literature as stated in the Rationale section. First, this study provides integrating the resource-based view and knowledge-based view. It displays that the resources in an organization may be hierarchical. Knowledge may be closer to organizational effectiveness in the paths leading from organizational resources to organizational effectiveness. Second, this study suggests that knowledge management could be an interfering mechanism between organizational context and organizational effectiveness. The result supports the knowledge-based view of the firm in that knowledge management is not only an independent managerial practice, but also a central mechanism that using organizational cultural and structural. It also shows the usefulness of organizational resources varies with changes in organizational knowledge (Penrose's 1959). Knowledge management serves as key using points in organizations. Finally, knowledge management was found to mediate organizational culture's influence on organizational effectiveness. This finding suggests that knowledge is managed and largely associated with how well cultural values are translated into value to the organization. Further, culture has a greater contribution to knowledge management than other factors examined. This may be due to that culture determines the basic beliefs, values, and norms regarding the why and how of knowledge generation, sharing, and utilization in an organization. This finding is strong for attention to creating an organizational culture that is helping to produce to learning and knowledge management (Davenport and Prusak, 1998; De Long and Fahey, 2000; Watkins and Marsick, 1996). Many studies have focused on the direct relationship between organizational culture and organizational effectiveness. In this study, however, it has been shown that organizational culture's influence on organizational effectiveness is not importance when a mediator (in this case, knowledge management) is considered. The results of this study show satisfactory examining the direct linkage between organizational culture and organizational effectiveness. It seems that a research on culture and effectiveness could proceed to a deeper level by examining the specific mechanism(s) through which organizational culture influences organizational performance. Although this study presents considerable answers to some unresolved issues in literature, the results should be interpreted in its limitations. A major limitation is that the respondents were mostly the only informant from their organizations. Only 72 companies of the 600 companies had multiple respondents (12%). The single informants may not represent the reality of their organizations as well as multiple informants because single informants may over-report certain phenomena (Gold et al., 2001). Among the two organizational factors, culture has the strongest positive influence on knowledge management. This implies that knowledge management practices need to center on making culture-building activities to grow an environment that is knowledge-friendly. The three dimensions of organizational culture—adaptability, involvement, and mission—when combined positively contribute to knowledge management. Grover and Davenport (2001) suggest that most firms with knowledge management practices have reached the initial plateau because no importance change has occurred in how the organization does business. In order to have long-term, complete success at using knowledge for business advantage, changes need to take place in the aspects of the business such as process, culture, and behavior (Grover and Davenport, 2001). This study shows that organizational culture, and structure, has close interrelationships. Organizations that are adaptive, consistent in their values, engaging to employees, and accept common missions in their cultures have a higher turning to investigate into issues, to seek methods to reduce costs, to look into the future. Such organizations are likely to make a decentralized structure. The implication these correlations carry is that the two organizational factors create an interdependent system in which changes in one of the factors may little move through to another factor(s). Designing knowledge management projects usually involves organizational changes. Many organizations still view knowledge management as send some software programs without satisfactory consideration of their organizational characteristics to ensure the success of their knowledge management introductory steps. Through analyzing the relevance of organizational

characteristics to knowledge management success, this study brings to attention the importance of focusing on creating a knowledge-friendly environment that is made up of appropriate cultural, and structural, features. The study findings show that knowledge management can influence organizational effectiveness when it is arranged with organizational culture, and structure. Focus on knowledge management practices, such as providing knowledge management tools, and supporting knowledge management introductory steps, would help transfer the impact of organizational contextual resources to the bottom line.

6. REFERENCES

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7. TABLES

TABLE 1: EVALUATION OF MEASUREMENT MODELS FOR THE CONSTRUCTS USED IN THE STUDY

Variables	X2	df	p	NNFI	CFI	GFI	AGFI	RMR
Organizational culture	159.25	48	<0.01	0.93	0.95	0.90	0.83	0.033
Organizational structure (centralization)	32.03	4	<0.01	0.91	0.95	0.93	0.82	0.031
KM effectiveness	397.23	82	<0.01	0.92	0.94	0.82	0.75	0.039
Organizational effectiveness	34.78	4	<0.01	0.90	0.94	0.91	0.82	0.030

TABLE 2: DESCRIPTIVE STATISTICS FOR THE CONSTRUCTS USED IN THE STUDY (N=600).

Constructs	M	SD	1	2	3	4	5
Organizational effectiveness	4.0	1.03	(0.86)				
Knowledge management effectiveness	4.9	0.84	0.50**	(0.90)			
Organizational culture	4.18	0.95	0.50**	0.86**	(0.85)		
Organizational structure	3.15	1.18	-0.22**	-0.20**	-0.41**	(0.85)	

Reliability coefficient alphas are presented in diagonal in parentheses.

** p<0.01.

TABLE 3: FIT INDICES FOR STRUCTURAL MODELS

Structural models	χ^2	df	p	χ^2/df	NNFI	CFI	GFI	AGFI	RMR
Hypothesized model	789.75	160	<0.01	4.90	0.90	0.91	0.78	0.72	0.09
Alternative Model 1	790.65	159	<0.01	4.92	0.90	0.91	0.78	0.71	0.09
Alternative Model 2	793.50	160	<0.01	4.91	0.90	0.91	0.78	0.72	0.09

8. FIGURES

FIG. 1: HYPOTHEZED MODEL

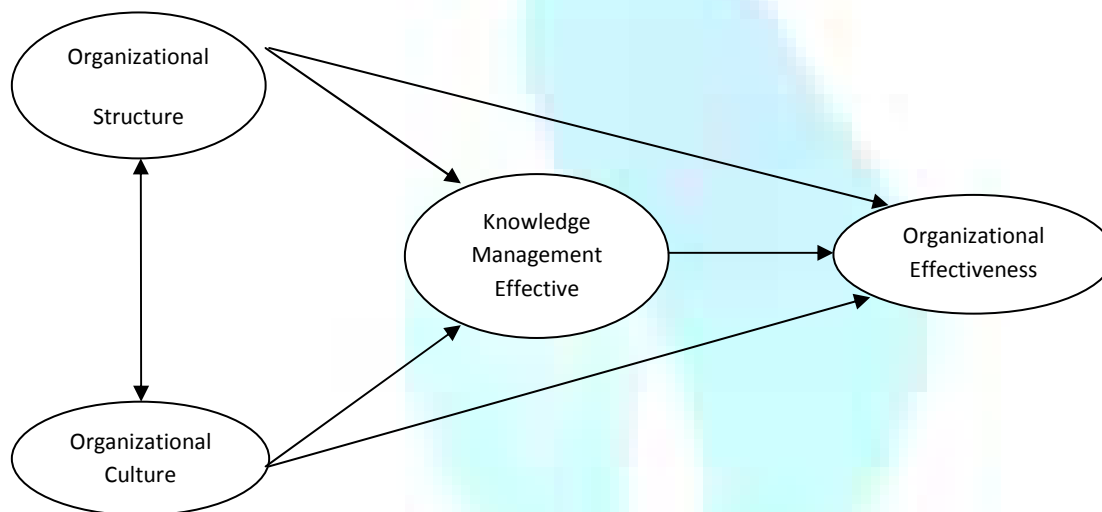


FIG. 2: ALTERNATIVE STRUCTURAL MODEL 1(SATURATED MODEL)

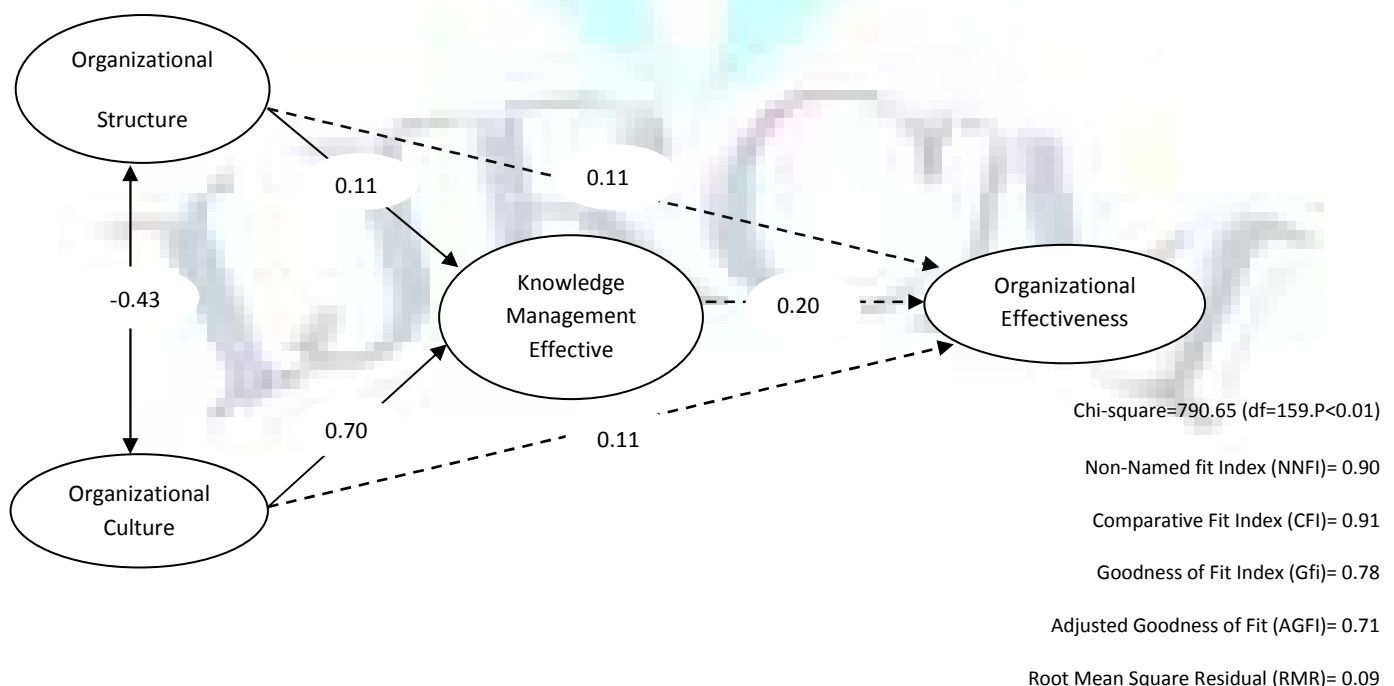


FIG. 3: ALTERNATIVE STRUCTURAL MODEL 2 (NO DIRECT PATH BETWEEN STRUCTURAL AND OE)

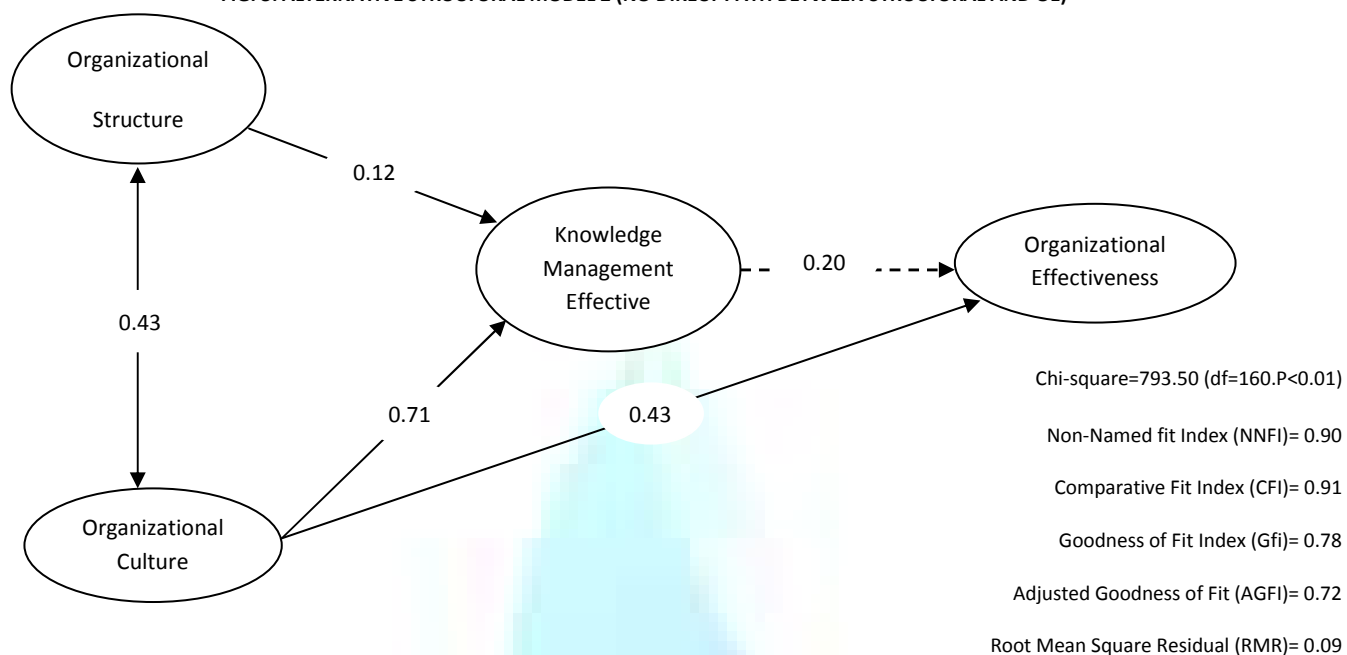
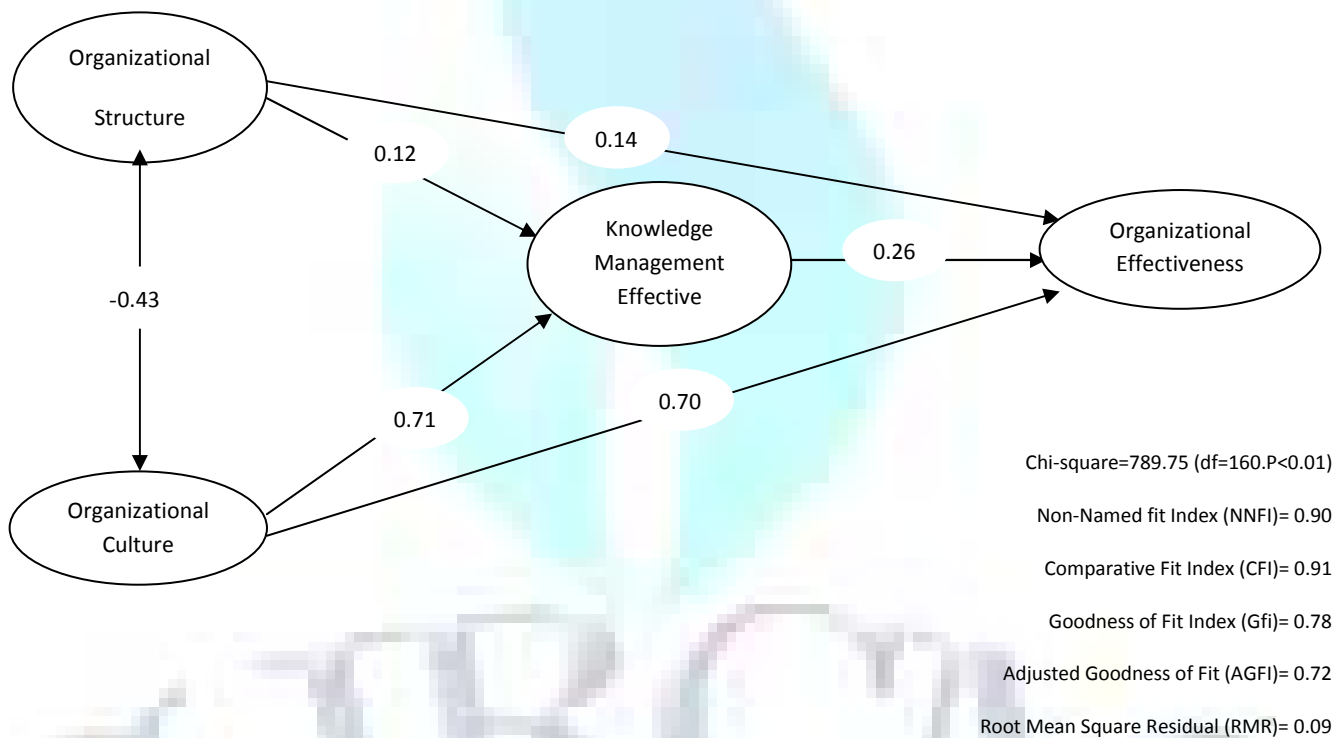


FIG. 4: HYPOTHESIZED MODEL WITH PATH COEFFICIENTS



SWOT ANALYSIS: AN INSTRUMENT FOR STRATEGIC PLANNING – A CASE STUDY

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ABSTRACT

SWOT (acronym for 'Strengths, Weakness, Opportunities and Threats') is an instrument for analysis and evaluating various aspects of the functioning of an organisation. It is a tool that not only generates the data regarding the internal functioning of an organisation but also helps to outline the future course of action for its growth and development. While 'Strengths' and 'Weaknesses' will help to realise the data on internal functioning, analysis of 'Opportunities' and 'Threats' depicts the external factors that impinge upon its present day working. SWOT can also influence the decisions on the future prospects and plan of action of an organisation. Thus while it evaluates existing situation in an organisation, it is also futuristic. It shows the road that an organisation can take and the difficulties and problems it is likely to face in its march towards growth and development. Thus this is a tool many organisations use for strategic planning as well. The present paper describes the different steps to carryout SWOT analysis of an educational institution with a case study of a rural engineering college. The paper puts forward major recommendations in the form of strategic actions for bringing about significant quality improvements for making an engineering college more efficient, effective and responsive.

KEYWORDS

Strategic Planning, SWOT Analysis.

1. INTRODUCTION

The success of an organisation depends upon its planning process and effective execution of these plans. Almost all organisations make use the most basic and efficient technique "SWOT Analysis" as a strategic planning tool for their growth and development. 'Strengths' and 'Weaknesses' of an organisation are its internal determinants that can be analysed by scanning four elements (4 P's) representing People, Properties, Processes and Products. In case of an engineering college, people means management people, faculty, staff, students, parents and alumni, Properties represent infrastructure, equipment, machine etc., Processes refer to teaching-learning process, admission process, evaluation process and Products implies to pass out students. The 'Opportunities' and 'Threats' are the external determinants of effectiveness. For the convenience of carrying out an analysis of external determinants, an evaluation is made of Social, Technological, Economical, Environmental and Political (STEEP) factors contributing to the success of an organisation.

1.1 SWOT ANALYSIS –PURPOSE AND SCOPE

SWOT is an instrument for analyzing and evaluating various aspects of the functioning of the institutions. It is a tool that generates data regarding the internal functioning of the institutions and also helps in outlining the future course of action for its growth and development. While 'strengths' and 'weakness' will help to realize data on internal functioning, analysis of 'opportunities' and 'threats' provides a portrayal of the external factors that impinge upon its present-day working and can also influence the decisions on the future prospects and plan of action of the institutions. Thus, while it evaluates existent situation in the institutions, it is also futuristic. It shows the road that the institutions can take and the difficulties or problems it is likely to face in its march towards growth and development. Thus this is a tool many institutions use for strategic planning as well.

An important pre-requisite for obtaining fully representational and authentic information and data is that those who carry out the SWOT exercise should be open and objective. Otherwise the data will not give a realistic picture, leading to a distorted portrayal of the organization and a false sense of satisfaction. SWOT is used to develop a plan or find a solution that takes into consideration many different internal and external factors and maximizes the potential of the strengths and opportunities while minimizing the impact of the weaknesses and threats.

1.2 STEPS TO PERFORM SWOT ANALYSIS:**STEP 1**

First consider the two quadrants of the SWOT Matrix (Figure 1.) namely, strengths and weaknesses of the educational institution. In the quadrant of 'strengths', write all the elements or factors which are considered as strong or positive points of the institution. These are the assets of the institution and the advantages that the institution enjoys. There is nothing absolute about these elements or factors. For instance: the infrastructure facilities of the institution; its location; or the professional level of its teaching staff may be the strengths or assets of one institution but with respect to another, these elements may be regarded as its weaknesses or liabilities.

FIGURE 1: A SWOT MATRIX

Strengths (Assets)	Weaknesses (Liabilities)
Opportunities (Possibilities of growth and developments)	Threats (from competitors and other external factors)

In the second quadrant of 'Weaknesses', list out all possible elements or factors which can be considered as disadvantages or liabilities for effective functioning of the institution.

Remember that the two above cases, the focus should be on internal environment of the institution. This analysis will be typical to the institution and truly reflect its existent state of affairs.

STEP 2

Now turn the attention to the analysis of the external environment. Some key elements that constitute the external environment are:

Situation in other similar educational institutions and the way they are functioning. Changing scenario of education and its elements that are relevant to the institution, Lifestyle of the adolescents in the areas from where the students come and its impact on their choices and expectations with regards to college education, Facilities and activities in the institutions, Views and preferences of the parents about the college education of their children, General pattern of educational opportunities available to college students especially in the area served, Perceptions of the community about this and other institutions, Government policies, rules and regulations appropriate to the institution, Support mechanism – government agencies, other organisations and individuals, Availability of funds and other resources from external sources etc. This is not an exhaustive list and however many other elements those are present in the external environment may be added. It is also likely that all these elements are not relevant to the institution under consideration.

STEP 3

Considering these elements, a catalogue of 'Opportunities' should be prepared that could be available to the institution for sustenance, growth and development, on a short and long term basis.

Alongside, keeping in view of these elements, recognise the 'Threats' also that are present in the external environment and can act as constraints or even jeopardise the present position or future prospects of growth and development.

Going over the list of Opportunities, now match each of these against Strengths and weaknesses, assessing which of these can be translated into accomplishments and added to the portfolio of the institution, without the investment of additional resources or efforts i.e. on a here-and-now basis.

Review the list again and identify those Opportunities that are significant to the growth and future of the institution but will require further efforts – in terms of resources, infrastructure facilities, level of proficiency of the teachers, general governance of the institution, etc. – on the part of the institution if required to make the most of them.

On the basis of the assessment, develop a realistic, practical and appropriate strategy – keeping in view the vision of the institution, overall policy and methods of working, programmes and availability of resources – to further reinforce the Strengths to ensure that these become stronger supporting factors for the Action Plan. It is also important to address the weaknesses and consider what steps are necessary to either minimise their adverse impact on the functioning of the institution or eliminate them from the list of weaknesses. In other words, once again it is required to go back to the internal environment, because that is where greater control on the factors and circumstances can be exercised. This is perhaps the only legitimate way for controlling or mitigating the Threats.

STEPS 4

On the basis of the above data, now it is ready for preparing the strategic plan for the growth and development of the institution. The data generated by this analysis become meaning and suggestive only when potential implication of the information for the present and future of the institution are examined and interpreted.

1.3 SIMPLE RULES FOR SUCCESSFUL SWOT ANALYSIS

- Be realistic about the strengths and weaknesses of the organization when conducting SWOT analysis.
- SWOT analysis should distinguish between where the organization is today, and where it could be in the future.
- SWOT should always be specific. Avoid grey areas.
- Always apply SWOT in relation to the competition i.e. better than or worse than your competitors.
- Keep the SWOT short and simple. Avoid complexity and over analysis.
- SWOT is subjective.

2. A CASE STUDY: SWOT ANALYSIS FOR BAHUBALI COLLEGE OF ENGINEERING (BCE)

BCE was established in the year 1997 and is situated in a rural place namely Shravanabelagola. Though Shravanabelagola is a world famous tourist centre and religious place as well, it has limited facilities. College is facing few challenges to run effectively and efficiently compared to other colleges in urban places.

SWOT analysis is a strategic planning method used to evaluate the Strengths, Weaknesses/Limitations, Opportunities, and Threats involved in an organisation. It involves specifying the objectives of the organization identifying the internal and external factors that are favorable and unfavorable to achieve those objectives.

SWOT analysis was conducted in BCE with the following objectives in mind:

- 1) To understand the present status of the college.
- 2) To discover relative priorities of expectations of the customers.
- 3) To discover the customers dissatisfaction.
- 4) To discover the college performance with the competitors.
- 5) To determine opportunities for improvement.
- 6) To prepare next five years plan for the college.

3. METHODOLOGY**3.1 RESEARCH DESIGN**

Exploratory research design was chosen to carry out this research project of SWOT analysis of the college. Four sets of open ended questionnaire were prepared and feedback from Faculty, Parents, Students and Alumni were obtained. All the responses were tabulated. The similar responses were grouped in the order of their preferences. SWOT matrix was prepared. Finally the recommendations and action plan for the engineering college was given.

3.2 SAMPLE PLAN

Four separate samples of faculty, parents, students and alumni were selected. The technique of selecting these samples was purposive random. Responses from a sample of 143 students, 43 teachers, 44 parents and 43 alumni were collected for the analysis.

3.3 RESEARCH INSTRUMENTS

Since the study was exploratory in nature and being conducted first time for the engineering college, it was decided to go for first hand data information collection. For achieving this objective, four sets of questionnaire were designed (Table 1-4), one each for faculty, parents, students and alumni. The questions were open ended to explore all frank and independent attitudinal aspects of the respondents. These questionnaires were pilot tested and validated for reliability. The data collected were tabulated. But before collecting primary data, secondary data sources were also explored. Earlier studies were scanned for studying SWOT analysis of educational institutions.

TABLE 1: QUESTIONNAIRE FOR THE STUDENTS

1	What did you like in BCE?
2	What did you not like in BCE?
3	What two things should BCE address immediately?
4	What are the strengths of BCE?
5	What are the weaknesses of BCE?

TABLE 2: QUESTIONNAIRE FOR THE FACULTY

1	What are the top two things that BCE does well?
2	What does BCE do poorly?
3	What two things should BCE address immediately?
4	What does BCE do better than its competitors?
5	What do people outside BCE see as its strengths?
6	What do people outside BCE see as its weaknesses?

TABLE 3: QUESTIONNAIRE FOR THE PARENTS

1	What are the top two things that BCE does well?
2	What does BCE do better than its competitors?
3	What two things should BCE address immediately?
4	What does BCE do poorly?
5	What do people outside BCE see as its strengths?
6	What do people outside BCE see as its weaknesses?

TABLE 4: QUESTIONNAIRE FOR THE ALUMNI

1	What are the top two things that BCE does well?
2	What two things should BCE address immediately?
3	What does BCE do poorly?
4	What should BCE preserve at all costs?
5	What is changing in the environment, which could adversely affect BCE?

4. DATA COLLECTION AND ANALYSIS

To derive full benefits of the SWOT analysis, it is important to use the tool in the right manner. Listing out the strengths, weaknesses, opportunities and threats of the organisation by itself cannot be of any value. The data generated by the analysis become meaningful and suggestive only when potential implications of the information for the present and future of the institution are examined and interpreted. Needless to emphasise, this appraisal of the data should be characterised by a sincere and open approach.

Keeping these things in mind, data was collected from the outgoing batch of the students with an understanding that they are well versed with the strengths and weaknesses of the college as they stayed in the college for four years and have experienced with the different factors. The data was collected at the end of their semester so that they will be open and frank to give the real picture of the college. Data was collected from the faculty and from the parents during their respective meetings. The feedback was taken from the alumni through internet and also during Alumni Meet. The total numbers of opinions / remarks given by the Students, Faculty, Parents and Alumni are shown in the Table 5.

Collected data was tabulated, analysed and interpreted. The filled questionnaires received were examined for the correctness and few responses (4%) which were incomplete were rejected. Simple statistical techniques like weighted averages, percentages were used to analyse the tabulated qualitative data. The analysed data was interpreted to draw inferences and conclusions. On the basis of analysis and interpretation thrust areas and recommendations were put forward.

TABLE 5: TOTAL NUMBERS OF REMARKS/OPINIONS RECEIVED

S.No.	Questions	Students	Faculty	Parents	Alumni
1	What did you like in BCE?	252	**	**	**
2	What did you not like in BCE?	266	**	**	**
3	What 2 things should BCE address immediately?	180	42	73	50
4	What are the strengths of BCE?	202	53	50	**
5	What are the weaknesses of BCE?	214	47	29	
6	What are the top 2 things that BCE does well?	**	63	87	81
7	What does BCE do poorly?	**	38	25	29
8	What does BCE do better than its competitors?	**	49	40	**
9	What should BCE preserve at all costs?	**	**	**	27
10	What is changing in the environment which could adversely affect BCE?	**	**	**	30
** Questions not asked					

Most common remarks/opinions from each category were then grouped and calculated in terms of percentage. The top ten preferences as given by the students, faculty, parents and alumni are shown separately in the Figures 2, 3, 4 and 5 respectively. The strengths, weaknesses, opportunities and threats as suggested by the stakeholders are represented in the SWOT matrix (Figure 6.)

FIGURE 2: TOP TEN PREFERENCES GIVEN BY THE FACULTY

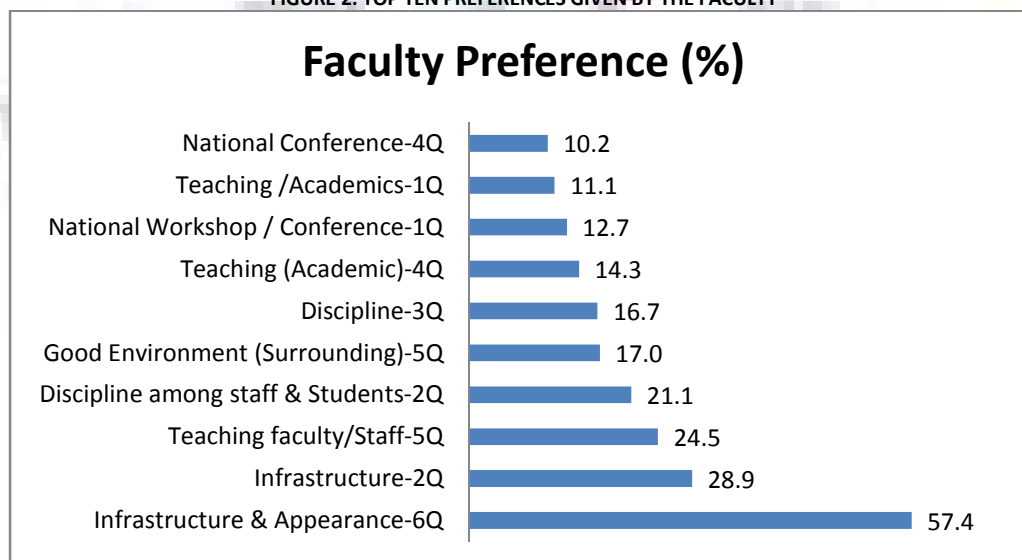


FIGURE 3: TOP TEN PREFERENCES GIVEN BY THE STUDENTS

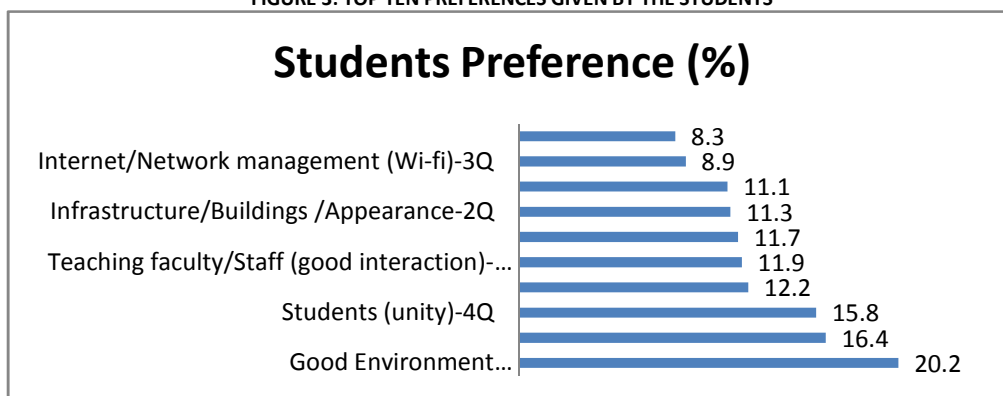


FIGURE 4: TOP TEN PREFERENCES GIVEN BY THE PARENTS

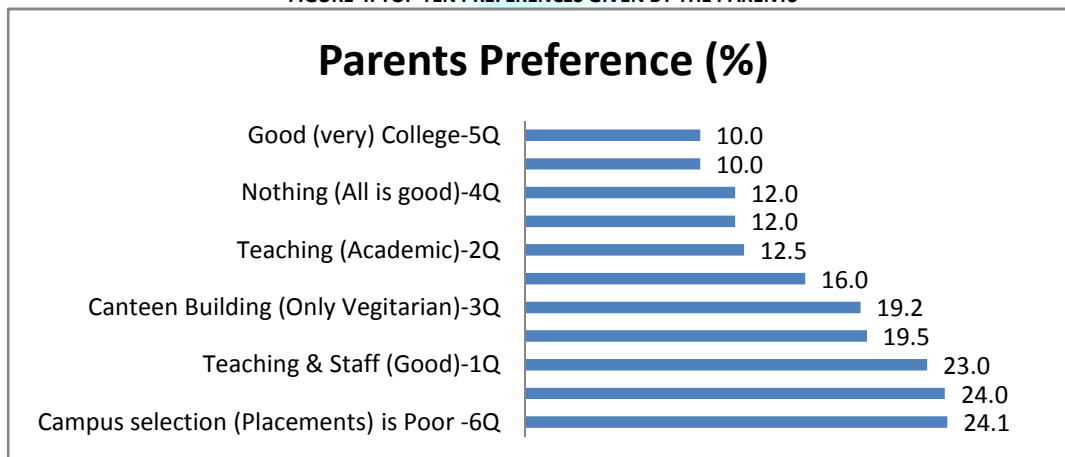


FIGURE 5: TOP TEN PREFERENCES GIVEN BY THE ALUMNI

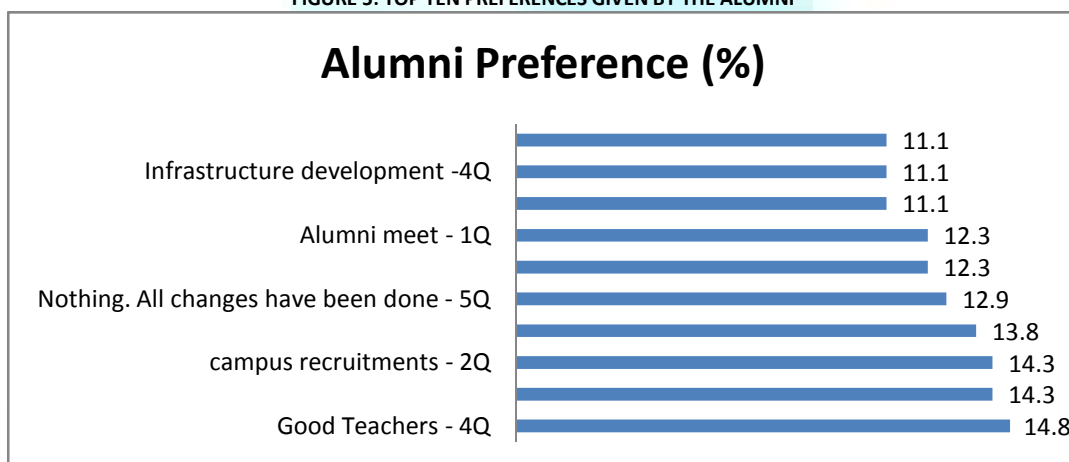


FIGURE 6: SWOT MATRIX FOR BCE

Strengths S1. Calm and quite environment, good for studies S2. Good and care taking faculty and staff S3. Small class size S4. Cost of education is less (Economical) S5. Good teaching S6. Transparent administration	Weaknesses W1. Lack of competitive strength W2. Low financial status (Fundraising) W3. No accreditations W4. Less marketing and advertising W5. Low academic standards of students W6. Limited campus life W7. Limited student services W8. Less exposure due to rural place W9. Very less placements
Opportunities O1. Discipline among staff and students O2. Build infrastructure O3. Take advantage of location for programming O4. Local community relations - fundraising opportunities O5. Partner with business, industry and government O6. Multi-campus structure O7. Adding new courses/Enhance intake	Threats T1. Loss of key staff T2. Competitor intentions are complex T3. Sustaining internal capabilities T4. Sustainable financial backing T5. Increased competition from other T6. Lack of Professional Approach

5. FINDING AND RECOMMENDATIONS:

The major findings and recommendations of this study are as follows:

1. College location, surrounding and environment is liked by most of the Students (20.2%), Faculty (17%), Parents (20%) and expressed that it is calm, quite, cool, homely, peaceful and good for study.
2. Teachers and staff of the college are cooperative and having helping nature. The Students (11.6%) have mentioned that teachers are easily available and encourage for their progress.
3. Teaching staff are the strength of the college. They interact freely with the students and teach & guide nicely as told by Students (11.9%), Faculty (24.5%) and Parents (18%). Alumni (14.8%) say BCE should preserve good teachers at any cost.
4. College is good in everything (staff, teaching & training, discipline, facilities etc) is mentioned by the Parents (20%).
5. Academic and teaching works are done well as mentioned by the Faculty (11.1%), Parents (23%) and Alumni (11.1%).
6. Functions and events are organized well in the college as mentioned by Faculty (12.7%), Parents (19.5%) and Alumni (12.3%).
7. Alumni (12.3%) say Hospitality and traditions are done well by BCE.
8. The students' unity and their team work is the strength of BCE as said by the Students (15.8%).
9. Teaching and academic activities are better than competitors as mentioned by Faculty (14.3%) and Parents (12.5%).
10. The students are given opportunities for their overall development. BCE does it better than its competitors as told by the Parents (10%).
11. The infrastructure / building appearance is not liked by the Students (11.3%) and they (16.4%) say it is the weakness of BCE. The Faculty (57.4%) agree infrastructure & building appearance is the weakness of BCE. Faculty (9.5%) and Alumni (14.3%) say BCE should address it immediately.
12. A separate Canteen building should be constructed immediately as expressed by the Students (11.1%) and Parents (19.2%).
13. A good internet Facility (Wi-Fi) should be provided to the students and staff immediately as said by the Students (8.9%) and the Faculty (9.5%).
14. Campus placements are less/not good. No good companies are visiting the college as told by the Students (11.7%) and it is the weakness of BCE said by the Parents (24.1%).
15. Being in rural area, the students are lagging and have less scope for exposure as told by the Parents (6.9%).
16. Discipline among the staff and students is very poor as expressed by the Faculty (21.1%) and they (16.7%) say BCE should address it immediately.
17. BCE should address immediately to guide failed / academically poor students as said by the Parents (6.8%).
18. Alumni (6.9%) say BCE is poor in retaining senior staff and they (14.8%) say BCE should retain them at any cost.

The above mentioned few important findings pinpointed certain Strengths and Weaknesses of BCE. There are certain needs and expectations expressed by the stakeholders that management has to take actions to meet them immediately. Apart from these there are certain problematic areas where stakeholders have shown their dissatisfaction. The stake holders also have suggested certain areas of opportunities for improvement of BCE. Some of the problems are such that these can lead to making situation further worse if not tackled by taking timely decisions.

6. ACTIONS PLANS

Setting of objective should be done after performing the SWOT analysis. This would allow achievable goal(s) or objective(s) to be set for the organization. Based on the information collected from various stakeholders of BCE through SWOT Analysis, Sixteen action plans covering important thrust areas have been suggested and are shown in the Table 6. All the action plans are expressed with respect to the SWOT factors, the person(s) responsible to carry out the actions with the time line for each action.

TABLE 6: PROPOSED ACTION PLANS FOR BCE

Sl. No.	Proposed Action Plans	Related SWOT Codes	Timeline	Responsibility
1	Improving Infrastructure by adding separate buildings for Civil, Mechanical departments.	S1, O2, O4, O7, W2, W6,	July 2015	Management
2	Additional Hostel buildings to be constructed to meet additional requirements.	S1, O2, O4, W2, W6,	Dec 2014	Management
3	A separate building for Canteen and recreation centre for both staff and students is being constructed.	S1, O2, O6, W6	Dec 2013	Management
4	Reducing failure rate of students by taking extra care and counseling to academically poor students.	S2, S3, W5, W8, T5	Ongoing	Dean-Academic /HODs
5	Incorporating overall personality development and entrepreneurship development programmes as major components of teaching learning process.	O5, W1, W5, W7, W8, W9, T2, T6	Ongoing	Principal/Dean /HODs
6	Improving industrial orientation, training and placement services.	O5, W1, W4, W5, W7, W8, T2, T6	Ongoing	HODs/TPO
7	Developing suitable performance evaluation, feedback reporting and recording system, standard academic templates.	S6, O1, W1, W3, T3	Ongoing	Dean-Academic /HODs
8	Developing suitable HRD policies.	S6, T1, T2, T3, T6	Dec 2013	Management
9	Providing Wi-Fi facility to all department blocks including hostel blocks with security system.	O2, O6, W6, W7	Dec 2013	Principal /Head-ICTC
10	Encourage both staff and students for participation in workshops, conferences with leave and monetary benefits.	S6, W5, W6, W8, T3, T5	Ongoing	Dean-academic /HODs
11	Training of faculty and staff every semester under Faculty development programme.	W1, T3	Ongoing	Dean-Academic
12	Enhancing facilities of sports, library, transportation, malty gym centre, internet and intranet etc.	O2, O6, W6, W7	July 2014	Management
13	Strengthening with adequate qualified and experiences faculty and staff.	S2, T1	Ongoing	Management /Dean-Academic/HODs
14	Updating library and teaching learning resources.	W7, T6	Ongoing	Principal/Dean-Academic/HODs
15	Improving Hostel and Mess facilities.	O2, W7	Dec 2013	Management /Principal /Warden
16	Improving discipline among both staff students with proper code of conducts and guidelines.	S5, O1	Ongoing	Principal/HODs

After careful study of the data it is concluded that a systematic approach with technical vision and management strategies these issues could be tackled. It is hoped that administrators, members of management, head of the institution/department will take strategic measures for the overall growth and development of BCE.

The SWOT analysis through feedback on questionnaire is proved to be an instrument for developing strategic plans for the growth and development of an engineering college. It is expected that the integrated efforts of all the stake holders shall bring significant improvement in the quality, efficiency and effectiveness of BCE.

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THE ROLE OF HRM PRACTICES IN ORGANIZED RETAILING A STUDY OF SELECT RETAILERS IN BANGALORE CITY

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ABSTRACT

Retailing displayed its significance in India's market with tremendous contribution to the Indian economy. The development in the organized retail sector has showed the perfect platform to the Indian companies to enter into this sector. The entry of global players in retailing business has created huge challenges to the Indian companies. The organized retailer's in order to respond to the competition, started to realize the need for efficient man power. The Human Resource practices and the employee satisfaction became the primary concern for the organized retailers. The present study will provide a clear picture on the issues related to the HR practices and its impact on employees. The study will also focus on the various problems and challenges faced by the HR department in procuring and retaining the employees of organized retailing companies.

KEYWORDS

Attrition, GDP, HRM, special tellers.

1. INTRODUCTION

Human resource management (HRM) practices are most effective when matched with strategic goals of organizations. HRM's role in the company's success is growing rapidly with the growth in many sectors in the present globalized era. HRM is a vital function in organizations and becoming more important than ever. The HRM practices are crucial in designing the structure for man power, staffing, performance appraisal, compensation, and training and development. HRM practices are a primary means for defining, communicating and rewarding desired role behaviors and desired role behaviors are a function of organizational characteristics. Innovative HRM practices can play a crucial role in changing the attitude of the companies and its employees in order to facilitate the entry and growth in the markets. The HRM practices in service sector especially in the area of retailing have found significant importance in the present scenario. The retailing is one of the service sectors where the need of qualitative human resources is highly expected.

Retailing is an important element of business around the globe. Retailing consists of all activities that result in the offering for sale of merchandise to consumers for their own use. Retailing is the final step in bringing goods to consumer. They sell both goods and services. Retailing is the process of "Sale of goods or merchandise, from a fixed location such as a departmental store or kiosk, in small or individual lots for direct consumption by the purchaser.

Retailing may include services, such as product delivery. Buyers may be individuals or businesses; a retailer buys goods or products in large quantities from manufacturers or importers, either directly or through a wholesaler, and then sells in smaller quantities or lots to the end –users or consumers. Retailers are the end links of the supply chain as an important part of manufacturing/marketer overall distribution strategy.

1.1 OVERVIEW OF INDIAN RETAIL INDUSTRY

Retailing is one of the pillars of economy because of its 13% contribution to GDP. Though the Indian retail sector is dominated by unorganized sector with 90% share, it is providing immense opportunities for large scale retailers to set-up their operations. The organized retailing sector is steadily increasing with the entry and operations of departmental stores, hyper markets, supermarkets and specialty stores which are replacing the traditional formats dramatically altering the retailing landscape in India. India is the third most attractive retail market for global retailers among the 30 largest emerging markets, according to US consulting group AT Kearney's report published in June, 2010. The total retail sales in India will grow from US \$ 395.96 billion in 2011 to US \$ 786.12 billion by 2015, according to the BMI India Retail report from the third quarter of 2011. Robust economic growth, high disposable income with the expansion in middle and upper class consumer because, the report identifies potential in India's tier-II and tier-III cities as well. The greater availability of personal credit and a growing vehicle population providing improved mobility also contribute to a trend towards annual retail sales growth of 12.2 percent. An increasing number of people in India are turning to the services sector for employment due to the relative low compensation offered by the traditional agriculture and manufacturing sectors. The organized retail market is growing at 35 percent annually while growth of unorganized retail sector is pegged at 6 percent. Though the retailing sector is growing rapidly, some of the constraints are restricting its growth. Apart from the regulations and approval for Foreign Direct Investments (FDIs), the sector is strongly lacking the effective human resource practices. The problems of lack of trained work force, low skill level for retailing management, lack of development programmes to the existing human resources and problems in retaining qualitative manpower are some of the obstacles creating huge challenges to the Indian retail sector. At present, to overcome some of the challenges faced by retail, the companies are investing heavily in training and recruitment of qualitative work force.

1.2 REVIEW OF LITERATURE

Some of the selected references relating to the present research papers are given below.

These have provided the bases for analyzing the HRM practices in retail sector.

Susan E.Jackson et al. (1992), in their paper titled "HRM Practices in service based organizations: a role theory perspective" focused on the importance of the human resource management practices especially in the service based industries like retail sectors. The paper highlighted on the emerging issues, challenges ahead for the service organizations in retaining and succeeding in the competitive business.

Ashok Som (2006) in his article titled "Bracing for MNC competition through innovative HRM practices: the way ahead for Indian firms" highlighted on the emerging issues of MNCs in Indian market. The paper highlighted the prospects and retrospects of the competition and entry of MNCs in retail and other service units.

Derek et al. (2006), in their paper titled "How does employee involvement stack up? The effects of Human resource management policies on performance in a retail form" focused on the need for effective practices in maintaining the employees in the organizations. The paper focused on the problems and prospect that arise in retail firms.

The report of CII (2008) on "Retail in India: Getting organized to drive growth" emphasized on changing practices in retail sector in India. The report gave due importance for the need for organized retailers entry in India. The report also pointed out that effective management of human resources of retail outlets is one of the key considerations for the success of the organized retailers for sustainable growth in India.

The study made by "Dr.Manisha Kotagire.A (2011) on "Human resource management(HRM) and its productivity" revealed that HRM is vital for determining the productivity of the organizations. The study focused on the components of HRM and concluded that employee retention ratio is directly proportionate to the manner in which the employees are treated, in return for their imparted skills and experience.

1.3 STATEMENT OF THE PROBLEM

In the present competitive scenario, the role of retailing is increasing rapidly with the entry of global players. Many Indian companies strongly keeping their aim on entering in retail industry. With increasing globalization, firms are entering a dynamic world of international business that is marked by liberalization of economic policies in a large number of emerging economies like India. To face the challenge of increasing competition that has resulted from liberalization, Indian organizations have initiated adoption of innovative human resource management practices both critically and constructively to foster creativity and innovation among employees. The huge opportunities in organized retailing encouraging the companies to enter in retail industry. The last 2 decades has witnessed the tremendous potential for organized retailing. The growing needs of retail industry can be matched up with the aggressive human resource practices. The present retail organizations which are performing organized retailing are facing huge challenges in procuring and retaining and maintaining qualitative human resources. Hence, an attempt was made to analyze the various human resource practices followed in select retailers in organized retailing.

1.4 RESEARCH OBJECTIVES

- The major objective of this study is to study the human resource management practices pursued in the organized retailing. The study covers the retailer wise employee satisfaction on the various HRM practices employed in the retail outlets.
- Further, the study is also aimed at studying the various problems and challenges ahead for HR managers in the implementation of HRM practices in selected organized retail outlets.

1.5 RESEARCH METHODOLOGY

The present research paper is an empirical one. The survey for the present research is conducted through primary data with the help of a questionnaire surveyed to employees of select organized retailers. The sample taken for the study consisted of 100 which include daily wage workers and employees from the select retail outlets situated in Bangalore city.

1.6 ANALYSIS AND DISCUSSION

The research survey is conducted in order to analyze the various Human Resource Management (HRM) practices adopted in the select organized retailers. For the purpose of studying the HR practices implemented and to evaluate, the following organized retailers are selected.

A). ORGANIZED RETAILERS SELECTED FOR THE STUDY

TABLE 1

S.No	Name of the Organized Retailer	Company Name	Places	District	Sample size
1	Reliance Fresh	Reliance Industries Limited	Yelahanka	Bangalore	40
2	Spencers	Spencers Retail Limited	Kalyana Nagar	Bangalore	25
3	More	Aditya Birla Group	Sahakar Nagar	Bangalore	10
4	Reliance Super	Reliance Industries Limited	Mathikere	Bangalore	25
Total					100

Source: Field Survey

B). EMPHASIS ON EMPLOYEES SHARE ON DIFFERENT ASPECTS

TABLE 2

Name of the retailer	Share of part timers	Specialty Tellers	Typical New Hire	Extra Selection Test	Incentive Based Pay	Hours for Orientation Period	% in Employee involvement
Spencers	NA	18%	Graduate	No	Yes	12	61-80%
Reliance Fresh	20%	10%	Graduate	No	Yes	10	21-40%
More	12%	16%	Under Graduate & Graduate	No	Yes	10	21-40%
Reliance Super	22%	26%	Under Graduate & Graduate	Yes	Yes	18	41-60%

Source: Field Survey

NOTE

- Share of part-timers refers to the percentage of employees work fewer than 5 hours a week.
- Specialty tellers refers to the percentage of tellers that perform only a subset of teller tasks during a typical shift.
- Typical new hire gives the highest education level of the typical new employee
- Extra selection test refers to the use of additional selection procedures beyond background reviews, skills tests and personal interviews.
- Incentive-based variable pay refers to the presence of any incentive pay program other than standard merit pay.
- Orientation period refers to the hours a new employee spends in training before beginning work.
- % of Employee Involvement refers to the percentage of employees involved in group problem-solving, quality circles, or other similar activity.

From the above table, it is evident that Reliance Super is on top in terms of share of part timers, i.e., the percentage of employees work fewer than 5 hours a week. Again Reliance Super is leading in terms of specialty tellers, i.e., the percentage of tellers that perform only a subset of teller tasks during a typical shift. And "More" retail store showed that the education level for its employees begin with undergraduation which is least educational qualification compared to the employees of other retail outlets, as the employees highest education level starting from Graduation and where as the Reliance Super is achieved new hire with

Graduates and Post Graduates. And also Reliance Super is engaging the employees through Extra Selection Test. whereas other retail outlets are not concentrating on extra selection test while recruiting the employees. And from the survey, it was found that all the retail outlets are adopting incentive based pay to its employees. When it comes to Orientation period, Reliance Super is making the employees to get accustomed to the work activities. Finally, the employees involvement statistics clearly showing that the employees of Spencers have more commitment towards problem solving and other activities.

C). OBSERVATIONS ON HRM PRACTICES IN SELECTED ORGANIZED RETAILERS

TABLE 3

S.No.	HRM Practices	Name of Organized Retailer in %			
		Reliance Fresh	Spencer's	More	Reliance Super
1	% employees whose skills & abilities are fully utilized	65.12%	71.26%	58.20%	62.34%
2	% employees whose jobs help them acquire skills needed for other jobs in the company	62%	65.19%	65.06%	82.16%
3	% employees who have more than one position available to them for promotion	42%	36%	42%	58%
4	% employees whose jobs are highly enriched	56%	56%	50%	58%
5	% employees whose performance appraisals are formalized	52%	66%	48%	64%
6	% employees whose performance appraisal results are used to determine compensation	72%	74%	68%	78%
7	% employees whose performance appraisals focus on how job is done, not how well	72%	70%	68%	76%
8	% employees who have a say in the criteria used in their performance appraisal	44%	38%	52%	64%
9	% employees whose performance appraisals are based on objective quantifiable results	56%	64%	52%	62%
10	% employees whose performance appraisals are used to identify their training needs	56%	64%	52%	62%

Source: Field Survey

From the survey on the opinions of the employees regarding different HR practices employed in the retail organizations, the following observations were made. 71.26% of the Spencers' employees favored to the factor "percentage of employees whose skills & abilities are fully utilized". For the second factor, 82.16% of the Reliance Super employees favoured to the factor "percentage of employees whose jobs help them acquire skills needed for other jobs in the company". For the third factor, 58% of the employees of Reliance Super favoured to the factor "percentage of employees who have more than one position available to them for promotion". For the fourth factor, 58% of the employees of Reliance Super favoured to the factor "percentage of employees whose jobs are highly enriched". For the fifth factor, 66% of the employees of Spencers favoured to the factor "percentage employees whose performance appraisals are formalized". For the sixth factor, 78% of the employees of Reliance Fresh favoured to the factor "percentage of employees whose performance appraisal results are used to determine compensation".

For the seventh factor, 76% of the employees of Reliance Fresh favoured to the factor "percentage of employees whose performance appraisals focus on how job is done, not how well". For the eighth factor, 64% of the employees of Reliance Fresh have favoured to the factor "percentage of employees who have a say in the criteria used in their performance appraisal". For the ninth factor, 64% of the employees of the Spencers favoured to the factor "percentage of employees whose performance appraisals are based on objective quantifiable results". For the tenth factor, "64 % of the employees of Spencers favoured to the factor "percentage of employees whose performance appraisals are used to identify their training needs".

D). TABLE SHOWING THE OPINION OF THE EMPLOYEES REGARDING THE PERFORMANCE APPRAISAL THAT HAS COME FROM

TABLE 4

S.No.	Evaluator	Reliance Fresh	Spencer's	More	Reliance Super
1	Supervisor	79.19%	72.89%	73.56%	72.21%
2	Supervisors boss	10.92%	13.69%	11.98%	8.12%
3	Peers	2.01%	2.56%	2.56%	1.96%
4	Subordinates	1.92%	1.59%	2.50%	3.49%
5	Subordinates	2.99%	4.92%	6.31%	5.62%
6	Clients	2.97%	4.35%	3.09%	8.60%
Total		100%	100%	100%	100%

Source: Field Survey

Note: Values indicate the means percentage of employees who were covered by the practice. Respondents divided 100 points among the categories listed. From the above table, it is evident that the role of supervisor is vital for the organized retailers in implementation of performance appraisal. 79% of the employees of Reliance Fresh favoured that "Supervisor is the initiator for the Performance appraisal. 72.89% of Spencers employees, 73.56% of the More employees and 72.21% of the Reliance Super employees favoured that supervisor is the initiator for the Performance appraisal system in their respective retail organizations. Apart from that the next decider plays key role in the performance appraisal are Supervisor's boss. The role of peers, subordinates, clients are less in making decisions about the performance appraisal system in the selective retail organizations selected for the study.

E). TABLE SHOWING EMPLOYEES OPINION ON THE MOTIVATIONAL ASPECTS ENCOURAGED THEIR PERFORMANCE

TABLE 5

S.No.	Name of the factor	Name of Organized Retailer in %			
		Reliance Fresh	Spencer's	More	Reliance Super
1	Appraisal process motivated for better performance	12.50%	15%	9%	10%
2	Positive work environment encouraged for better performance	32.65%	20.50%	10.50%	25%
3	Good team commitment encouraged for better performance	18.50%	25.00%	15.00%	10%
4	Healthy environment in the work flow encouraged the performance	12.50%	10.50%	25.00%	10%
5	Incentive encouraged for better performance	13%	8.50%	25.00%	13.80%
6	Qualitative training and better scope for promotion encouraged for performance	10.85%	20.50%	16.00%	30.50%
Total		100%	100%	100%	100%

Source: Field Survey

From the above table, it is clear that, the employees of the Reliance Fresh favoring more to the factor "positive work environment" which is encouraging for better performance. The employees of Spencers have opinioned that "good team commitment encouraged for better performance. The employees of more are favoring to the fact "Incentive schemes encouraged for better performance". The employees of Reliance Super have favoured more to the fact "qualitative training and better scope for promotion encouraged for better performance".

E). TABLE SHOWING THE OPINIONS OF THE EMPLOYEES REGARDING THE SATISFACTION OVER THE FACILITIES PROVIDED IN THE RETAIL OUTLETS

TABLE 6

S.No.	Name of the factor	Name of Organized Retailer in %			
		Reliance Fresh	Spencer's	More	Reliance Super
1	Employee Rest rooms	12.50%	15.00%	25.50%	35.00%
2	Sanitation & Water facilities	70%	55%	75%	80.00%
3	Satisfaction over the transportation facilities	50%	80%	45%	70%
4	Recreational area with landscaped sit out	0%	0%	0%	0%
5	On-site First-aid Clinic	45%	45%	30.00%	50%
6	Refreshment stalls and canteen for healthy food	NA	NA	NA	NA
7	Staff accommodation	NA	NA	NA	NA

Source: Field Survey

Note: NA refers to Not Applicable. Figures indicate the percentage of employees showed their satisfaction over the facilities offered to them by the retail organizations.

From the above table, it is observed that, the employees of Reliance Super have the satisfaction of 35% over the employee rest room facilities. The employees of Reliance super again topped as 80% of the employees of Reliance Super have shown their satisfaction over the sanitation & water facilities. For the factor „satisfaction over the transportation facilities, 80% of the Spencers employees showed their intent of satisfaction. When it comes to the facilities about recreational area with landscaped sit out, no employee of any of the selected retail outlets showed their satisfaction. When it comes to On-site First-aid Clinic, 50% of the employees of Reliance Super have showed their satisfaction. And regarding the staff accommodation, no retail outlets selected for the survey are providing staff accommodation.

G). PROBLEMS & CHALLENGES AHEAD

Human resources people are the backbone of any company and the success of retail business depends a lot upon the kind of human resource strategies it is following and how people are managed. Because of increasing competition between organized retailers, the retail industry is facing the challenges and hurdles from different areas. From the survey on select organized retailers, the following observations were made.

1. HIGH ATTRITION: Employee retention and motivation of staff has become the major concern for HR department in the organized retailing sector. Because of the strenuous schedules and tasks involved in the retail industry, it becomes imperative for HR staff to take good care of their employees who form the building blocks of their retail chain. The undercurrents among the employees regarding company policies are many and they must be felt from time to time to sustain the quality crowd and reduce the attrition rate. From the report of Retailer, it is found that the attrition rates are comparatively high when it comes to the retail industry in India. The attrition rate in the Indian retail industry is 30-35 percent. The main reasons found to be the typical nature of job where a particular employee of an organized retail company need to work on his feet the whole day and the job is reaction intensive and the business is mainly transactional.

2. TRAINING FOR COMPETITION: The need for efficient trained sales team is of great importance in the organized retailing at present. For every retail organization, the secret behind the success of their business is to keep the list of their loyal consumers interact. The need for a well designed HR practices are greatly needed for proper training to the newly recruited people to the retail organization. Providing training to the sales staff plays a significant role in every business operation. Nowadays, the organized retailers are looking at a sales training company to help the sales staff gain more proficiency and expertise in their respective field.

3. OBSERVATIONS FOUND IN TRAINING SESSIONS OF SELECT ORGANIZED RETAILERS: From the field based survey, it was found that the organized retailers at Warangal District, apart from using the services of outsourcing firms to train its sales people, they are also using some of the innovative new training techniques to the staff. The techniques which are observed during the survey are:

a). STRESSING UPON BENEFITS OF ADVERTISING: The HR managers and trainers are emphasizing upon making the sales people to think and act innovatively in designing the retail outlet and as well as attracting the customers through innovative promotional strategies. The trainers are focusing on making the staff to effectively use advertising as a tool to enhance sales, promote growth, and attract new consumers.

b). COUNTING THE CUSTOMERS: In this, the retail firms and the trainers are making the staff of the retail organization to increase the customer relationship management. Through effective training, the trainers are working on highlighting the components of marketing strategies which the sales people should perform activities of promotion, product development, relationship management, distribution and pricing. The trainers are making the retail staff which include sales staff and supporting staff to identify the firm's marketing goals, and are explaining about how the goals can be achieved.

4. ONLINE TRAINING: The trainers of HR department are showing the visuals of well designed and successfully running retail organization's outlets to the employees in order to make them to realize the importance of the design of retail outlet. Apart from that, from the survey it was also realized that the trainers are focusing on online training which include web based support to enhance the abilities of the staff of the retail outlets.

5. HIGH LABOUR COSTS AND COMPLEX NATURE OF LABOUR LAWS: Because of the increasing competition and the complex nature of the work, the retail outlets are facing the problems of labour costs. Apart from that, various labour laws are giving restrictions to the HR department to achieve desired objectives of the retail organizations. From the survey, it was found that the HR department is facing with the problems like lengthy leisure hours and frequent absenteeism of the employees to the duties. Even, it was found that the existing labour laws in India forbid employment of staff on a contractual basis that makes it difficult to manage employee schedule. Especially, when retail organizations are performing 365- day operation, the problems in encouraging and motivating the employees to perform well is a tough challenge for the HR department.

1.7 FINDINGS & SUGGESTIONS

The human resource management practices are vital for the development of any business or sector. The HRM practices have inevitable dependence on the organized retailers. From the study it was found that, right from new hire to orientation period, there are many differences in the implementation of HR practices in the selected organized retailers. The satisfaction levels of various performance appraisal measures adopted in the selected retail outlets showed that the employees are not only favoured to the incentive plan but also the healthy environment and close relations between the peers are playing vital role for their performance. Further, the supervisor has the key role in taking initiative in the implementation of performance appraisal at the select organized retail outlets. The employee facilities in the select organized retail outlets found to be not satisfactory to the employees of the retail outlets. The HR department is facing the challenges which include high attrition rate, absenteeism, and implementation of innovative practices in the retail outlets. Hence, from the study, it was found that the HR management practices in the select retail outlets are still in the initial stages of development. The employee facilities and proper performance appraisal measures will always encourage the employees to achieve the best. Hence, the retail outlets should decide and implement proper HR practices in order to retain and develop the work force who are the assets for the development of organizations. The government should also need to bring revision of existing labour laws and should provide flexibility in working hours and should encourage with its laws that can bring conducive environment.

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WATER CRISIS AT COAL CAPITAL OF INDIA: A PRAGMATIC STUDY OF ROOT CAUSES, IMPACT AND SOLUTION OF WATER CRISIS IN REGIONS OF WORKING COAL MINES OF BHARAT COKING COAL LIMITED DHANBAD

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ABSTRACT

Blessed to be a prime mineral belt the geography of Dhanbad is similar to a Peninsula which is surrounded by water from three sides. In North is in touch with Maithon Dam, a reservoir for hydro electricity. In south it is River Damodar and in west it is touching the beds of River Barakar. The demography of Dhanbad is a fusion of rural and urban both in a composite scale. As many developed portions are in cluster of developed colonies and many large population are residing in the rural areas of the District of Dhanbad. But still the crisis of Drinking water is prevailing at a high scale in surroundings of Dhanbad. The main reasons for water crisis are lack of technological re-engineering, weak administrative control of local law and order, delay in implementation of policies. These all results the water crisis for drinking as well as for the Industrial demands too.

KEYWORDS

Dung-water, Single sided cease-fire, Post-dated Cheque, Public private partnership, Rider-check.

INTRODUCTION

Water is the most important element for all Industries to perform smoothly and efficiently. Water is the ingredient of ensuring the better Quality of Work life for working personnel. Further all the “**Core Sector Industries**” are fully dependent on water for their efficient performance for contribution to the Gross Domestic Production of National Economy. Article 21 of Constitution states the “**Right to Life**” is a constitutional right to every citizen of India. For the same all elements which are the basic needs to lead the life are provided under constitutional umbrella.

REVIEW OF LITERATURE

The Industry is spine of any Nation's economy. And the same is with the coal Industry in India. Since the coal production generates 68% of the total energy consumed all over the Nation for the same the Coal-Industry is considered as the backbone of all the running industries. And any minor hurdle in the coal production as well as its processing will surely result into a huge fluctuation in the economy. Many times the relation with employees gets tensed due to crisis of basic amenities as of water. And at such point of time the Management is helpless to do anything. The situation of both the employer and the employee is just like a soldier in the battle field of “**Single sided cease-fire**”. And every assurance made by Management is considered as issue of a “**Post-Dated Cheque**”. At such point of crucial time it is extremely necessary to continue with mutual harmony to maintain healthy “**Industrial Relations**”. To solve the basic day to day problem of workforce of any Industry is to provide clean and hygienic “**Drinking Water**” as well as hygienic Sanitation and Drainage facility too. And the same can be done by better and modern “**Water Resource Management**”. If proper access of Drinking water will be provided to the works men then a huge percentage of conflict can be eliminated out. It was found that due to dispute on crisis of Water on “**Christmas**” on 25-12-2012, finally the local Police has to intervene under supervision of then Superintendent of Police of Dhanbad District, Shri.R.K.Dhan Sir. The shortage of electricity can be sustained for even a fortnight, but the scarcity of water is the issue which can't be neglected even for minutes. At grass root level the day to day stress hampers the efficiency of the employees of the Industry[Coal Industry]. And the Industry which directly supports the 75% of the GDP growth must be given special attention to solve the problems of basic amenities. Another major option is the participation of every stratum of workers in framing of the policies. As the *Workers' Participation in Management in Policy making* can help them very swiftly and at large scale in uplifting the “**Quality of their Work Life**”. As a part of healthy participation the workmen themselves have to be vigilant enough at their locality so that there must be absolute zero “**Man-Made**” problems. The problems caused by the natural hazardous can be easily removed out by Technological innovation.

IMPORTANCE OF THE STUDY

The Issues of Drinking water can be easily solved in any portion of India as Mother Nature has blessed the Indian Sub-continent with surplus clean and hygienic drinking water resources. Only the best assimilation of the innovation, water resources available, technology, healthy *Workers' Participation in management in Policy Making* as well as their swift implementation, mutual Industrial Co-operation among the employee and the employer must be fused together.

STATEMENT OF THE PROBLEM

The crisis of Drinking water is prevailing at a high scale in surroundings of Dhanbad. The Dhanbad coal Belt produces the finest form of coking coal for the production of steel of Bokaro Steel Processing Plant which is located at a distance of the 30 Kilometre from the operational coal mines of Dhanbad. The Produced coking coal is being washed before being sent to the Steel Processing Industry. The enormous water is being consumed to wash the coking coal to settle down the dust particles of the coal. The produced coal is washed with heavy splash of water before the coal being dispatched to the Steel Plants. The water left after use is called as “**Middling**” of washery coal water. And the same “**Middling**” is released in river Damodar and Barakar. And this pollutes the river water. Though the water finally flows in Bay of Bengal but still the particles hampers the filtration process by making heavy damages to drinking water supply. Also the dust granules hamper the filtration process by making heavy damages to filtration pumps. Further the underground water comes in a huge amount from the coal being excavated out from the coal being excavated out from underground pits (working mines). This water is mixture of many minerals diluted in water. Generally this water is named as “**Dung Water**” by local people but in actual state it is mineral full water. This water is extremely enriching for crops and farming after minor filtration and little processing with chemicals. On the other hand this water is extremely dangerous for human consumption. But unfortunately still thousands of people are still daily being dependent on this water. And this water has already affected lives of thousands of people in nearby area. Generally people use to get “**Gastro-Intestinal Disorder**” and “**Urinary Disorders**” too at a large scale.

OBJECTIVES

To identify the Prime causes of Water Crisis in the Coal Producing Belt of Dhanbad Region.

HYPOTHESIS

To identify the best possible proven technological Re-engineering methodologies to make the best possible utilization of the water resources being available.

RESEARCH METHODOLOGY

The research was done with absolute primary data with visiting and collection of data and feedback by making field visits to various coal producing region of Dhanbad as Kendua, Katras, Jharia and other operational working mines of the Dhanbad Region.

RESULTS & DISCUSSION

The major cause of water crisis in the mineral belt of Dhanbad is mainly due to following reasons.

[1] Leakage for underground level water causes cracks in the ground crust due to continuous underground mining explosions. The innermost crust of ground is dismantled due to serial explosions.

[2] The damage in the joints of the drinking pipelines use to occur due to very powerful blasts being done in order to excavate out the coal. And due to the same the leakage in the pipelines creates water outflow and it changes into a huge pipeline breakage very soon due to enormous water pressure.

Further Due to heavy rainfall the water level of River Damodar, Maithon Dam and Panchayt Dam rises abruptly. The ample collection of water may solve the drinking water crisis, but it is resulting as a worst curse. The heavy rainfall itself causes the drinking water crisis. The main reason is that due to overflow of water the pumps use to dwell down and stops functioning. The second most important reason is mud and clay which comes with water and damp the pumps. Also in summer season due to excess heat the water level goes very down. And generally pump fails to supply the water from such a low level as well as the pumps generally burn due to excess load and heat in summer. These all factors create tremendous shortage of drinking water in whole of Dhanbad region. And it continues on frequency of every 2-3 days for more than 5 months every year during summer and monsoon season.

FINDINGS

The supply pipelines are being intentionally being broken even after regular repair by the local anti-social elements. The prime motto is to collect water from the broken pipes and then to resell it. These shroud mentality of local inhabitants has created a lot of problem for the supply of the drinking water. In addition to this the local people also don't want to get these pipeline repaired as their source of income will be surely snatched. While interviewing a man filling water, he replied that if the pipelines would be repaired then he would be in loss as due to the same his livelihood will be snatched as he can't resell the water coming out from the broken pipes. So they don't want it to be repaired. It has been identified by visiting field that in a single kilometre there are almost 30-40 pipeline breakages. These are the major cause of slow speed of flow of the water. In addition to this the water uses to get contaminated due to the same. And it cause occasionally multiple numbers of health casualties due to epidemic. Many times the huge pipelines are being broken even before they are implanted by the local people. For the same these pipes are being kept in nearby periphery of local Police stations so that no locals may disturb them. The same situation was found in the locality of Kenduadih, where the hundreds of pipes which are to be implanted for maintenance of the broken pipes are kept in secured portfolio of local Kenduadih Police Station of Dhanbad District. This expresses the fear and weakness of local administration from the anti social elements that may create sabotage.

RECOMMENDATIONS

1. The pipelines chosen for water supply must be of thick flexible polymer pipelines covered under the tough quality cement pipelines so that they may not get damaged due to shock from the underground mining explosions. Further they can be repaired as soon as the outer crust is found to be damaged.
2. Still there are only about a dozen of filtration plant are established, but this is an insufficient number as per requirements of the population. So more filtration plant must be established on every population of ten to fifteen thousand of population. As this is a costly arrangement, for the same role of private firms and "Public Private Partnership" must be enhanced.
3. Underground water drainage system must be such designed that the waste water and the residue of reused water must directly be disposed off to either Bay of Bengal or at some barren place.
4. Technological advancement must be adopted for proper distribution as well as to stop the waste of drinking water.
5. Technological innovations such as "Electronic Water Bills" will keep a proper "Rider-check" form supply source to receiving end, so that a big loss of water can be saved. And also this will automatically enforce the authorities to get assured of adequate water supply.
6. The supply of water must be continuous and arrangement must be done that though even if there is shortage of electricity, there must not be any problem is distribution of water. A convenient option is to arrange for emergent battery backup required to pump the water to the destination.
7. Strict disciplinary action must be taken against all the anti-social elements who creates sabotage to the water supply channel. Zero tolerance to any damage to the channel of drinking water supply and Industrial Supply support too.

CONCLUSIONS

1. Due to scarcity of water, a number of strikes and "Gheraos" are happening and it leads to a tremendous loss to overall profit of the organization [BCCL, Coal India].
2. A sudden blockade use to occur in day to day work due to scarcity of drinking water.
3. A huge sum has to be paid by the local people to buy water.
4. Ample water is available for drinking consumption as well as for Industrial needs, only strategically swift water resource management policies are to be framed and implemented.

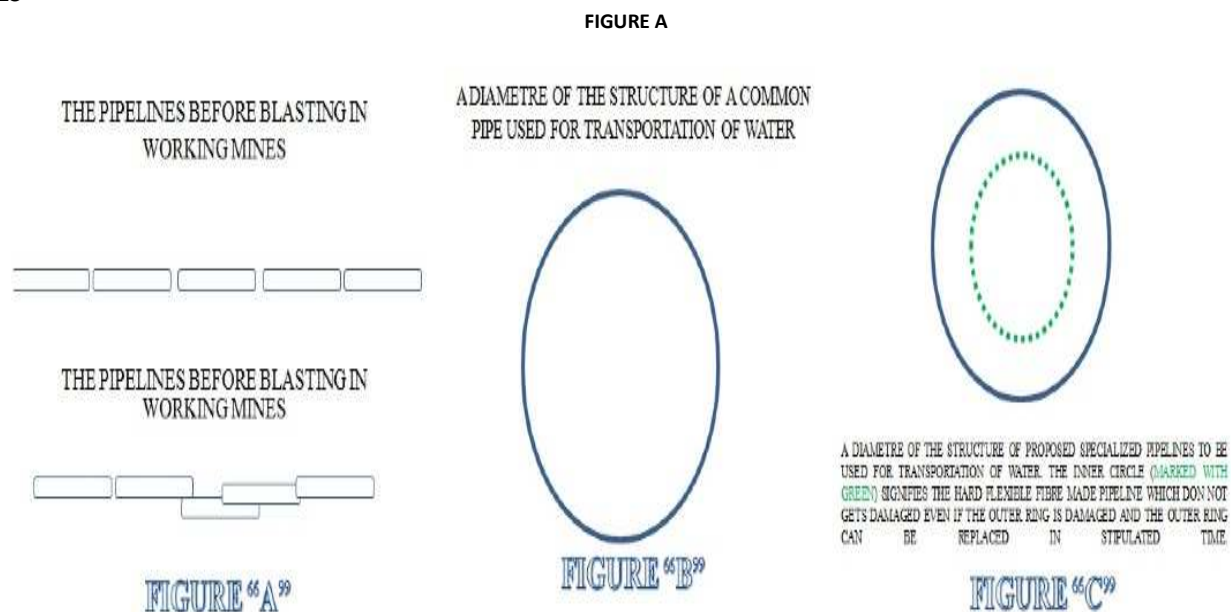
SCOPE FOR FURTHER RESEARCH

The flow of "Dung-water" coming out with the excavated coal must be filtered and must be distributed for farming and cultivation of farm lands as per the percentage of nutrients available for the agricultural practices. As the complete Jharkhand belt lacks the healthy amount of water for cultivation. So this option can be more suitable for reutilization. Only a little effort is to be given for re-filtration of this mineral enriched water for farming. In this way the natural sources will be conserved for human drinking usage instead of usage in farming. It has been found that many filtration plants are established in some of the areas but still much more number of requirements of such "Pressure-filter" Plants are required.

ACKNOWLEDGMENTS

We extend our sincere thanks to Shri. Shailendra Suman, Managing Director of "Dimension Ranchi", Ranchi who acquainted us with modern technology being used in water transport to minimize the loss of wastage of water.

FIGURES



The arrangement of the pipelines (Figure "A"), The present used structure (Figure "B") and The proposed modern form of pipelines (Figure "C").



The Pipelines kept in front of Kenduadih police station in large number for being protected from sabotage from anti-social elements.

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PORTFOLIO MANAGEMENT OF INDIAN MUTUAL FUNDS: A STUDY ON DIVERSIFIED EQUITY FUNDS PERFORMANCE

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ABSTRACT

Actively managed fund aims at outperforming its corresponding benchmark index. Equity diversified mutual fund's performance in comparison with broad based index like S&P CNX 500 definitely investigates the activism shown in the fund management. In this paper attempt has been made to find out whether actively managed equity diversified funds in India have achieved superior performance through their stock selection and timing abilities. It is observed that one third of the sample funds delivered positive alpha and remaining funds were satisfied with zero Alphas. However these positive alpha funds failed to time the market movement.

KEYWORDS

Active returns, Alpha, Market phases, Market timing,

I. INTRODUCTION

Mutual funds are professionally managed investment companies, offering efficient service and a flexible product range to create wealth for individual and institutional investors. The size and Growth of Mutual Fund industry in India has changed enormously over the last decade. The Industry now has 42 players with assets under management of Rs. 673,176cr as on June 30, 2011. Assets under Management have achieved a record compounded growth of 28% in the period between the years 2006-2010. Industry is growing at the annual growth rate of 27.25 % in terms of net sales. It is one of the steady and fast growing segments of the Indian economy.

In fund management Active and Passive investing are the two basic investment approaches in equity investments of mutual funds. While Active investing relies on the ability of managed funds to outperform the market, the passive investing relies on the long-term success of market indexes. The idea behind the active management is to deliver superior returns over the market. Equity diversified funds follow active investment approach and seek to beat the market.

Indian stock market observed two bull phases and one bear phase during the period of 31st March 2005 to 31st March 2011. S&P CNX 500 index increased from 1772.85 points on 31st March 2005 to 5354.70 on 31st December 2007 with the CAGR of 33.46%. From 31st December 2007 to 30th November 2008 it earned CAGR of -60.91% and from 30th November 2008 to 31st March 2011 achieved CAGR of 38.85%. Actively managed portfolios are expected to exhibit the superior performance over its benchmark portfolio in any phase of the market. This study uses a broad based index S&P CNX 500 as common benchmark to compare the performance of sample funds.

II OBJECTIVES OF THE STUDY

The following objectives are identified to study the active returns of Indian mutual fund industry.

1. To identify and analyze the excess returns (over the 91 days T-Bills returns) of select equity diversified funds in the different phases of market i.e., bull and bear phases.
2. To identify and analyze the level of alpha generated by the funds and classify the funds into positive, zero and negative Alpha funds.

III DATA

Published Data is collected for the past 72 months i.e. the period of April 2005 to March 2011 related to NAVs of funds, 91 days T-Bills and NSE 500.

1. Monthly returns of 30 growth option equity diversified funds which are surviving from March 2005 are calculated based on NAVs from ICRA Online Mutualfundsindia.com
2. Monthly risk free returns are calculated from Implicit Yield at Cut off Price of 91 days T-bills Actions from RBI.
3. Monthly Market returns from S&P CNX 500 index of National Stock Exchange.

DESCRIPTIVE STATISTICS: MONTHLY RETURNS OF SAMPLE FUNDS AND S&P CNX 500

portfolio	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
Fund average (30 funds)	72	-0.24	0.31	0.0136	0.08313	-0.203	2.27
S&P CNX 500	72	-0.28	0.34	0.0126	0.09043	-0.21	2.864

IV METHODOLOGY

Jenson (1968) measure of portfolio performance is used to calculate the Portfolio Alpha. Fund excess returns are regressed with excess market returns to obtain the Alpha. A positive value of Alpha indicates superior performance. Linear Regression Method with the help of SPSS package is used to calculate the intercept and its significance. The regression equation is

$$R_{pt}-R_{ft}=\alpha+\beta R_{mt}-R_{ft}+e_t$$

Where $R_{pt}-R_{ft}$ and $R_{mt}-R_{ft}$ are excess portfolio and market returns.

α and β are the intercept and slope coefficients.

e_t is an error term.

Treynor and Mazuy(1966) market timing measure is used to identify timing ability of the funds. Actively managed portfolio has a relatively high beta when the market rises and a relatively low beta when market drops is expected. The following regression method is used to identify the market timing.

$$R_{pt}-R_{ft}=\alpha+\beta R_{mt}-R_{ft}+c(R_{mt}-R_{ft})^2+e_t$$

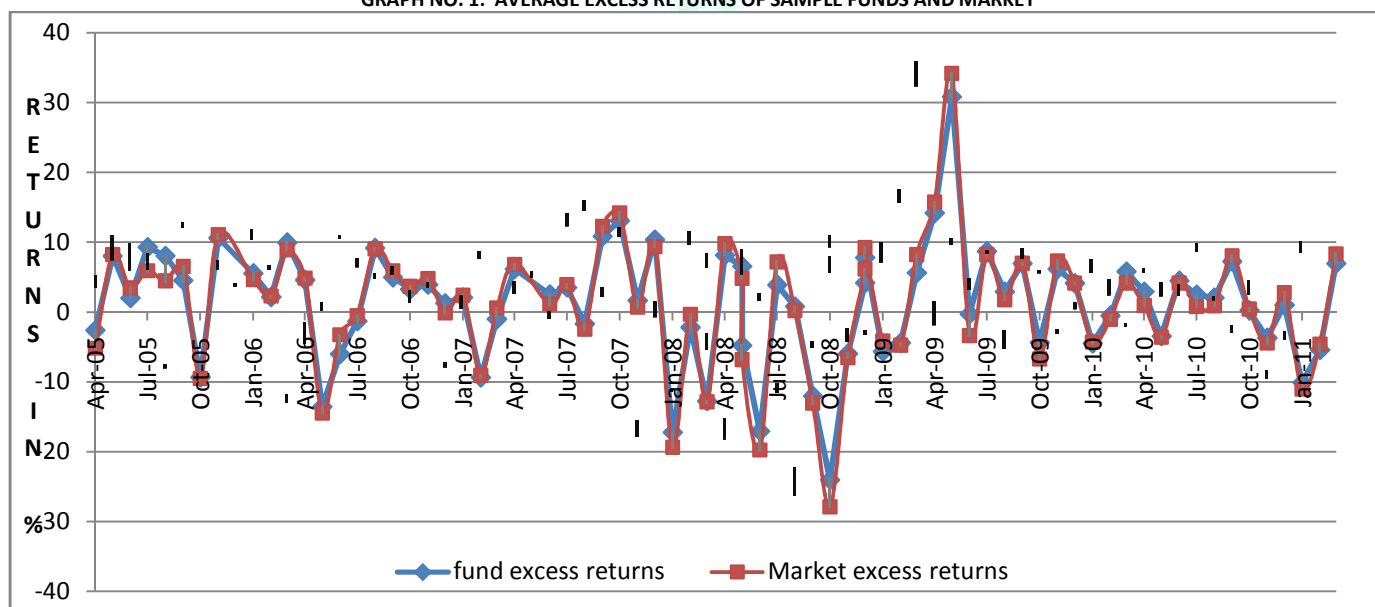
Where $R_{pt}-R_{ft}$ and $R_{mt}-R_{ft}$ are excess portfolio and market returns at that time . C is a measure of timing ability. If the estimated value of c is positive, it indicates that the portfolio successfully timed the market.

V ANALYSIS OF RESULTS

A. THE OVERALL ACTIVE RETURNS SCENARIO IN THE INDUSTRY

Difference among the average risk free returns of funds and market in the bull and bear phases is clearly observed in the graph no.1. The average fund's risk adjusted returns in the bear phase appears superior compared to the market. During this phase funds managed to fall less than the market. In this period i.e., 31st December 2007 to 30th November 2008 market had suffered with -8.13% monthly excess returns while average funds monthly excess returns were only -7.57%. In the bull phase i.e., 31st march 2005 to 31st December 2007 the average fund returns were 3.13% and market returns were 3.08%. In another bull phase from 30th November 2008 to 31st March 2011 funds average monthly returns 2.78% while market returns were 2.80%.

GRAPH NO. 1: AVERAGE EXCESS RETURNS OF SAMPLE FUNDS AND MARKET



B. ANALYSIS OF SELECTIVITY AND TIMING TESTS

Active returns by outperforming the market are possible with the superior stock selection and timing the movement in the market. These stock selection and timing abilities are measured with the level of alpha generated. Performance is categorized with the alpha at a 10% significance level, into positive Alpha, zero Alpha and negative Alpha. This study uses the t-statistic threshold -1.66 to 1.66 which is based on the degree of freedom to categorize the funds. Funds with which t-value lies within this region as zero Alpha, above the 1.65 t-value into positive alpha and remaining are termed as negative Alpha funds. Selectivity tests shows that Out of 30 funds 10 funds have delivered positive significant alpha. These funds had shown an average Alpha 0.0055. The remaining funds had shown either zero or non significant positive alphas whose t-values lies in the zero Alpha category.

TABLE: 1 TEST OF SELECTIVITY

+ve significant Alphas	Mean Alpha	-ve Alphas	Mean Alpha	zero Alphas	mean Alpha
10	0.0055	0	0	20	0.00045

Timing ability tests evidences that majority of the funds failed to time the market movement. Only 3 funds out of observed 30 funds had shown positive and significant timing coefficient with average of 0.602. However these observed 3 funds have not shown any significant positive alpha. The overall average timing coefficient is -0.00387.

TABLE: 2 TEST OF TIMING

Mean timing coefficient	+ve significant timing coefficients
-0.00387	3

SUMMARY AND CONCLUSION

To study the Active portfolio management of Indian mutual funds, 30 Equity diversified funds have been selected after examining their investment objective and their survival till the end of study period. Jensen measure of portfolio performance and Treynor and Mazuy market timing measures are used to test the stock selection and timing abilities of the fund management in generating the active returns. This study finds the evidence that one third sample funds delivered positive alpha and remaining funds were satisfied with zero Alphas. These funds had generated positive active returns through the stock selection abilities but they failed to time the market movement.

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ANNEXURE

ANNEXURE I: ALPHA AND BETA VALUES

sno		alpha	t value	p value	beta	t value	pvalue
1	Birla Buy india fund	0.003	0.969	0.369	0.826	22.27	0
2	Birla dividend yield fund	0.003	1.004	0.319	0.808	21.866	0
3	Canreboco equity diversified fund	0.003	1.072	0.287	0.932	29.847	0
4	Fidelity equity fund	0.006**	2.879	0.005	0.823	36.365	0
5	Franklin india flexi cap fund	0.005*	2.361	0.021	0.89	40.335	0
6	Franklin india tax shield	0.004**	1.687	0.096	0.834	35.63	0
7	Hdfc equity fund	0.007*	3.423	0.001	0.905	37.976	0
8	Principal dividend yield fund	-0.002	-0.668	0.506	0.846	24.484	0
9	Franklin india prima fund	-0.001	-0.192	0.848	0.959	22.118	0
10	Can reboco emerging equity fund	-0.002	-0.444	0.658	1.11	25.394	0
11	DWS equity fund	0.003	0.962	0.339	0.835	21.753	0
12	Escorts growth plan	0	0.026	0.979	0.965	16.611	0
13	Baroda pioneer ELSS96	-0.011	-1.589	0.117	0.96	13.093	0
14	Baroda pioneer growth fund	0.005**	1.848	0.069	0.885	30.76	0
15	Reliance vision	0.003	1.315	0.193	0.906	34.786	0
16	DSP Blackrock opportunities fund	0.004*	2.071	0.042	0.865	40.459	0
17	Tata pure equity fund	0.004**	1.723	0.089	0.865	38.513	0
18	HSBC equity fund	0.003	1.145	0.256	0.784	28.042	0
19	HSBC india opportunities fund	0.002	0.644	0.522	0.836	26.072	0
20	SBI Magnum equity fund	0.002	0.765	0.447	0.93	27.197	0
21	Taurus tax shield	-0.001	-0.189	0.851	1.019	16.67	0
22	Taurus discovery	-0.008	-1.412	0.162	1.186	19.829	0
23	Sundaram growth fund	0.001	0.464	0.644	0.978	36.63	0
24	Sundaram tax saver	0.004	1.252	0.215	0.909	27.013	0
25	Sundaram select focus	0.003	1.123	0.265	0.946	27.867	0
26	Icici pru dynamic plan	0.008*	2.569	0.012	0.802	24.512	0
27	Icici pru discovery	0.005	1.317	0.192	0.949	21.402	0
28	Idfc premier equity fund plan	0.008**	1.753	0.084	0.895	19.253	0
29	Sahara growth	0.004*	1.939	0.056	0.813	32.581	0
30	Tata growth	-0.001	-0.44	0.661	0.949	25.617	0

*Alpha Significant at 5% level

** Alpha significant at 10% level

ANNEXURE 2: TIMING COEFFICIENTS OF SAMPLE FUNDS

Sno		Timing coefficient	t val	P val
1	Birla buy india fund	-0.206	-1.064	0.291
2	Birla dividend yield fund	0.059	0.302	0.763
3	canreboco equity diversified fund	0.115	0.704	0.484
4	fidelity equity fund	-0.198	-1.71	0.092
5	Franklin india flexi cap fund	-0.008	-0.068	0.946
6	Franklin india tax shield	-0.123	-1.008	0.317
7	Hdfc equity fund	0.12	0.962	0.34
8	Principal dividend yield fund	-0.248	-1.382	0.171
9	Franklin india prima fund	0.046	0.201	0.842
10	Can reboco emerging equity fund	0.231	1.014	0.314
11	Dws equity fund	-0.549	-2.876	0.005
12	Escorts growth plan	0.996*	3.541	0.001
13	Baroda pioneer ELSS96	-0.048	-0.124	0.902
14	Baroda pioneer growth fund	-0.006	-0.039	0.969
15	Reliance vision	0.085	0.622	0.536
16	DSP Blackrock opportunities fund	-0.234	-2.146	0.035
17	Tata pure equity fund	0.001	0.013	0.99
18	HSBC equity fund	-0.368	-2.622	0.011
19	HSBC india opportunities fund	-0.45	-2.815	0.006
20	SBI Magnum equity fund	0.007	0.041	0.968
21	Taurus tax shield	0.372	1.168	0.247
22	Taurus discovery	0.152	0.482	0.631
23	Sundaram growth fund	-0.055	-0.389	0.698
24	Sundaram tax saver	0.45*	2.673	0.009
25	Sundaram select focus	0.359*	2.068	0.042
26	Icici pru dynamic plan	-0.56	-3.534	0.001
27	Icici pru discovery	-0.01	-0.042	0.967
28	Idfc premier equity fund plan	-0.255	-1.06	0.293
29	Sahara growth	-0.083	-0.633	0.529
30	Tata growth	0.292	1.523	0.132

ANNEXURE 3: AVERAGE RETURNS OF SAMPLE FUNDS, CNX500 AND 91 DAYS T.BILLS

month	fund avg	CNX500	avg risk free	month	fund avg	CNX500	avg risk free
Apr-05	-2.19%	-4.75%	0.42%	Apr-08	8.72%	10.36%	0.59%
May-05	8.45%	8.66%	0.42%	May-08	-4.20%	-6.22%	0.60%
Jun-05	2.44%	3.89%	0.43%	Jun-08	-16.41%	-19.10%	0.64%
Jul-05	9.72%	6.36%	0.44%	Jul-08	4.61%	7.91%	0.72%
Aug-05	8.46%	4.88%	0.43%	Aug-08	1.53%	0.94%	0.74%
Sep-05	4.95%	6.94%	0.43%	Sep-08	-11.32%	-12.34%	0.70%
Oct-05	-8.90%	-9.07%	0.45%	Oct-08	-23.37%	-27.23%	0.65%
Nov-05	11.06%	11.53%	0.47%	Nov-08	-5.37%	-5.96%	0.59%
Dec-05	4.65%	6.64%	0.48%	Dec-08	8.26%	9.68%	0.46%
Jan-06	6.05%	5.15%	0.51%	Jan-09	-5.27%	-3.78%	0.38%
Feb-06	2.70%	2.82%	0.54%	Feb-09	-4.02%	-4.35%	0.39%
Mar-06	10.47%	9.45%	0.53%	Mar-09	6.01%	8.61%	0.39%
Apr-06	5.03%	5.30%	0.45%	Apr-09	14.48%	16.04%	0.31%
May-06	-13.10%	-14.01%	0.46%	May-09	31.09%	34.43%	0.27%
Jun-06	-5.51%	-2.76%	0.49%	Jun-09	-0.02%	-3.08%	0.27%
Jul-06	-0.79%	0.00%	0.52%	Jul-09	8.94%	8.48%	0.26%
Aug-06	9.69%	9.58%	0.52%	Aug-09	3.20%	2.02%	0.27%
Sep-06	5.49%	6.42%	0.53%	Sep-09	7.21%	7.25%	0.27%
Oct-06	3.80%	4.23%	0.54%	Oct-09	-4.09%	-6.45%	0.27%
Nov-06	4.46%	5.33%	0.54%	Nov-09	6.43%	7.59%	0.27%
Dec-06	1.83%	0.45%	0.56%	Dec-09	4.42%	4.43%	0.29%
Jan-07	2.66%	2.98%	0.58%	Jan-10	-4.18%	-4.00%	0.31%
Feb-07	-8.74%	-8.41%	0.62%	Feb-10	-0.17%	-0.69%	0.34%
Mar-07	-0.39%	1.21%	0.62%	Mar-10	6.15%	4.50%	0.36%
Apr-07	6.77%	7.43%	0.61%	Apr-10	3.24%	1.27%	0.34%
May-07	7.16%	5.46%	0.62%	May-10	-3.10%	-3.24%	0.36%
Jun-07	3.12%	1.74%	0.60%	Jun-10	4.91%	4.59%	0.43%
Jul-07	3.92%	4.36%	0.41%	Jul-10	2.93%	1.23%	0.45%
Aug-07	-1.15%	-1.91%	0.54%	Aug-10	2.55%	1.39%	0.50%
Sep-07	11.41%	12.85%	0.57%	Sep-10	7.74%	8.55%	0.50%
Oct-07	13.64%	14.76%	0.57%	Oct-10	0.76%	0.97%	0.53%
Nov-07	2.25%	1.30%	0.60%	Nov-10	-3.13%	-3.85%	0.58%
Dec-07	10.96%	9.96%	0.60%	Dec-10	1.58%	3.34%	0.58%
Jan-08	-16.66%	-18.78%	0.57%	Jan-11	-9.53%	-10.45%	0.58%
Feb-08	-1.61%	0.27%	0.59%	Feb-11	-4.86%	-4.01%	0.58%
Mar-08	-12.16%	-12.27%	0.59%	Mar-11	7.54%	8.93%	0.58%

A STUDY OF DIFFERENCES IN PERCEPTION OF EMPLOYEES ABOUT THE HRD CLIMATE PREVAILS IN THE ENGINEERING INSTITUTE ON THE BASIS OF AGE GROUP

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ABSTRACT

The organizations are attaching great importance to human resources because human resources are the biggest source of competitive advantage and have the capability of converting all the other resources into product and services. The effective performance of this human resource depends on the type of HRD climate that prevails in the organization, if it is good, then the employee's performance will be high but if it is average or poor then the performance will be low. The study of HRD climate is very important for all the organizations and the Education sector is not an exception, especially in the present situation of grooming of professional studies. The present study is an attempt to find out the type of HRD climate that is prevailing in Shri Vaishnav Institute of Technology & Science a private engineering college in Indore. The researchers have also tried to find out the perception of employees regarding HRD climate prevailing in the institute and difference in the perception of employees on the basis of their age group. The researcher collected the data from the employees of a reputed engineering institute using structured HRD climate questionnaire. The values of various test scores indicate that the Shri Vaishnav Institute of Technology & Science does not provide an appropriate overall HRD climate to their employees belong to all age groups, which enables them to acquire adequate capabilities for their present job. The result also shows that there is no significant difference in perception of employees belong to different age groups about prevailing HRD climate in Shri Vaishnav Institute of Technology & Science.

KEYWORDS

HRD climate, age, engineering college, perception.

INTRODUCTION

Technical Education is the system by which the technically skilled and professionally developed Human Resource Capital is generated to satisfy the industry needs of a nation. Industry is the backbone of any country and engineers in turn are the backbone of industry. Growth of industry is directly proportionate to the growth of the economy and as the industry grows the demand of engineers and technically qualified people increases proportionately. To satisfy the demand of industry for engineers The Indian Government is encouraging technical education with the help of both public and private sector engineering institutes.

Education and training are the primary systems by which the trained human capital of a nation is increased and preserved. Higher education in general and technical education in particular, has a direct bearing on the economy of a country. The era of human resource development (HRD) has already begun and speaking in terms of engineering and technology, the demand for qualified engineers is increasing globally. In response to this, there has been a proliferation of engineering institutes in India. These institutions exist to enhance the learning experience of engineering student, and to foster an environment conducive to preparing graduates with competitive excellence for an ever-changing future. Hence, a developmental climate, which not only fosters innovation and creativity but also promotes a high level of motivation and commitment, is highly desirable in these institutes.

Human Resource Development (HRD) is the process of improving, molding and changing the skills, knowledge, creative ability, aptitude, attitude, values and commitment based on present and future job and organizational requirements. HRD Climate is a measure of the perceptions of the knowledge workers about the prevailing nature of HRD. Perception about the organizational policies, management, job satisfaction, welfare measures etc. May be change according to age group of employees. The perception of younger employees about the prevailing HRD climate may differ from the older age employees. The aim of this study is to find out that this difference of perception is significant or not. Meaning of HR + D + Climate

'Human Resource' means employees in organization, who work to increase the profit for the organization. 'Development', it is acquisition of capabilities that are needed to do the present job, or the future expected job. After analyzing Human Resource and Development we can simply state that, HRD is the process of helping people to acquire competencies. 'Climate', provided by an organization, is an overall feeling that is conveyed by the physical layout, the way employees interact and the way members of the organization conduct themselves with outsiders.

REVIEW OF LITERATURE

Many researches have been conducted on national and international level in related areas. Few of them are stated below:

Mr. Ajay Salokhe and Dr. Nirmala Choudhary (2011) conducted a study on "HRD climate and Job satisfaction: An empirical investigation". The study was focused on single measure i.e. Job Satisfaction because of the dearth in amount of studies exploring this relationship. The study attempts to analyze and determine the relationship, further the impact of HRD Climate, OCTAPAC Culture on Job Satisfaction as an Organizational Performance measure in the selected public sector enterprise. This study suggested that the early identification of human resource potential and development of their skill represents two major tasks of human resource development. This can only be achieved when conducive HRD Climate prevails

Daya (1993) suggested that the creation of a supportive environment is an effective alternative to foster the growth of individuals in organizations. Some of the factors identified by him in regard include a personal desire to grow, opportunities for interaction, assimilation of experience and capability to assess one's potentialities.

Jyne (2002) highlighted the importance of examining employees perception, employees adjustment to change. Climate and change appraisal factor were linked with a range of important individual /organizational outcomes as employee well being, job satisfaction, organizational commitment, turnover intention and absenteeism. Graffity University, Australia, a study Employment adjustment during change: The role of climate, organizational level and occupation" was done to study the role of organizational climate factors in facilitating employee adjustment during change and to study the extent to which organizational sub-groups differs in their perception of climate and investigate the level of adjustment indicator during change.

Khagendra, Purushottam and Srijana, (2008) conducted a study of HRD Climate in Buddha Air, Their Objective behind the study is to understand the general HRD climate, the HRD mechanism of the organization, and to see the OCTAPAC culture of the organization. Their opinion about the overall HRD Climate of Buddha Air is encouraging, since there is a keen interest of top management in HRD and there is a high team spirit and employees take training seriously

Mufeed & Gurkoo, (2006) attempted to study whole gamut of HRD climate in universities and other equivalent higher level academic institutions by eliciting employee perceptions on HRD climate for which the University of Kashmir, Srinagar is selected as the main focal point of study.

Peter M. Senge, (1990) also explained the influence of structure on the behavior of people. According to him, people however differently, will produce similar results when placed in the same system. He perceived structure as a key factor that influences behavior.

Rao, (1999, 2001) regarding the HRD climate in 41 organizations revealed that the general climate in the organization is average. A general indifference on the part of the employees towards their own development was found to be the reason for this. The lack of support to the employees towards their own development was found to be the reason for this. The lack of support to the employees post training is a major hurdle in applying what they had learned. This in turn affects the career development of the employees. It was noted that the top management in most of the organization is doing routine things. The other impediments of HRD highlighted in the study are the lack of opportunity for transfer of training skill and career development. Yet the same study suggested that the employees in this organization were serious about the training. The performance appraisal system was objective and the management was concerned about human resources.

Sachdev, (2007) concluded that trust, pride and companionship are the primary factors considered in 'Great Places to Work' by Indian employees. Most of the organizations rated as a great place to work recognize the aspirations of the employees and focus on their growth and development. This indicates that most of these organizations have got a reasonably good HRD climate.

Saxena & Tiwari, (2009) concluded that the HRD climate in some public sector Bank in Ahmedabad is average, and there is no significance difference in perception of employees according to their gender, experience and qualification but there is a significant difference in perception according to their age.

Srimannarayana M, (2007) conducted a study in local bank of Dubai and found that a good HRD climate was prevalent in the organization. He found out the differences in the perception of employees regarding the HRD climate on the basis of demographic variables.

S. Saraswathi (2010). Conducted a study stated that the success of an organization is determined by the skills and motivation of the employees. Competent employees are the greatest assets of any organization. Given the opportunities and by providing the right type of climate in an organization, individuals can be helped to give full contribution to their potentials, to achieve the goals of the organization, and thereby ensuring optimization of human resources. The study revealed that the three variables: General Climate, HRD Mechanisms and OCTAPAC culture are better in software organizations compared to manufacturing. The findings indicate a significant difference in the developmental climate prevailing in software and manufacturing organizations.

NEED/IMPORTANCE OF THE STUDY

The study of HRD climate is very important for all the organizations and the Education sector is not an exception, especially in the present situation of grooming of professional studies. The present study is an attempt to find out the type of HRD climate that is prevailing in Engineering college with special reference to Shri Vaishnav Institute of Technology & Science.

OBJECTIVES

The objectives of the study are as per following:

1. To study the type of overall HRD climate prevailing in selected Engineering College (SVITS) at Indore as perceived by employees belong to all age groups.
2. To study whether there exists a significant difference in perception of employees belong to different age group about prevailing HRD climate in an engineering college

HYPOTHESES

1. Engineering colleges do not provide an appropriate overall HRD climate to their employees belong to all age groups, which enables them to acquire adequate capabilities for their present job
2. There is no significant difference in perception of HRD climate amongst employees belong to different age groups in engineering colleges.

RESEARCH METHODOLOGY

STUDY

DESIGN: The study is exploratory in nature.

SAMPLE: For the purpose of the study, the researchers selected Shri Vaishnav Institute of Technology & Science a private Engineering college situated in Indore (MP). On the basis of non probability random sampling respondents were selected.

TOOLS FOR DATA COLLECTION

A questionnaire was used to collect data for the study. HRD Climate questionnaire developed by the Centre for HRD at XLRI, was used by the researcher to collect the responses from the respondents. The scale consists of 19 items each having five alternatives such as almost always true, always true, sometimes true, rarely true, not at all true. The mean score of each item could theoretically range from 1.0 to 5.0 where 1.0 indicates extremely poor HRD climate and 5.0 indicates extraordinarily good HRD climate on that dimension. Scores around 3.0 indicate an 'average' HRD climate on that dimension giving substantial scope for improvement. Scores around 2.0 indicate poor HRD climate on that dimension. Scores around 4.0 indicates a good HRD climate where most employees have positive attitudes to the HRD policies and practices on that dimension and thereby to the organization itself.

The questionnaire was used for data collection covers aspects of employee perceptions towards the HR practices adopted by Shri Vaishnav institute of technology & science. The questions asked were under five traits which are as follows- 1. Nature of Work 2. Working Condition, 3. Welfare Measures, 4. Performance Management, 5. Employees Development. Each trait contains 4 questions related to management policies supporting to develop a good HRD climate within the institute. All responses counted and arranged an age group wise against each question of each trait. Then response arranged collectively and age group wise against each trait and average response calculated collectively and age group wise.

Finally responses of each trait were added collectively to assess the perceptual response of employees. This helps to find out the perception of employees about the HR practices adopted by the management of the Institute and has given an idea about the HRD Climate of the SVITS collectively and according to their age group.

DATA ANALYSIS

A statistical tool such as MEAN, SD and Z test was used to analyze the data.

THE INSTITUTE PROFILE

Shri Vaishnav institute of technology & science came into existence in 1995. The institute is run by Shri Vaishnav Shekshanik and Parmarthik Trust which was established in 1981 as a branch of Shri Vaishnav Sahayak Kapda market committee and its associate Shri Maharaja Tukoji Rao Cloth Market association which was established in 1884. SVITS offers graduate and post graduate programs in engineering and management courses, such as BE in CSE, IT, EC, ELEX., EI, TX, CE, MECH, MBA, MCA AND ME in CS, VLSI, IT and AI (Artificial intelligence.)

VISION

Transform India from 'A Developing Nation' to A Developed Nation' through technical education

MISSION

"Develop Creative Technical Leaders who can carry out the Transformation".

QUALITY POLICY

The quality policy of SVITS states that 'We, at Shri Vaishnav Institute of Technology and Science, are committed to impart premium engineering and technology education by meeting customer requirements & norms of regulatory authority. We strive to continually improve the quality of our educational services and effectiveness of Quality Management System.

SAMPLE DESIGN**DATA COLLECTION AND PERIOD OF STUDY**

The researcher personally contacted 100 employees of Shri Vaishnav Institute of Technology & Science. They were appraised about the purpose of the study and request was made to them to fill up the questionnaire with correct and unbiased information. The researcher was able to collect the 54 filled questionnaires with a response rate of 54 %. All 54 employees were very keen to answer the questions asked and responded very well by filling all the entries correctly on 100% accuracy level.

SAMPLE PROFILE**TABLE 1.0**

SIZE OF THE SAMPLE	54	54%
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TAB.2.0 AGE GROUP WISE DISTRIBUTION OF EMPLOYEES

Age Group (Age in years)	Employees	
	N	Percent
20-40	35	64.81%
40-60	19	35.19%
Total	54	100%

RESULT AND DISCUSSION**HYPOTHESIS 1 (NULL HYPOTHESIS H_0)**

Engineering colleges do not provide an appropriate overall HRD climate to their employees belong to all age groups, which enables them to acquire adequate capabilities for their present job

ALTERNATIVE HYPOTHESIS H_1

Engineering colleges provide an appropriate overall HRD climate to their employees belong to all age groups, which enables them to acquire adequate capabilities for their present job.

TABLE 3.0: PERCEPTION OF ALL AGE GROUP EMPLOYEES ABOUT OVER ALL HRD CLIMATE PREVAILING IN SHRI VAISHNAV INSTITUTE OF TECH. & SCIENCE

Particulars	Sample Size	Mean	SD	SE	Z-Value
Employees	54	3.26	0.33	.0449	0.47

The calculated Z value 0.47 is less than the critical z - value of the table i.e. 1.96 for null hypothesis ($\mu < 3$) at 0.05 significance level, therefore we accept the null hypothesis that the particular engineering colleges Shri Vaishnav institute of technology & science do not provide such HRD climate to their employees which helps them to acquire the capabilities that are needed to do their present job. Hence the alternative hypothesis is rejected for the overall perception of employees belongs to all age groups.

HYPOTHESIS 2 (NULL HYPOTHESIS H_0)

There is no significant difference in perception of employees belong to different age groups about prevailing HRD climate in engineering colleges

ALTERNATIVE HYPOTHESIS H_1

There is a significant difference in perception of employees belong to different age groups about prevailing HRD climate in engineering colleges

TABLE 4.0 PERCEPTUAL DIFFERENCES BETWEEN YOUNGER AGE GROUP (20-40) AND OLDER AGE GROUP (40-60) EMPLOYEES ABOUT HRD CLIMATE PREVAILING IN SHRI VAISHNAV INSTITUTE OF TECHNOLOGY & SCIENCE

Particulars (Age Group in years)	Sample Size	Mean	SD	SE	Z-Value
20 - 40	35	3.26	0.94	0.18	0.44
40 - 60	19	3.26	0.86		

The calculated Z value .44 at 0.05 significance level) is less than the critical z - value of the table i.e. 1.96 for null hypothesis ($\mu < 3$) at 0.05 significance level, therefore we accept the null hypothesis that there is no significant difference in perception of HRD climate amongst employees belong to different age groups in this particular engineering college Shri Vaishnav institute of technology & science (SVITS).

CONCLUSION

HRD climate plays a very important role in the success of any organization because directly or indirectly it affects the performance of the employees. If the HRD climate is good, only then the employees will contribute their maximum for the achievement of the organization objectives. The result of the present study shows that the HRD climate at SVITS prevailing in the SVITS Indore. The values of various test scores indicate that the subjected engineering college i.e. SVITS does not provide an appropriate overall HRD climate to their employees belong to all age groups, which enables them to acquire adequate capabilities for their present job. The result also shows that there is no significant difference in perception of employees belong to different age groups about prevailing HRD climate in Shri Vaishnav institute of technology & science (SVITS).

The management can improve the HRD climate by introducing the changes HR policies and practices.

SCOPE FOR FURTHER RESEARCH

Present study is limited to assessing the perception of employees about the HRD climate prevailing in an engineering institute, while such kind of study can be done in all types of organizations where the human resource is the backbone of the organization. It also can be expanded to know the perceptual difference in Male and Female, higher income and lower income group, senior and junior employees and so on.

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INSTITUTIONAL FINANCING OF AGRICULTURE IN INDIA WITH SPECIAL REFERENCE TO COMMERCIAL BANKS: PROBLEMS FACED BY FARMERS – AN EMPIRICAL STUDY

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ABSTRACT

Indian economy is still dominated by agriculture. It is a core sector of economy. Development of agriculture is a necessary prerequisite for the over all development of Indian economy. But the growth of this sector is lagging behind in comparison to other sector's growth. A break through in this sector is thus essential for placing the economy on a sound footing. Credit is leverage for development and adequate finance is a panacea for this. Presently under priority sector, Govt. and RBI are guiding to commercial banks channelizing more and more funds to farmers at easy terms. Indian banking is shaping the rural economy. Impact of agricultural credit on the economy of farmers is positive. Banks are now catalyst of development. Institutional financing of agriculture or multi agency approach (MAA) is a complex approach. It includes Govt. agencies, co-operatives, regional rural banks and commercial banks. NABARD (National bank for agriculture and rural development) is the apex institution providing refinance to rural credit. The role of commercial banks is increasing year to year after nationalization and share of moneylenders is decreasing. It shows a success of govt. efforts towards rural credit yet the system faces some problems like financial inclusion especially for landless and marginal farmers, high rate of interest and cumbersome process of getting loan. Author suggests more deployment of funds through micro financing (bank linkage self help group scheme) and use of I.T. solutions in cost effective manner. Government schemes like NAREGA(National rural employment grauntee act) and PMGSY(Pradhan mantri gram in sadak yojna) should go through banks. This paper highlights the present comparative position of institutional financing and reveals some primary problems faced by farmers in getting agricultural credit through an empirical study and explores the new avenues for commercial banks financing agriculture.

KEYWORDS

Cumbersome process, Financial inclusion, Micro financing, Multi agency approach, Priority sector.

INTRODUCTION

Indian economy still has the dominance of agriculture and agriculture is the key sector of economy. This sector contributes 17% of GDP and provides livelihood to 67% of the working population of country. Nearly 10% of the total exports of country are shared by agriculture. Development of agriculture is a necessary prerequisite for the overall development of Indian economy but the growth of this sector is lagging behind in comparison to growth of other sectors. Agriculture growth rate is 3% while industry 7.1%, services 10%.

TABLE 1: YEAR ON YEAR GROWTH RATE IN PERCENT

Annual rates	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Agriculture	5.1	4.2	5.8	-0.1	0.4	6.6	3.0
Industry	9.7	12.2	9.7	4.4	8.0	7.9	7.1
Services	11.0	10.1	10.3	10.1	10.1	9.4	10.0
Non-agriculture	10.5	10.8	10.1	8.2	9.4	8.9	9.0

A break through in this sector is thus essential for placing the economy on sound footing. Before nationalization of banks, the main source of rural credit was moneylenders. Exploitation, substandard practices and high rate of interest were the stigma on this sector. In 1969, govt. nationalized commercial banks. The preamble of this act stated "The banking system touches the lives of millions and has to be inspired by large social purpose and has to serve national priorities and objectives such as rapid growth of agriculture, small industry and export rising of employment level and development of backward areas". Disguised unemployment and low productivity are the main negative features of agriculture sector. Credit plays a vital role for the development of agriculture. As this sector generates low income or surplus due to increasing cost of inputs and implements, resulting Indian agriculture a way of sustenance not a surplus yielding work. Use of technology and high yielding varieties of seeds is still cry for mars for marginal and small farmers. Credit needs is beneficiary for all types of farmers. However it is inevitable for small and marginal farmers which constitute 78% of the total farmers. Small farmers having holding less than 2 hectares and marginal farmers having holding less than 1 hectare. Economy of Indian farmers is dualistic where existence of two different segments. One segment of the economy is developed, makes use of modern technique of production and is usually market oriented and have a few problems regarding bank finance. The other segment is subsistence type of economy that makes use of primitive methods of production and has various problems in financing agriculture credit.

Agricultural credit needs can be classified in three categories:

1. Short term
2. Medium term
3. Long term

Short term needs varies between 3 months to 15 months it is seasonal and for purchasing of seeds, fertilizers, pesticides and payment of wages and operational expenses. This type of need is mostly required by all farmers.

Medium term needs varies between 15 months to 5 years for the purchase of cattle, small agricultural implements, repairs and constructional wells etc.

Long term needs are required for the permanent improvement on lands, digging tube wells, purchase of larger agricultural implements and machinery like tractor, harvesters etc and repayment of old debts. The period of such credit extends beyond 5 years. Commercial banks provide two types of loan i.e. crop loan and investment loan. Crop loan is a short term loan, stands due for repayment immediately after the harvesting of the crop whereas investment loan is a long term loan required for the purposes of capital formation on land.

SOURCES OF AGRICULTURAL CREDIT

The various sources of agricultural credit can be classified in two groups.

- 1) Non Institutional Agencies
- 2) Institutional Agencies

Non institutional agencies include the local village money lender and their agents and landlords. Institutional agencies include government, cooperative societies, commercial banks including regional rural banks and NABARD at apex level for refinance.

TABLE 2 – SOURCES OF AGRICULTURAL CREDIT (In %)

Source	1952-52	1961-62	1970-71	1981-82	1991-92	2002-03	2010-11
Government	3.3	2.6	3.6	4	6.1	3	4
Cooperative societies	3.1	15.5	22.7	28.6	21.6	26	24.9
Commercial banks	.9	.6	4.0	28	33.7	27	43.1
Moneylenders	90.9	67.4	68.4	38.8	32.7	41	21.9
Others	1.8	13.9	1.3	.6	5.9	3	6.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Report of the all India rural credit review committee 1969, RBI bulletin and NSSO, May 2011, Economic Survey 2010-11

POLICY DEVELOPMENTS IN RESPECT OF AGRICULTURAL CREDIT

Government and RBI views in respect of agricultural credit policy, can be divided into two phases

- 1) Period before 1970

Before 1970 the government was committed to the exclusive development of cooperatives as major source of institutional credit in rural areas. This period is called cooperative period.

- 2) Period since 1970

Two major developments occurred; the first was the green revolution in the wake of adoption of the new agricultural technology.

The second was the nationalization of 14 major commercial banks in July 1969 (six more commercial banks were nationalized in April 1980). Multi agency Approach (MAA) was started regarding agricultural and rural credit. Commercial banks began to participate with full heart in agriculture finance. Two new institutions known as regional rural banks and the farmers service societies were also established during this period. The following table shows the share of commercial banks and cooperatives in India.

TABLE 3 - RELATIVE SHARE OF COMMERCIAL BANKS AND COOPERATIVES (%)

Year	Co-operatives	Commercial Banks	Regional Rural
1970-71	100.0	-	-
1980-81	61.6	38.4	-
1990-91	49.0	47.6	3.4
2000-01	39.4	52.6	8.0
2001-02	38.0	54.1	7.9
2002-03	34.1	57.2	8.7
2003-04	31.0	60.3	8.7
2004-05	25.0	65.0	10.0
2005-06	21.8	69.7	8.5
2009-10	19.6	71.8	8.6

Sources – Economic survey of India

REVIEW OF THE LITERATURE

There are some studies related to the development of rural economy and bank finance but very few have studied the problems faced by farmers. Present study is a micro level study about problems of farmers in getting loan from banks. Katter (92) concluded in their article that after nationalization of banks, there was increase in saving, investment, productivity of capital and GDP; however the desired goals were not fully met. Yadav (2005) highlighted the role of Regional rural bank in rural development. Das (2007) has made a sincere attempt to establish the relationship between commercial bank and rural development. Sharma Lokesh, Parul D and associates (2011) concluded in his paper that how bank are shaping the rural economy and playing catalytic rule in the development of economy. NABARD has indirect positive effects on rural credit and rural development, stated in his paper by Shrivastav P.K (2009). Still there is a need of some more study about multi agency approach (MAA) in agriculture credit in India. Are these agencies overlapping? What is their individual area of work and their problems? Present study is an attempt in this regard.

OBJECTIVES OF THE STUDY

The main objectives of the study are:

- To provide an analysis of various steps taken by commercial banks regarding agricultural credit after nationalization and their impact on economic development of rural area.
- To know the problems faced by farmers in getting agricultural credit from banks especially for small and marginal farmers.
- To highlight the future of multi agency approach in agriculture finance in India.
- To suggest some new ideas about financial inclusion for landless and marginal farmers.
- To suggest some new avenues to penetrate the role of banks in rural development.
- To provide a comparative picture of various agencies providing agricultural credit in India.

RESEARCH METHODOLOGY

The nature of present study is analytical and empirical. For analytical work secondary data from various reports and surveys are used and for empirical portion, primary data is used collected through questionnaire. Purposive discussions with bank official were held time to time. A questionnaire with asking various problems faced by farmers in getting agriculture credit from bank was given but filled by investigators. Our sample unit is 120 borrower farmers from sample area (Kashipur block of Udham Singh nagar distt.). Further this sample unit of borrowers is stratified in marginal and small farmers, medium farmers and big farmers in proportion of 3:2:1 so that marginal and small farmers can get a justified presentation in this study.

MICROFINANCING – NEW AVENUE FOR COMMERCIAL BANKS

The microfinance approach or tool has emerged as an important development in banking for channelizing credit for poverty alleviation directly & effectively. It is a part of bank's priority sector loans. Microfinance involves small loans to the poor without any collateral for undertaking self-employment projects. Loan amount up to Rs. 25000 extended to the poor. Microfinance scheme in India have emerged as major avenues for bringing the poor within the purview of the organized financial sector. It has eradicated money lenders web from poor rural India. RBI & NABARD define microfinance as the "provision of thrift credit & other financial services & products of very small amounts to the poor enabling them to raise their income levels & improve living standards". For providing microfinance in rural area, national bank of agriculture and rural development (NABARD) started self help groups (SHGs) and bank linkage program in 1992.

Under this programme, banks provide loans to SHGs for their activities. These SHGs also deposit their saving in the banks which helps in capital formation. SHGs – bank linkage programme currently covers 523 districts in all the state & 504 banks including 48 commercial banks, 192 RRBs, 264 co-operative banks, & 2800 NGOs are associated with this programme. More than 90% of the SHGs linked with bank are exclusive women groups. The experience so far indicated that microfinance approach is viable approach; the repayment rates under the programme have been higher than about 95% of the loans.

TABLE 4: SHG - BANKING LINKAGE PROGRAM PROGRESS

Agency	No. of SHGs(000)		Loans distributed	
	2007-08	2008-09	2007-08	2008-09
Commercial banks	735	1005	5404	8061
RRBs	328	406	2652	3193
Cooperative bank	165	199	794	999
Total	1228	1610	8849	12254

Source: NABARD Annual report 2008-09.

ANALYSIS & INTERPRETATION OF FINDINGS

Data received through questionnaire are analyzed in three categories A. Problems of marginal and small farmers B. problems of medium farmers C. problems of big farmers. Almost all marginal and small farmers responded about problems and there high rank problems are – high rate of interest on loan, lack of financial knowledge about bank products and plans and cumbersome process of getting loans and lack of security and collateral. Medium farmers responded there problems rank wise as cumbersome process of getting loan, lack of financial knowledge and high rate of interest. Bank staff is not cooperative it is also reported by this group. Responded top problems of big farmers are as – cumbersome process of getting loan, bank staff is not cooperative, lack of financial knowledge and high interest rate. Some common problems faced by all the three groups of farmers are cumbersome process of getting loan, high rate of interest and bank staff is not cooperative.

TABLE 5 (a) PROBLEMS FACED BY MARGINAL AND SMALL FARMERS (Rank wise)

High rate of interest on loan	I
Lack of financial knowledge	II
Cumbersome process of getting loan	III
Bank staff is not cooperative	IV
Lack of security of collateral	V
Fear factor about recovery process	VI

TABLE 5 (b) PROBLEMS FACED BY MEDIUM FARMERS (Rank wise)

Cumbersome process of getting loan	I
High rate of interest on loan	II
Lack of financial knowledge	III
Bank staff is not cooperative	IV
Fear factor about recovery process	V

TABLE 5 (c) PROBLEMS FACED BY BIG FARMERS (Rank wise)

Cumbersome process of getting loan	I
Bank staff is not cooperative	II
Lack of entrepreneurship in agriculture sector	III
High rate of interest on loan	IV
Loan amount is not sufficient	V

SUGGESTIONS AND CONCLUSION

There are many studies are in trends at macro level on agricultural finance by commercial banks but study at micro level about problems faced by farmers is out of vogue and need of the time for realistic approach. The present study is an attempt in this regard and will serve a base for future policy makers. All types of farmers have responded high interest rate and cumbersome process of getting loan. policy maker's should simplify the procedure of agriculture credit, interest rate for marginal and small farmers should be reduced and about problem of lack of cooperation by bank staff,--training college of bank staff should provide compulsory rural oriented training. Education about financial knowledge (financial inclusion) to marginal and small farmers be spread through NGOs and educational institutions. Role of government should strictly be adhesive to infrastructure development like road, transport, irrigation and electricity Micro financing (bank linkage) is a right step for financial inclusion. Recovery process of loan must be elastic and based on reality. Fear factor about recovery process of bank amongst rural poor should be reduced through education. For landless marginal and small farmers priority should be given for this deprived sector and image of bank be presented in rural society as friend, philosopher and guide.

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MULTIPLE FACETS OF ORGAN TRANSPLANTATION IN A TERTIARY CARE HOSPITAL MANAGEMENT, INDIA

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ABSTRACT

First successful kidney transplantation occurred in 1954 & Liver transplant occurred in 1967, at U.S.A. Organs for transplantation comes from either from live donor or brain dead person. The major donor organs and tissues harvested from brain dead are heart, lungs, liver, pancreas, kidneys, eyes, heart valves, skin, bones, bone marrow, connective tissues, middle ear and blood vessels. Developed countries have pursued organ transplantation in a proactive manner as this is the only hope for end stage diseases. Allocation of donated organs of a brain dead person goes to their own citizens as the organ availability is scarce. Hence each nation has to promote the organ allocation fairly through transplantation committees and also has to provide the legal platform. The introduction of Act Transplantation of Human Organ facilitated the Indian perspective of organ transplantations. India has huge number of patients requiring organ transplantation, only handful of hospitals has infrastructure for transplantations. In western countries organs are transported to the patient site in contrast to India where patient is shifted to the place where organ is retrieved due to legal, transportation and infrastructure problems. The objective of this paper is to refine managerial plans and preparedness to have smooth operation of transplantation programme in a tertiary care hospital by look back of earlier efforts. Data of transplantation BGS Global Hospital, Bangalore, Media reports, Important Judgments in medico legal cases of transplantations has been used. Transplantation programmes in India are in upward phase. Problems faced are lack of organ donation awareness among public, patients and police, stringent laws and finance. Medical professionals working in transplantation field need to be facilitated legally, managerially and infrastructure wise to continue the highly skilled transplantation surgeries in India.

KEYWORDS

Organ Transplantations, Organ Allocation, Brain dead, Transplantation committee.

INTRODUCTION

First successful kidney transplantation occurred in 1954 & Liver transplant occurred in 1967, at U.S.A. Organs for transplantation comes from either from live donor or brain dead person. The major donor organs and tissues harvested from brain dead are heart, lungs, liver, pancreas, kidneys, eyes, heart valves, skin, bones, bone marrow, connective tissues, middle ear and blood vessels. Developed countries have pursued organ transplantation in a proactive manner as this is the only hope for end stage diseases. Allocation of donated organs of a brain dead person goes to their own citizens as the organ availability is scarce. Hence each nation has to promote the organ allocation fairly through transplantation committees and also has to provide the legal platform. The introduction of Act Transplantation of Human Organ facilitated the Indian perspective of organ transplantations. India has huge number of patients requiring organ transplantation, only handful of hospitals has infrastructure for transplantations. In western countries organs are transported to the patient site in contrast to India where patient is shifted to the place where organ is retrieved due to legal, transportation and infrastructure problems. Patients with end stage disease can be provided a new lease of life through cadaveric transplant programs.

The Transplantation of Human Organ Act, Act No. 42 of 1994, heralded a new era in Indian Surgery. This legislation was constituted on similar basis of UK Transplant Act. The Transplantation Of Human Organs Rules, 1995 defines Authority for removal of human organ, Duties of the Medical Practitioner, Authorisation committee, Preservation of organs, Composition of Authorization Committees, Registration of hospital and Conditions for grant of certificate of registration. The essence of this legislation is three folds: To accept the concept of brain death, to discourage commercial dealing in organs and also defined the first relative (father, mother, brother, sister, son, daughter and wife) who could donate organs without permission from the government. Organ transplant law does not permit exchange of money between the organ donor and the recipient. As per the Act, the unrelated donor has to file an affidavit in the court of a magistrate stating that the organ is being donated altruistically without monetary benefits. Live donor has to undergo number of tests before the actual transplant. In transplants where donor not a first relative, an approval had to be obtained by a government appointed authorization committee. The Authorization Committee for organ transplantation set up for the purpose goes through all the documents required under the act. If it is suspicious of money exchange in the process, both the recipient as well as the donor are considered as offenders under the law, as Indian law bans organ sales. Also no foreigner can get a local donor from India and the penalty for the organ trade is also very high. Every State has a Zonal Coordination Committee (ZTCC) for authorization of transplantation and are meant to scrutinize all applications for unrelated transplants, Organ sharing and to monitor their functioning of transplantation units. All hospitals conducting transplants have to register with ZTCC committees. Voluntary organizations and media have played a vital role in India on ethical issues to avoid malpractice in organ transplantation. State medical councils have powers of investigation.

As per the Transplantation of Human Organs Rules, 1995 (Gsr No. 51(E), Dr. 4-2-1995) as amended Vide GSR 571 (E), Dt.31-7-2008, Form 1(A) need to be completed by the prospective related donor. The Report Of Transplant Of Human Organs Act Review Committee (as per the Delhi High Court Judgement dated 06.09.2004 in W.P. no.813/2004 to review the provisions of the Transplantation of Human Organs Act, 1994 and the Transplantation of Human Organs Rules,1995) provided recommendations for where all proposed donors including 'near relatives' should be scrutinized by a committee (the authorization committee). Also defines composition of hospital based authorization committees, composition of state/ district level authorization committees, quorum of the committee, frequency of meetings, jurisdiction and guidelines for working of the authorization committee. These changes in law s are projected to make easy for genuine cases of transplantations to save life and at the same time increases the transparency in transplantation procedures and also to puts restraint for violation of the law.

In case of Brain dead patients, relatives are educated about organ donation by doctors and social workers. Multiple organs such as kidneys, liver, pancreas heart, lungs and corneas can be donated which saves several patients and rightly quoted as let some ones sunset can become sun rise for several. All religions on earth promote goodness and donation till our end. Hence organ donation is not having prohibition in any of the religion.

The ABO and HLA systems are major transplantation antigens in man. ABO antigens are present in most body tissues as well as on RBCs. Hence the organ transplanted has to be ABO group compatible with patient. Histocompatibility (HLA) testing is also performed in preparation for organ transplantation. Histocompatibility testing minimizes graft foreignness and reduce rejection of transplanted organ. The type of histocompatibility testing performed varies on the organ or tissue transplanted. The reasons for this variability are related to immunogenicity of organs and the cold ischemic times for different organs. It is advantageous to perform extensive histocompatibility testing for the most immunogenic organs. Patients can have HLA antibody as a result of transfusions, prior transplants, and/or pregnancies. Because the development of antibodies change over time, the potential renal transplant candidate is usually screened on a regular basis. Renal transplantations can be made safer by performing these tests. People who are transplanted cadaver kidneys, about 93% are still alive after 1 year, and 75% are alive after 5 years. However, the length of cold ischemia time an organ will tolerate limits the extensive testing. The maximum cold ischemia time for heart transplantation is 4 hours, restricts HLA typing between donor and recipient. Donor-specific cross-matching has limited relevance to liver transplantation because the liver allograft is relatively resistant to rejection. Liver is the least immunogenic without extensive tests transplantations can be carried. A shared organ between different hospitals increases the chance of equal distribution and increases the success rate of transplantations.

MOHAN Foundation of India started in 1997 in Chennai by philanthropists and medical professionals led by Dr. Sunil Shroff are committed to increasing the Transplantations of Human Organs to needy patients are doing a commendable job. The meaning of MOHAN Foundation is Multi Organ Harvesting Aid Network and is a support group for patient, physicians and public. They conduct awareness programmes for public, training programmes for counselors, donor memoirs, patient support group and Indian Network for Organ Sharing (INOS) along with a news letter on transplantation.

REVIEW OF LITERATURE

Transplantation medicine is one of the most challenging and complex technology of modern medicine. Main problem for medical management after transplantation is transplant rejection, can be reduced through HLA serotyping and use of immunosuppressant. A transplantation surgery encompasses distinct legal, ethical, financial, administrative and managerial issues apart from cutting edge technology.

LANDMARKS IN ORGAN TRANSPLANTATION ARE

- 1905: First successful cornea transplant by Eduard Zirm [Czech Republic]
- 1954: First successful kidney transplant by J. Hartwell Harrison and Joseph Murray (Boston, U.S.A.)
- 1966: First successful pancreas transplant by Richard Lillehei and William Kelly (Minnesota, U.S.A.)
- 1967: First successful liver transplant by Thomas Starzl (Denver, U.S.A.)
- 1967: First successful heart transplant by Christian Barnard (Cape Town, South Africa)
- 1981: First successful heart/lung transplant by Bruce Reitz (Stanford, U.S.A.)
- 1984: First successful double organ transplant by Thomas Starzl and Henry T. Bahnson (Pittsburgh, U.S.A.)
- 1997: First successful allogeneic vascularized transplantation of a fresh and perfused human knee joint by Gunther O. Hofmann
- 1998: First successful live-donor partial pancreas transplant by David Sutherland (Minnesota, U.S.A.)
- 2008: First baby born from transplanted ovary by James Randerson

Both developing and developed countries have promoted policies to increase the safety of transplantation and availability of organs to their people. Brazil, France, Italy, Poland and Spain have legality that all adults are potential donors with the "opting out" policy. In spite of changes in law, Potential recipients all over world are in misery due to long waiting list as a result of limited availability of donors. Limited availability of organs in the world is due to lack of awareness, lack of infrastructure, lack of emergency preparedness, lack of finance and managerial policies & process management.

The American Organ Transplant Association provides a comprehensive list of information of more than 60 Transplant Centers throughout the U.S. and several international centers along with access to complete list of an estimated 300 U.S. Transplant Centers linked to UNOS. Many countries have also put in place "opt-out" organ donation systems, known as "presumed consent" systems. Donation of organs and tissues can save lives when there is no hope available. Each day about 50-60 people receive an organ transplant while another 15 or so on the waiting list reach fatality because not enough organs are available. Typically a hospital representative will ask the family of the deceased (brain dead) to donate their organs and will proceed based on what the family wishes, regardless of the wishes of the person who is brain dead. United Network for Organ Sharing (UNOS) of USA is a private, non-profit organization that manages the nation's organ transplant system under contract with the federal government and are involved in many aspects of the organ transplantation and donation process, maintain the national transplant waiting list, matching donors to recipients 24 hours a day throughout year, Maintain the database that contains all organ transplant data for every transplant event that occurs in the U.S, develop policies that make the best use of the limited supply of organs and give all patients a fair chance at receiving the organs, They also provide assistance to patients, family members and friends, educate transplant professionals and public about the organ donation. Waiting list of patients waiting for transplantation goes up to lakh in USA and transplants in month of Jan.2012 were 2236. Maximem numbers of transplants are done in USA.

In the UK only approximately 900 individuals become organ donors each year, while more than 6000 people are waiting for organs. 1000 patients each year die waiting as there are not enough organs available. National Health system, UK government organization promotes transplantation. 7,553 people were waiting for transplants on April.2012. In UK from April 2010 - March 2011: 3,740 organ transplants were carried utilizing 2,055 donors organs. 1,008 lives were saved in the UK through a heart, lung, liver or combined heart/lungs, liver/kidney, liver/pancreas or heart/kidney transplants. Also 2,732 patients were significantly improved by a kidney or pancreas transplant. 156 patients received a combined kidney/pancreas transplant. 1,045 living donor kidney transplants were performed accounted for more than a third of all renal transplants. 'Non-directed' living donor transplants (also known as altruistic donor transplants) and paired and pooled donations contributed more than 60 kidney transplants. Almost 675,000 more people in UK pledged to help others after their death by registering their wishes on the NHS Organ Donor Register, bringing the total to 17,751,795 on March 2011.

The Australian Organ Donor Register (the Donor Register) is authorized by a service arrangement under subsection 7(2) of the *Medicare Australia Act 1973*. The Australian Organ Donor Register was established in November 2000 and is the only national register for organ donation for transplantation. The Donor Register keeps a record of donation decision and of the organ and tissue agreed to donate. Around 1700 patients in Australian organ transplant programme are in waiting lists at any time. Since 1965, more than 30 000 Australians have received transplants. Organ transplants are undertaken in both government and private hospitals in the South Africa. In the early days, the majority of transplants were carried out in government hospitals. Most are now carried out in private hospitals. However, a significant number are still carried out in government hospitals.

Countries that practiced the increases in organ donation during recent years are Spain and Italy, employed more transplant coordinators, started community awareness campaigns, installed 24-hour organ retrieval teams at their hospitals and enhanced training for doctors who counsel grieving families with brain dead patients. Spain, which has very high organ donation rates per lakh population, is best-known example.

Singapore implemented Medical (Therapy, Education and Research) Act (MTERA) in 1973 with Opt-in system allowed person to donate his body to therapy (including transplant), education or research and act also allows relatives to provide consent for donation. Later Human Organ Transplant Act implemented in 1987 with Opt-out system. HOTA (Human Organ Transplant Act) refers to the law that covers the removal of any organ from the body of a dead person to transplant to patients. Due to the amendments to HOTA the number of patients awaiting a kidney transplant dropped from 673 in 2003 to 605 in mid-2006. In 2004 -2006, at least 130 people have received transplants under the revised Act. Despite the opt-out kidney transplant law, which allows organs to be taken from accident victims, the waiting list grows yearly, with more than 660 on the list at the end of 2009. The average waiting time in Singapore is seven years for a cadaveric kidney. The first cadaveric kidney transplant in Singapore was performed in 1970 and first heart and liver transplants in Singapore in 1990. The increase in the number of organ transplant programmes in Singapore led to the establishment of the Ministry of Health National Organ Transplant Unit to facilitate organ harvesting to meet the requirements of the various transplant teams.

Sweden, which has an "opt-out" system, has a relatively low rate of donation in comparison with other developed countries and the United States has one of the highest rates. As Kieran Healy, a sociologist at Duke University explains this is not because of "opt-out" and "opt-in" systems in practice. In both, doctors still typically follow the wishes of the deceased's family, whatever the official donor status of the deceased. Organizational strategies in terms of logistics and process management are deciding factors in increasing organ transplantation therapy.

STATEMENT OF THE PROBLEM

Organ Transplantation in medical industry has helped in saving the lives of patients who would have died otherwise. There is immense requirement and want for human organs for transplantation. In fact, the need far exceeds the supply of transplantable organs. This disparity has led to the formulation of various legislations, attempting to regulate the scarce resources (human organs) and to establish an reasonably equitable system to allocate the organs where the most good is achieved. Worldwide, the demand for organs is growing every year, as the supply of organs and tissues for transplantation has not kept increasing with the demand.

Every year, almost two lakh people in India need kidney transplants and there are only 4,000 people donating them as per Narendra Saini, media co-coordinator of the Indian Medical Association in Delhi. Experts assess 15 % of adults in urban India are diabetic and 40 % of them are likely to develop kidney problems. Every Year over 1,50,000 new patients require dialysis or kidney transplant. We have lakhs of people suffering from liver, biliary and pancreas diseases in end stage requiring transplantation. The number of fatal road traffic accidents every year in India is constantly increasing and averages of about 8,500 per year. At any given time there are 8 - 10 brain dead patients in different hospital ICU's in several major cities of the country. Potentially a pool of brain death donors is available in India. One brain dead patient can help seven patients in critical stages to lead normal lives. No other fields of medicine have ethical, moral, legal, administrative and social issues as that of organ transplantation.

In 1967 the first successful cadaver kidney transplantation was done at KEM Hospital, Mumbai. In 1994 the first successful heart transplant was done at AIIMS, New Delhi and in 1995 the first successful multi-organ transplant was done at Apollo Hospital, Chennai. First successful cadaveric liver transplant in India done by Dr Soin in 1998. Countable number of hospitals has taken up transplantation programme. The Total Cadaver Transplants activities For various solid organs from Jan 1995 to Jun 2005 were - Kidney 379, Heart 34, Liver 12, Pancreas 02, Lungs 01 - TOTAL 428 were performed at 35 hospitals in the country from various regions have undertaken cadaver transplants. Chennai has done the maximum number of cadaver transplants in the country (189). Besides Chennai the other cities where the cadaver organ transplantation is taking place include New Delhi (68), Ahmedabad (46), Pune (32), Bangalore (32), Vellore (22), Mumbai (20) and Coimbatore (12). 13 hospitals in India from 1971 to Feb. 2006 performed total 12294 renal transplantations.

In India, there is a need of approximately 1,75,000 kidneys, 50,000 hearts and 50,000 livers for transplantation every year.* 5,000 kidney transplants in 180 centres, 400 livers in 25 centres and 10-15 hearts in very few centres are done annually.

A railway police from Mumbai refused to give an NOC to a hospital Feb.2012 to retrieve the organs of a deceased 61yrs male who was in a brain-dead state, collapsed at railway station and suffered an intracranial bleed. The GRP's contention was that the panchnama could only be conducted after the hospital issues a death certificate (complete death of a patient). After the standoff, deceased family withdrew its consent for the organ donation. Thus patients awaiting for transplantation and medical professionals specially transplantation team had a set back. Dr Pravin Shingare, the acting head of the Department of Medical Education and Research (DMER), said the government would soon issue a circular stating the protocol to be followed in case of brain-death donations. The circular will state that policemen should consider the brain-stem death certificate issued by hospitals as a death certificate. They should then carry out investigations and give the NOC needed by the hospital to retrieve organs. Each government- staff involved with accidents and postmortem need to be sensitized in a manner that the donor family's altruistic act is appreciated. In two recent medical negligence cases from Karnataka involving patient's undergone transplantations, showed irregularity in taking consent with one hospital lost the license to perform transplantation and another hospital has to pay the compensation. To promote brain death cadaver donation some changes are needed in Human Organ Transplantation Act like required intimation of brain death to relatives, procedures in law to make it obligatory for the ICU staff to propose organ donations and request their consent for the same. In accident cases with medico-legal status facilitated for 'post mortem' to undertake at the same time as the 'Organ retrieval' surgery procedures to be done simultaneously, Shifting patient from one hospital for Organ donation to another for post mortem makes relatives very emotionally traumatized and delays the process of handing over the body. Most importantly, there is a need to spread awareness at every level. Surprisingly, Nurses and Medical students also do not know about the Act. That means that they need to be educated more about the Act, along with the rest of the population. It has been seen that the willingness to donate organs is directly proportional to the level of education, which needs to be increased. We must take up organ transplantation programme to where it really is in the right places as a modern medical advance permitting one human being to make the gift of life to another. We should make organ transplants affordable by the average citizen in our public institutions and all suffering patients get a chance to live irrespective of caste, age, sex, strata and language.

IMPORTANCE OF THE STUDY

Organ Transplantation is a tertiary care treatment need to be offered to patients with organ failure as a only hope to live. Hence in this study we have explored the key issues of transplantation setbacks and success in different nations, license, prerequisites to set up transplantation centre of managerial concerns, introspect few judgments of transplantation related medico legal cases and promotion of organ transplantation through zonal centres and tertiary care hospitals towards betterment of Indian transplantation programme.

AIMS AND OBJECTIVES

To refine managerial plans and preparedness to have smooth operation of transplantation programme in a tertiary care hospital by look back of earlier efforts.

MATERIAL AND METHODS

Data of transplantation BGS Global Hospital, Bangalore, Media reports, Important Judgments in medico legal cases of transplantations.

RESULTS & DISCUSSION

The Zonal Coordination Committee of Karnataka (ZCCK) is situated in Bangalore. Purpose of the Zonal Coordination Committee of Karnataka to realize the cadaveric transplant program in the state of Karnataka with goal of increasing availability and access to donor organs for patients with end stage organ failure. They are supervising efficient cadaver organ procurement and also involved in fair distribution. A System of organ sharing is Set up has organ allocation criteria,

Provided a system that immunologically sensitized patients are offered best possible solutions, Minimize wastage of organs, assurance in quality control by collection, analysis & publications of data on organ transplantations, add to public awareness, make easy availability of organ donors by conducting awareness programs.

To facilitate availability and transplantation of organ for organ failed individuals, the procedures followed is given below:

Uphold a recipient waiting list of patients referred by hospital, patients will be registered at ZCKK office, organs allocated as & when available as per the criteria(criteria will be revised from time to time in consultation with the medical fraternity), facilitate organ retrieval & transport, carry out public awareness programs. The purpose of the transplantation registry is to collect data for continuous evaluation of status of transplantation in the state of Karnataka. Every recognized transplant center should submit to ZCKK following information every month including activities of the coordinator appointed by the hospital towards the promotion of the cadaveric programme, List cadaveric transplant promotional activities. Each recognized transplant center should have "Counseling Mechanism" within their hospitals to care for the needs of families of critically ill patients. Every center should have an ethics committee to attend to various ethical issues. To facilitate working of ZCKK has Management committee members and Executive committee members.

Establishment of Transplantation centre:

Global Hospitals in India started transplantations because of visionary Dr.K.Ravindranathan realizing the significance of transplantations for Indian people and exceptional transplantation units started in Hyderabad, Chennai and Bangalore. Many more units in major cities are coming up phase wise.

1. License to perform Transplantation surgery- BGS Global Hospital is a tertiary care hospital with Neuro ICU, well equipped Transplantation OT and renal/cardiac/liver ICU facilities. Hospital has License to perform renal, liver, heart, lung and haemo transplantation.
2. Human resources-Hospital has team of transplantation surgeons trained abroad, trained OT/ICU/Ward staff, transplantation coordinators.
3. Infrastructure-BGS Global Hospital has provided infrastructure on par with best technology available in the world for transplantations.
4. Supportive services-Supportive services LIKE lab, radiology, bloodbank, physiotherapy and dietary care is available. Administrative and managerial services of the hospital fully support transplantation day and night. Legal formalities are completed with at most care.
5. Transplantation committee- Hospital has Transplantation committee to review cases and to increase the efficiency of transplantation services.
6. Intensive care for transplantation recipient and donor- Intensive care for transplantation recipient and donor is available.
7. Post transplantation Follow-up of patients are provided- Care of Post transplantation complications dealt by team of physicians and surgeons.
8. Review of transplantations is done by Transplantation committee and hospital management keeping in view continuous quality improvement.

We started transplantation programme in 2009 and our statistics are -

Year	KIDNEY TRASPLANTATION	LIVER TRASPLANTATION
2009	5	0
2010	7	6
2011	12	3
2012 upto 15.04.2012	9	5
Waiting list of patients on D.15.04.2012	59	21

	Total Transplantations	Live donors	Brain Dead Donors (Organ Allocation)
KIDNEY TRASPLANTATION	33	26	7 (4 organs own hospital & 3 organs other hospitals)
LIVER TRASPLANTATION	14	1	13 (8 organs own hospital & 5 organs other hospitals)

We have also geared up towards heart, lung, pancreas and bone marrow transplantations. Efforts made by our hospitals will contribute towards better transplantation programmes in India and in future each deserving patient will get an opportunity to survive.

CONCLUSION

Transplantation programmes in India are in upward phase. Problems faced are lack of organ donation awareness among public, patients and police, stringent laws and finance. Medical professionals working in transplantation field need to be facilitated legally, managerially and infrastructure wise to continue the highly skilled transplantation surgeries in India.

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FDI, TRADE, AND ECONOMIC GROWTH IN SINGAPORE--EVIDENCE FROM TIME-SERIES CAUSALITY ANALYSES

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ABSTRACT

This paper investigates the relationship between Trade, Foreign Direct Investment (FDI), and Gross Domestic Product (GDP) for Singapore over the period 1970-2010. The literature on Foreign Direct Investment (FDI), Trade and economic growth generally points to a positive Trade and Foreign Direct Investment (FDI)-Growth relationship. However, very few studies offer direct tests of causality to the three variables. The economic growth may induce trade and Foreign Direct Investment (FDI) stimulates economic growth. The present analysis focuses on Singapore, where growth of Exports has been the most pronounced. The Cointegration analysis suggested that there is a long-run equilibrium relationship. The results of Granger causality test showed that there is a causal relationship between the examined variables.

KEYWORDS

Causality, Cointegration, Exports, Foreign Direct Investment, Imports, Stationarity.

1.1: INTRODUCTION

Foreign Direct Investment (FDI) refers to long term participation by one country into another country. It usually involves participation in management, joint-venture, transfer of technology and expertise. FDI can be a significant driver of development in poor nations. Many of the East Asian tigers such as China, Singapore and Malaysia benefited from investment abroad. The Gross Domestic Product (GDP) is a measure of a country's overall economic output. It is the market value of all final goods and services made within the borders of a country in a year.

Singapore has historically been reliant on external trade from 2004 to 2008; total trade was about 3.5 times India's GDP (Economic Survey of Singapore- 2008). The extent to which the FDI - trade relationship is affected by host-country heterogeneity. The counts and values of Japanese aggregate FDI and trade flows into more than- 100 geographically and developmentally diverse countries, it is shown that Japanese FDI in 1990s was generally trade creating. However, the extent to which FDI complemented trade varied by geographic, developmental, and market servicing status of the host countries (Bedassa Tadesse, and Michael Ryan, 2004). The hypothesis is tested in terms of labor and total factor productivity growth and this provides a means of transmission via. which exports can affect or be affected by GDP growth. Considering the impact of imports on GDP growth and productivity growth serve a similar purpose (Renuka mahadevan, 2009).

1.2. IMPORTANCE OF FDI AND EXPORTS INTO ECONOMIC GROWTH:

It is well-known that, "economic miracle" took place in Asia (World Bank, 1993), starting from Japan in the 1960s to early 1970s, followed by four Asian New Industrial Economies (NIEs), Taiwan, Korea, Singapore and Hong Kong, in the 1970s and 1980s.

Thus, institutional and organizational factors aside, the most common economic factor mentioned in these studies is openness of the economy, namely, export promotion policy, and acceptance of inward FDI. The role of trade and FDI have been extensively discussed in recent years both in theory and in practice. Generally speaking, exports, imports, and inward FDI are sources of new ideas, new goods, new domestic competition, and technology transfer from advanced countries. In addition, to attract FDI, the host governments must maintain stable macroeconomic environment and reduce market distortions. All these enhance economic efficiency and productivity of the economy. The positive relation between openness and economic growth seems overwhelming, at least in theory. However, empirical studies of causalities between openness (trade-FDI) and economic growth are mixed at best. Their relations are not as obvious and straightforward, as can be seen in the survey of literature in the following section.

The real GDP levels of all other economies have increased overtime, and except China, all economies were affected by the Asian financial crisis of 1997, and the real GDP levels have become more fluctuating after 1997, although less so in Taiwan, Hong Kong and Singapore. Exports play a vital important role in all nine economies. By 1997, the real exports have exceeded real GDP in Hong Kong and Singapore, almost the same in Malaysia.

Since 1997, East Asian financial crisis, the relationship between FDI, exports and economic growth has gained importance and attention among policy makers and researchers. Due to volatility experienced in the short term capital flows developing and less developed countries shifted their focus from attracting short term capital flows to FDI due to its long term effects. However, the understanding of the long term impacts and benefits of FDI is not clear as FDI is not attracted uniformly to each country which makes it difficult to identify the impact of FDI on economic growth.

In an open economy, technology and trade, especially through exports and imports and thus promote economic growth (Grassman and Gelpman, 1997; Frankel and Romer, 1999; Frankel, Romer, Cyrus, 1996). However, growth also has effects on trade (Rodriguez and Rodrik, 2000). The observations on the FDI - growth nexus and Trade - growth nexus lead us to examine the third side of a triangular relations; FDI - Trade nexus (Frank S.T. Hsiao, and Mei - Chu, W. Hsiao, 2006). The role of trade policy on economic growth has been the focus of considerable academic effort. Openness, namely, the sum of exports and imports to GDP, has been considered one of the main determinants of economic growth.

Export expansion can increase productivity offering greater economies of scale. Exports are likely to alleviate foreign exchange constraints and can thereby provide greater access to international markets (Melina Dritsaki, Caido Dritsaki and Antonios Adamopoulos, 2004). Many early studies of the links between exports and growth confirm a statistical relationship between export growth and out put growth (Michaely, 1977; Krueger, 1978; Balassa, 1978; and Fedder, 1982).

Nevertheless, the results obtained by empirical studies, which recently have applied causality test to examine the nature of a causal relationship between exports and economic growth are also mixed. Although some studies have found a positive association, others resulted in reverse conclusions. It is not clear in the literature to what degree is the positive relation between trade and growth due to the fame that trade is stimulative of growth and to what degree it reflects the fact that growth leads to trade. The rate of economic growth differs from country to country, technological advance increases slowly or rapidly relatively to the economic structure of each country, while when the monetary and fiscal policy are not taking account of, they have a negative effect on economic growth (Melina Dritsaki, Caido Dritsaki and Antonios Adamopoulos, 2004).

The role of trade policy on economic growth has been the focus of considerable academic effort. Openness, namely the sum of exports and imports to GDP, has been considered as one of the main determinants of economic growth. Export-led growth postulates that exports consist the principal channel through which the liberalization process can affect the output level and eventually the rate of economic growth.

2. REVIEW OF LITERATURE

2.1: INTRODUCTION

In this Study is devoted to present a brief review of the earlier works related to the inflows of Foreign Direct Investment, Exports, Imports and GDP in Singapore. The available research works on FDI, Exports, Imports and GDP are given below.

2.2: STUDIES ANALYZING THE RELATIONSHIP BETWEEN FDI, EXPORTS, IMPORTS AND GDP

The empirical and theoretical works have tried to establish the connection either between FDI inflows and Economic Growth. A subset of these works has employed Granger Causality tests to determine the direction of causality in one of these connections, for instance, FDI and Economic growth: Argiro Moudatsou and Dimitrios Kyriakidis (2009), Duasa (2007), Hansen, H, and Rand J. (2006), Chowdhury and Mavrotas (2005), Basu, P, C. Chakraborty and Reagle (2003), Hsiao and Shen (2003), Chakraborty and Badu (2002), Liu et al (2002), Wang (2002), Nair-Reichert and Weinhold (2001), Ericsson and Irandoust (2000); Exports, FDI and Economic Growth: Georgantopoulos and Anastasios D. Tsamis (2011), Reza Ahmadi and Mojtaba Ghanbarzadeh (2011), Adil Khan Miankhel, Shandre Mugan Thangavelu and Kaliappa Kalirajan (2009), Yao (2006), Frank S.T. Hsiao and Mei – Chu W. Hsiao (2006), Metwally (2004), Alia and Dcal, (2003), Balamoune – Lutz (2004), Alici and Ucal (2003), Alguacil, M, Cuadros, A, and Orts, V (2002). But, limited to my knowledge, none studies the causal link of FDI, Exports, Imports and GDP have not been studied much.

Hang T. Nguyen (2011), to examine the impact of trade liberalization on economic growth for Malaysia and South Korea. A four variable vector auto regression (VAR) is used to study the relationships between trade, FDI and economic growth over the time period from 1970 to 2004 (for Malaysia) and from 1976 to 2007 (for Korea). He estimated results from the Granger causality test, impulse response functions and variance decompositions confirm that exports are long-run source of both Malaysia and Korean economic growth. Exports are not affected by the other three variables. The differences in the estimated results are explained by the differences in the economic policies between the two countries.

Muhammad Shahzad Iqbal and Faiz Muhammad Shaikh (2010) to examine the causality relationship between FDI, Trade Economic growth in Pakistan. Using quarterly time series data from 1998 to 2009, this paper examines the causality relationship between foreign direct investment, international trade and economic growth in Pakistan. They used VAR model, the integration and Cointegration analysis suggested that there is a long run relationship among the factors. The results of VECM causality test find bidirectional causality between foreign direct investment, export and economic growth, with are two important factors that enhance the effect of economic growth in Pakistan.

Adil Khan Miankhel, Shandre Mugan Thangavelu and Kaliappa Kalirajan (2009), to analyse in this paper adopts a time series framework of the Vector Error Correction Models (VECM) to study the dynamic relationship between export, FDI and GDP for six emerging countries of Chile, India, Mexico, Malaysia, Pakistan and Thailand. They suggest that in South Asia, there is evidence of an export led growth hypothesis. However, in the long run, we identify GDP growth as the common factor that drives growth in other variables such as exports in the case of Pakistan and FDI in the case of India. The Latin American countries of Mexico and Chile show a different relationship in the short run but in the long run, exports affect the growth of FDI and output. In the case of East Asian countries, we find bi-directional long run relationship among exports, FDI and GDP in Malaysia, while we find a long run uni-directional relationship from GDP to export in case of Thailand.

Mayang Pramadhani, Rakesh Bissondeal and Nigel Driffield (2007) have examined the causal relationships between inward direct investment, growth and trade in Indonesia for the period 1990 – 2004. They seek to establish whether there were strong weak positive of negative associations between the presences of multinational enterprises and Indonesian exports and imports determinant the causal links between the variables.

Nandita Dasgupta (2007) has studied the effects of international trade and investment related macroeconomic variables, namely, exports, imports and FDI inflows on the outflows of FDI from India over from 1970 to 2005. In this paper unidirectional Granger Causality is found from export and import to FDI out flows but no such Causality exists from FDI inflows to the corresponding outflows from India.

Melina Dritsaki, Chaido Dritsaki and Antonios Adamopoulos (2004), investigates the relationship between Trade, FDI and economic growth for Greece over the period 1960-2002. The cointegration analysis suggested that there is a long – run equilibrium relationship. The results of Granger causality test showed that there is a causal relationship between economic growth, trade and FDI.

Liu, Burrige, and Sinclair, (2002), predicted a longitudinal relationship between FDI, trade and the economic growth in China. By using the data for 1981-1997 fiscal years, they found a two-way relationship between FDI, economic growth and import.

Khan and Leng (1997) examine the interactions among inward – FDI, exports and economic growth for Singapore, Taiwan and South Korea, respectively at the aggregate level during the period of 1965 to 1995 by using Granger Causality Test. They claim that there is no evidence to support the causal relationship between FDI and Exports in Taiwan and South Korea. Moreover, a one – way causal relationship which flows from exports to inward FDI is found in Singapore.

3. RELATIONSHIP BETWEEN FDI, TRADE AND GDP FOR SINGAPORE

3.1: INTRODUCTION

In this study, an attempt is made to analyse the broad trends in FDI inflows, Exports, Imports and Economic Growth of Singapore. To be more specific, this study describes the FDI inflows, Exports, Imports in terms of actual value, FDI, Exports, and Imports index no and annual growth rate for Singapore. This analysis was done using 41 years data over the period from 1970 to 2010 for Singapore.

3.2. FOREIGN DIRECT INVESTMENT (FDI) INFLOWS INTO SINGAPORE

The data on FDI inflows into Singapore are given in Table 1. During the decade from 1970 to 1979, the FDI inflow has grown considerably. The value of FDI inflows into Singapore had increased to 836.03 Millions of US Dollars in 1979 from 93 Millions of US Dollars in 1970. The value of index number had increased by 8 times in 1979. In this decade the annual growth rate has grown from -3.57 per cent in 1974 to touch the highest level of 178.76 per cent in 1979. The average value of FDI received by Singapore in this decade works out to 301.3 Millions of US Dollars and the average value of annual growth rate 88.77 per cent per year respectively.

During the next decade from 1980-89, the FDI inflows has declined from 1.66 Billion of US Dollars in 1981 to 1.05 Billion of US Dollars in 1985. During the period from 1986 to 1989, the value of FDI inflows has grown sizably. The value of FDI has risen to 3.66 Billion of US Dollars in 1988 from 1.71 Billion of US Dollars in 1986. In this decade the annual growth rate has increased from - 3.50 per cent in 1982 to touch the highest level of 65.83 per cent in 1987 and then it started showing a decline trend. The average value of FDI received by Singapore in this decade works out to 1.10 Billion of US Dollars and the average value of annual growth rate 14.84 per cent per year respectively.

During the next decade 1990-1999 the FDI inflows has grown sizably. The value of FDI inflows into Singapore had increased to 16.58 Billions of US Dollars in 1999 from 5.57 Billion of -US Dollars in 1990. In this decade the annual growth rate has increased from -12.33 per cent in 1991 to touch the highest level of 126.66 per cent in 1999. The average value of FDI received by Singapore in this decade works out to 8.48 Billion of US Dollars and the average value of annual growth rate 21.93 per cent per year respectively.

During the time period from 2000 to 2010, the FDI inflow has grown sizably. The value of FDI inflows into Singapore had increased from 16.48 Billions of dollars in 2000 to touched 38.64 Billions of US Dollars in 2010. In this period the highest annual growth rate was fixed at 152.89 per cent in 2010. The average value of FDI received by Singapore in this period works out to 18.07 Billion of US Dollars and the average value of annual growth rate 15.61 per cent per year respectively.

3.3. EXPORTS

The data on Export in Singapore are given in Table 2. During the decade from 1970 to 1979 the export value has grown sizably. The value of export in Singapore had increased, from 1.55 Billion of US Dollars in 1970 to 14.23 Billion of US Dollars in 1979. The value of index number had increased by 9 times in 1979. In this decade the annual growth rate has decline from 66.86 per cent in 1973 to -7.45 per cent in 1975 and then started showing an upward trend. The average value of export received by Singapore in this decade works out to 5.95 Billion of US Dollars and the average value of annual growth rate 90.68 per cent per year respectively.

During the next decade from 1980 to 1989, the export has grown considerably. The value of export in Singapore had increased from 19.38 Billion of US Dollars in 1980 to 44.66 Billion of US Dollars in 1989. In this decade the annual growth rate has raised from -0.85 per cent in 1982 to touch the highest level of 37.01 per cent in 1988. The average value of export in this decade works out to 26.50 Billion of US Dollars and the average value of annual growth rate 14.50 per cent per year respectively.

During the next decade from 1990 to 99, the export value has increased from 52.73 Billion of US Dollars in 1990 to touch the high level of 125.01 Billions of US Dollars in 1996 and then it started showing a declining trend. In this decade the annual growth rate has declined from 30.82 per cent in 1994 to -0.02 per cent in 1997. The average value of export in this decade works out to 93.88 Billion of US Dollars and the average value of annual growth rate 13.05 per cent per year respectively.

During the time period from 2000 to 2010, the export value has grown sizably. The value of export in Singapore had increased to 351.87 Billion of US Dollars in 2008 from 121.75 Billion of US Dollars in 2001. In this decade the annual growth rate has increased from -11.64 per cent in 2001 to touch the highest level of 30.40 per cent in 2010. The average value of export in this decade works out to 215.10 Billion of US Dollars and the average value of annual growth rate 18.90 per cent per year respectively.

3.4. IMPORTS

The data on Import in Singapore is given in Table 3. During the decade from 1970 to 1979, the import value has grown sizably. The value of import in Singapore had increased from 2.46 Billion of US Dollars in 1970 to 17.64 Billion of US Dollars in 1979. The value of index number increased by 7 times in 1979. In this decade, the highest value fixed at 63.44 per cent in 1974. The average value of import received by Singapore in this decade works out to 80.58 Billion of US Dollars and the average value of annual growth rate 68.53 per cent per year respectively.

During the next decade from 1980 to 1989, the import value has grown considerably. The value of import in Singapore had increased to 49.66 Billion of US Dollars in 1989 from 24.01 Billion of US Dollars in 1980. The value of index number had increased by 2 times in 1989. In this decade the annual growth rate has grown from -0.03 per cent in 1983 to touched the highest level of 34.72 per cent in 1988. The highest value fixed at 36.06 per cent in 1980. The average value of import received by Singapore in this decade works out to 31.44 Billion of US Dollars and the average value of annual growth rate 11.87 per cent per year respectively.

During the next decade from 1990 to 99, the time period from 1990 to 97 the import value has grown considerably. The value of import in Singapore had increased from 60.77 Billion of US Dollars in 1990 to 132.44 Billion of US Dollars in 1997 and then it started showing a declining trend. In this decade the annual growth rate has declined from 22.38 per cent in 1990 to -20.92 per cent in 1998. The average value of import in this decade works out to 99.10 Billion of US Dollars and the average value of annual growth -rate 9.19 per cent per year respectively.

During the time period from 2000 to 2010, the import value has grown considerably. The value of import in Singapore had increased to 310.79 Billion of US Dollars in 2010 from 116.00 Billion of US Dollars in 2001. In this decade the annual growth rate has grown -13.78 per cent in 2001 to touch the highest level of 26.45 per cent in 2010. The average value of import received by Singapore in this decade works out to 192.78 Billions of dollars and the average value of annual growth rate 16.79 per cent per year respectively.

3.5. BALANCE OF TRADE (BOT)

The data on foreign trade deficit in Singapore are given in Table 4, during the decade from 1970 to 79. The trade balance displayed deficits which was the lowest in 1970 and highest in 1975, respectively 907.81 Millions of US Dollars and 3 billion of US Dollars. During the decade the rate of Export (Import coverage ratio) was the highest in 1979 and the lowest in 1971, respectively 80.67 per cent and 62.05 per cent averaging to the level of 70.59 per cent.

In the next decade the trade balance displayed deficits which was the lowest in 1982 and highest 1986, respectively 7.4 billion of US Dollar and 3 billion of US Dollars. During the decade the rate of Export/ Import coverage ratio was the highest in 1989 and lowest in 1982, respectively 89.94 per cent and 73.80 per cent, averaging to the level of 83.47 per cent. In the next decade in the years 1998 and 1999. The Bot shows a positive trend the trade balance displayed deficits which was the lowest value of 11 billion of US Dollars in 1993, and the highest value of 5176 billion of US dollar in 1998 respectively, in this decade the rate of Exports/Imports coverage ratio was the highest in 1998 and lowest in 1990. Respectively 104.94 per cent and 86.76 per cent averaging to the level of 93.7 per cent.

Since 1998 the Balance of payments shows a positive trend, During the period from 2000 to 2010 the trade between displayed which was the lowest in 2000 and highest in 2010 respectively 3.3 billion of US Dollars and 41.1 billion of US Dollars. During the same time period the rate of Export (Import) coverage ratio was the highest in 2005 and lowest in 2000, respectively 113.86 percent and 102.42 per cent averaging to the level of 110.71 per cent.

3.6. TREND ANALYSIS FOR THE FDI, EXPORTS AND IMPORTS INTO SINGAPORE

3.6.1. FDI

The results of the trend analysis given in Table 5 reveal that the FDI inflows into Singapore increased annually by 49.77 Millions of US Dollars in 1970-79. The regression coefficient of the semi log linear model implies that the FDI inflows increased at the compound growth rate of 18.41 per cent per year. The regression coefficient in simple linear model was significant at the five per cent level and semi log linear model was significant at the one per cent level. The value of adjusted R^2 exceeds 0.5 in both cases. It means that the FDI inflows into Singapore had registered a linear trend in this period around 52 per cent of variations in the dependent variable are explained by the independent variable.

The FDI inflows into Singapore increased annually by 221.02 Millions of US Dollars in 1980-89. The regression coefficient of the semi log linear model implies that FDI inflows increased at the compound growth rate of 10.85 per cent per year. The regression co-efficient in both models are significant at the five per cent level. The value of adjusted R^2 around 0.5 in the both cases. It means that the FDI inflows into Singapore had registered a linear trend in this period and around 56 per cent of variations in the dependent variable are explained by the independent variable.

The FDI inflows into Singapore increased annually by 1162 Millions of US Dollars in 1990-99. The regression co-efficient of the semi log linear model implies that FDI inflows increased at the compound growth rate of 15.84 per cent per year. The regression coefficients in simple linear model were significant at the one per cent level and semi log linear model was significant at the five per cent level. The value of adjusted R^2 exceeds 0.45 in both cases. It means that the FDI inflows into Singapore had registered a linear trend in this period and around 62 per cent of variations in the dependent variable are explained by the independent variable.

The FDI inflows into Singapore increased annually by 1.61 Billion of US Dollars in 2000-10. The regression co-efficient of the semi log linear model implies that FDI inflows increased at the compound growth rate of 7.25 per cent per year. The regression co-efficient in models are insignificant. The value of adjusted R^2 in both models is 0.16 and 0.08 respectively. It means that the FDI inflows into Singapore had registered a linear trend in this period and around 24 per cent of variations in the dependent variable are explained by the independent variable.

Comparing the four periods, 1970-79, 1980-89, 1990-99 and 2000-10 the FDI inflows into Singapore increased annually by the highest amount 1.61 Billion of US Dollars in the fourth period. The highest compound growth rate of 18.41 per cent and was recorded only in 1970-79.

3.6.2. EXPORTS

The results of the trend analysis given in Table 5 imply that the Exports on Singapore increased annually by 1.28 Billion of US Dollars in 1970-79. The regression coefficient of the Semi log linear model implies that the exports increased at the compound growth rate of 27.76 per cent per year. The regression coefficients in the both models are significant at the one per cent level. The value of adjusted R^2 is 0.90 in the simple linear model and it is 0.96 in the semi log linear model. It means that the exports on Singapore has registered a consistent linear trend in this period around 91 per cent of variations in the dependent variable are explained by the independent variable.

The Exports on Singapore increased annually by 2.4 Billion of US Dollars in 1980-89. The regression co-efficient of the semi log linear model implies that Exports increased at the compound growth rate of 8.55 per cent per year. The regression co-efficient in both models are significant at one per cent level. The value of adjusted R^2 is 0.67 in the simple linear model and it is 0.74 in the semi log linear model. It means that the Exports on Singapore has registered a linear trend in this period and around 70 per cent of variations in the dependent variable are explained by the independent variable in the simple linear model.

The Exports on Singapore increased annually by 8.46 Billion of US Dollars in 1990-99. The regression co-efficient of the Semi log linear model implies that exports increased at the compound growth rate of 10.52 per cent per year. The regression coefficients in both models are significant at the one per cent level. The value of adjusted R^2 is 0.77 in the simple linear model and its 0.79 in the semi log linear model. It means that the Exports on Singapore has registered a linear trend in this period and around 79 per cent of variations in the dependent variable are explained by the independent variable in the simple linear model.

The Exports on Singapore increase annually by 24.12 Billion of US Dollars in 2000-10. The regression coefficient of the semi log linear model implies that exports increased at the compound growth rate of 11.63 per cent and per year. The regression coefficients in both models are significant at the one per cent level. The value of adjusted R^2 is 0.88 in the both models. It means that the exports on Singapore have registered a consisted linear trend in this period and 92 per cent of variations in the dependent variable are explained by the independent variable.

Comparing the four periods, 1970-79, 1980-89, 1990-99 and 2000-08 the exports on Singapore increased annually by the highest amount of 24.12 Billions of US Dollars in the fourth period. The highest compound growth rate of 27.76 per cent was recorded only first period.

3.6.3. IMPORTS

The results of the trend analysis given in Table 5 imply that the Imports into Singapore increased annually by 1.55 Billion of Us Dollars in 1970-79. The regression coefficient of the Semi log linear model implies that the Imports increased at the compound growth rate of 24.23 per cent per year. The regression coefficients in the both models are significant at the one per cent level. The value of adjusted R^2 is 0.92 in the simple linear model and it is 0.95 in the semi log linear model. It means that the Imports into Singapore has registered a consistent linear trend in this period around 93 per cent of variations in the dependent variable are explained by the independent variable.

The Imports into Singapore increased annually by 2.16 Billion of US Dollars in 1980-89. The regression co-efficient of the semi log linear model implies that Imports increased at the compound growth rate of 6.29 per cent per year. The regression co-efficient in both models are significant at one per cent level. The value of adjusted R^2 is 0.54 in the simple linear model and it is 0.56 in the semi log linear model. It means that the Imports into Singapore has registered a linear trend in this period and around 59 per cent of variations in the dependent variable are explained by the independent variable in the simple linear model.

The Imports into Singapore increased annually by 7.18 Billion of US Dollars in 1990-99. The regression co-efficient of the Semi log linear model implies that Imports increased at the compound growth rate of 8.33 per cent per year. The regression coefficients in both models are significant at the one per cent level. The value of adjusted R^2 is 0.62 in the simple linear model and its 0.67 in the semi log linear model. It means that the Imports into Singapore has registered a linear trend in this period and around 66 per cent of variations in the dependent variable are explained by the independent variable in the simple linear model.

The Imports into Singapore increased annually by 21.18 Billion of US Dollars in 2000-10. The regression coefficient of the semi log linear model implies that Imports increased at the compound growth rate of 11.63 per cent and per year. The regression coefficients in both models are significant at the one per cent level. The value of adjusted R^2 is 0.85 in the simple linear model and its 0.86 in the semi log linear model. It means that the Imports on Singapore have registered a consisted linear trend in this period and 87 per cent of variations in the dependent variable are explained by the independent variable.

Comparing the four periods, 1970-79, 1980-89, 1990-99 and 2000-10 the Imports into Singapore increased annually by the highest amount of 21.18 Billions of US Dollars in the fourth period. The highest compound growth rate of 11.63 per cent was recorded only fourth period.

3.6.4. REGRESSION ANALYSIS

To analysis the relationship between FDI and GDP, exports and GDP, and Imports and GDP given in Table 6, simple linear regression model is used by taking the FDI, exports and Imports as the independent variables and GDP as the dependent variable for the four sub periods separately. FDI, Exports, Imports, and GDP are measured in Millions of US Dollars. The regression coefficient in this case will measure the increase in GDP in Millions of US Dollars if the FDI, exports and Imports is increased by one Million of US Dollars. The regression coefficient is also tested for the null hypothesis that its value is Zero. The coefficient of determinations R^2 will measure the ability of the independent variable, FDI exports and imports to explain the variations in GDP.

In the initial stages, FDI, Exports and Imports can promote the GDP by a larger amount and as the FDI, Exports and Imports increase continuously, the impact of FDI on GDP, Exports on GDP and Imports on GDP may decline in absolute terms. The estimated regression coefficient its standard error, coefficient of determination and other important results for the four sub-periods for Singapore is given in table 6.

3.6.5. FDI ON GDP

For Singapore in the first period the regression coefficient is 9.41 and this co-efficient is statistically significant at the five per cent level. The value of adjusted R^2 is 0.61 and hence FDI could explain only 61 per cent of variation in GDP for Singapore in the first period. Further FDI could influence the GDP significantly in the first period. However, in the second period, the regression coefficient is 4.76 and this is significant at five per cent level of significance. FDI is capable of explaining 54 per cent of variations in GDP. Hence GDP increases by 4.76 Millions of US Dollars, if FDI is increased by one Million of US Dollars in the second period in Singapore and FDI influences the GDP significantly in the second period in Singapore. In the third period, the regression coefficient is 3.64 and this is significance at five per cent level. FDI now is capable of explaining 54 per cent of variations in GDP. Hence GDP increases by 3.64 Millions of US Dollars, if FDI is increased by one Million of US Dollars in the third period in Singapore and FDI influences the GDP significantly in the third period in Singapore. However in the fourth period the regression coefficient is 2.33 and this coefficient is insignificant. FDI is now capable of explaining 22 per cent of variations in GDP. Hence GDP increases by 2.33 Millions of US Dollars in Singapore, if FDI is increased by one Million of US Dollars in the fourth period.

3.6.6. EXPORTS ON GDP

In the case of Singapore, the regression coefficient in the first period is 0.59 and this is significant at one per cent level. Hence GDP increases by 0.59 Millions of US Dollars, if the Exports are increased by one Millions of US Dollars. FDI is capable of explaining 96 per cent of variations in GDP in the first period in Singapore. In the second period, the regression coefficient is increased to 0.62 and this is also significant at one per cent level. Hence in the second period, GDP increases by 0.62 Millions of US Dollars only, if the FDI is increased by one Million of US Dollars. The explanatory power of exports has come down to 92 per cent, the regression coefficient for the third period 0.73 and for the fourth period, it is 0.53. In these periods, the regression co-efficient is statistically significant at the one per cent level. The explanatory power of exports is to 98 per cent and 93 per cent, respectively. Thus, the influence of Exports on GDP is significant in four the periods.

3.6.7. IMPORTS ON GDP

In Singapore, the regression coefficient in the first period is 0.5 and this is significant at one percent level. An import is capable of explaining 98 per cent of variations in GDP. However, in the second period the regression coefficient is 0.61 and this coefficient is significant at one per cent level of significance. An import is now capable of explaining 87 per cent of variations in GDP. However, in the third period the regression coefficient is 0.78 and this is significant at one per cent level. Import is capable of explaining 96 percent of variation in GDP. However, in the fourth period the regression coefficient is 0.59 and this is significant at one per cent level. Imports are capable of explaining 93 per cent of variations in GDP. Thus the influence of Imports on GDP is highly significant in the first and third period and Import is capable of explaining the variation in GDP to a higher extent.

3.7. DATA AND SPECIFICATION OF THE MODEL

This study uses times series data on Singapore to examine the causal relationship between FDI, Exports, Imports and Economic growth. All data are expressed in logarithms in order to include the proliferative effect of time series and are symbolized with the letter: preceding each variable name. If these variable shares a common stochastic tend and their first difference are stationary, then they can be cointegrated. The use of 1st differences in econometric studies facilities the result interpretation, since the first differences of logarithms of initial variables represent the rate of change of these variables.¹

¹ Dritsakis, N. 2003 Hungarian Macroeconomic variables reflection on causal relationships Acta Oeconomica, 53; 61-76

The Augmented (ADF) unit root test is used for the estimated of individual time series with intention to provide evidence about when the variables are integrated. This is followed by multivariate co integration analyses.²

The data for the study is collected from UNCTAD. The data covers a period of 1970-2010. All the variables are expressed in logs. We believe that the 41 observations are sufficient time series for this study to detect both the short and long-run relationships of the FDI, exports, Imports and GDP Growth. Hakkop and Rush (1991) further state that the co integration test power to detect the long run relationship is enhanced if the sample length is increased rather than by simply increasing the number of observations.

This paper explores the causal relationship between FDI, Exports, Imports and GDP in both the short run and long run. To capture the different stages of growth in Singapore we estimate the causal relationship between foreign direct investment, exports, imports and economic growth. The Granger type test states that if a variable m and 2 Granger causes variable y , the mean square error (MSE) of forecast of y based on the past values of four variables are lower than that of a forecast that uses only past values of y . This Granger test is implemented by running the following regression.

$$\Delta y_t = \alpha_0 + \sum_{i=1}^p \alpha_1 \Delta y_{t-i} + \sum_{i=1}^p \beta_i m_{t-i} + \sum_{i=1}^p \gamma_i \Delta x_{t-i} + \sum_{i=1}^p \lambda_i \Delta z_{t-i} + u_t$$

And testing the joint hypothesis $H_0: \beta_1 = \beta_2 = \dots$

..... $\beta_p = 0, \gamma_1 = \gamma_2 = \dots, \gamma_p = 0$ and $\lambda_1 = \lambda_2 = \dots, \lambda_p = 0$

Against $H_1: \beta_1 \neq \beta_2 \neq \dots, \beta_p \neq 0, \gamma_1 \neq \gamma_2 \neq \dots, \gamma_p \neq 0$ and

$\lambda_1 \neq \lambda_2 \neq \dots, \lambda_p \neq 0$. Granger causality from the variable y to the coincident variables X and Z is established if the null hypothesis of the asymptotic Chi-Square (X^2) test is rejected. A significant test statistic indicator that the m , x and z variables have predictive value for forecasting movements in y over and above the information contained in the latter's past.

3.7.1. UNIT ROOT TEST

Table from 7 to 14, present the unit root test for our time series data. Lag lengths for the ADF tests are determined by the Schwartz information criterion (SIC). This test result suggests that all series contain a single unit root, which would require first differencing to achieve stationary.

The ADF tests are first conducted on the levels of GDP, Exports, Imports and FDI. The results for the levels and differenced are given the table in appendix. The level results shows that the level of LnEx (Natural log of Exports) in Singapore. The ADF statistic value is -2.62 and the associated one-sided p -value is 0.10. Notice here that the statistics t value is greater than the critical values so that we do not reject the null at conventional test sizes.

The results shows that the level of LnFDI in Singapore. The ADF statistic value is -2.13 and the associated one-sided p -value is 0.23. It is notable that the statistic t value is greater than the critical values (up to 10 percent level). Since that we do not reject the null at conventional test sizes.

The results shows that the level of LnGDP in Singapore. The ADF statistic value is -1.71 and the associated one-sided p -value is 0.36. It is notable that the statistics t value is greater than the critical values (up to 10 per cent level). Since that we do not reject the unit at conventional test sizes.

The results shows that the level of LnIm in Singapore. The ADF statistic value is -2.44 and the associated one-sided p -value is 0.14. It is notable that the statistics t value is greater than the critical values (up to 10 per cent level) since that we do not reject the null at conventional test sizes.

The variables appear to have a statistic trend and when these trends are common among the examined variables as well. For the analyses of the multivariate time series that include stochastic trends, the Augmented Dick Fuller (ADF) unit root test is used for the estimation of individual time series with intention to provide evidence about when the variables are integrated. This is followed by multivariate cointegration analysis.

A series is said to be stationary if the mean and variance are time invariant. A non-stationary time series will have a time dependent mean or make sure that the variables are stationary because if they are not the standard assumption for asymptotic analysis in the Granger test will not be valid. (Nandita Dasgupta)

The ADF test is based on the following regression model that consists of running a regression of the first difference of the series against the series lagged once, sum of lagged difference terms and a constant and a time trend.

$$\Delta Y_t = \alpha_0 + \alpha_1 + \alpha_2 Y_{t-1} + \sum_{i=1}^p \beta_i \Delta Y_{t-i} + u_t$$

Where u_t is the pure white noise error term, which adjusts the errors of auto correlation and independently and identically distributed. $Y_{t-1} = Y_{t-1} - Y_{t-2}$, Y_{t-2} Express the first differences with p lags. The coefficient α_0, α_1 and β_1 are being estimated.

The ADF regression test for the existence of unit root of Y_t that represent all variable (in the natural logarithmic form) at time t . The test for a unit root is conducted on the coefficient of $Y_t = 1$. In the regression, If the coefficient is significantly different from zero (less than zero) then the hypothesis that y contains a unit root is rejected. The null and alternative hypothesis for the existence of unit root in variable Y_t is $H_0: \beta_2 = 0$ $H_1: \beta_2 < 0$ Rejection of the null hypothesis denotes stationary in the series.

3.7.2. CO INTEGRATION TESTS

Having found that all the four variables in examination have unit roots that is they are integrated of order one. Our next step is to determine whether or not there exists at least one linear combination of the non-stationary variables that is integrated of order zero ($I(0)$). Co integration an econometric property of time-series variable is a precondition for the existence of a long run or equilibrium economic relationship between two or more variable having unit roots (is integrated of order one) Two or more random variables are said to be cointegrated if each of the series are themselves non stationary.

The results from the co integration analysis (see table15) show that when lags interval (in first differences) 1 to 1 are used the null hypothesis of no co integration ($r=0$) between LnEx, LnFDI, LnIm and Ln GDP is rejected at 5 per cent level. This test may be regarded as a long run equilibrium relationship among the variables. The purpose of the cointegration tests is to determine whether a group of non-stationary series is cointegrated or not.

Co integration test based on the Maximum Likelihood method of Johansen (1979) suggests two tests (the trace test and the maximum eigenvalues test) statistics to determine the cointegration rank.

3.7.3. GRANGER CAUSALITY TEST:

A summary of the long run relationship between GDP, Exports, Imports and FDI is presented in Table 16. The results of the long run effects of the variables on each other are based on the tests conducted on these variables and are reported in Table in the Appendix.

According to Granger causality test done by using annual data from 1970- 2010 in Singapore, foreign direct investment (FDI) is not causal exports. In other words there is causality relationship from FDI inflows to exports. Economic growth (GDP) is not the cause of exports. In other words, there is no causality relationship from economic growth to exports. An import is not causal exports. In other words there is no causality relationship from imports to Exports. Economic Growth (GDP) is not cause of FDI. In other words there is no causality relationship from economic growth to FDI. An import is not cause of FDI. In other words there is not causality relationship from Imports to FDI.

4. CONCLUSION

This study examines the direction of the relationship between economic growth rate, FDI, Exports and Imports by using Granger causality test for Singapore over the period 1970-2010. The time series approach demonstrates the impact of the variables (GDP, Exports, Imports and FDI) not only in the short run but also in

² Melina Dritsaki, Chaido Dritsaki and Antonias Adamopoulos, 2004, "A Causal relationship between Trade, FDI and Economic growth for Greece. 230 to 235

the long run in addition to the direction of causality. The direction of causality and its mechanism can indicate governments to develop effective policy to promote greater exports and FDI inflows in Singapore. The causality relationship is from exports to growth rate and there is no causality relationship from growth rate and there is no causality relationship from growth rates to FDIs.

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APPENDIX

TABLE 1:- FOREIGN DIRECT INVESTMENT INFLOWS INTO SINGAPORE

YEAR	FDI	Index No	A.G.R
1970	93.00	100.00	-
1971	116.00	124.73	24.73
1972	161.07	173.19	38.85
1973	352.82	379.38	119.05
1974	340.19	365.80	-3.58
1975	291.82	313.78	-14.22
1976	230.69	248.05	-20.95
1977	291.47	313.41	26.35
1978	299.91	322.48	2.90
1979	836.03	898.96	178.76
Ave	301.30		88.77
1980	1235.75	100.00	47.81
1981	1659.97	134.33	34.33
1982	1601.85	129.63	-3.50
1983	1133.91	91.76	-29.21
1984	1301.87	105.35	14.81
1985	1046.75	84.71	-19.60
1986	1710.28	138.40	63.39
1987	2836.20	229.51	65.83
1988	3654.99	295.77	28.87
1989	2886.53	233.59	-21.02
Ave	1906.81		14.84
1990	5574.75	100.00	93.13
1991	4887.09	87.66	-12.34
1992	2204.34	39.54	-54.89
1993	4686.31	84.06	112.60
1994	8550.19	153.37	82.45
1995	11535.31	206.92	34.91
1996	9682.14	173.68	-16.07
1997	13752.67	246.70	42.04
1998	7313.87	131.20	-46.82
1999	16577.91	297.38	126.66
Ave	8476.46		21.93
2000	16484.49	100.00	-0.56
2001	15086.73	91.52	-8.48
2002	6401.97	38.84	-57.57
2003	11941.36	72.44	86.53
2004	21026.01	127.55	76.08
2005	15459.63	93.78	-26.47
2006	29347.93	178.03	89.84
2007	37032.98	224.65	26.19
2008	8588.20	52.10	-76.81
2009	15278.62	92.68	77.90
2010	38638.07	234.39	152.89
Ave	18072.86		15.61

Source: UNCTAD Annual Report.

TABLE 2:- EXPORTS OF SINGAPORE

YEAR	Exports	Index No	A.G.R
1970	1553.63	100.00	
1971	1761.13	113.36	13.36
1972	2189.00	140.90	24.30
1973	3652.58	235.10	66.86
1974	5809.58	373.94	59.05
1975	5376.20	346.04	-7.46
1976	6585.45	423.88	22.49
1977	8241.04	530.44	25.14
1978	10134.20	652.29	22.97
1979	14233.20	916.13	40.45
Ave	5953.60		90.68
1980	19375.30	100.00	36.13
1981	20967.30	108.22	8.22
1982	20788.00	107.29	-0.86
1983	21832.60	112.68	5.03
1984	24070.10	124.23	10.25
1985	22812.30	117.74	-5.23
1986	22495.00	116.10	-1.39
1987	28686.10	148.05	27.52
1988	39305.50	202.86	37.02
1989	44661.00	230.50	13.63
Ave	26499.32		14.50
1990	52729.70	100.00	18.07
1991	58966.00	111.83	11.83
1992	63471.60	120.37	7.64
1993	74011.70	140.36	16.61
1994	96825.40	183.63	30.82
1995	118268.00	224.29	22.15
1996	125014.00	237.08	5.70
1997	124985.00	237.03	-0.02
1998	109895.00	208.41	-12.07
1999	114680.00	217.49	4.35
Ave	93884.64		13.05
2000	137804.00	100.00	20.16
2001	121751.00	88.35	-11.65
2002	125177.00	90.84	2.81
2003	159963.35	116.08	27.79
2004	198637.00	144.14	24.18
2005	229649.00	166.65	15.61
2006	271807.00	197.24	18.36
2007	299272.00	217.17	10.10
2008	338176.00	245.40	13.00
2009	269832.00	195.81	-20.21
2010	351867.00	255.34	30.40
Ave	215102.85		18.90

Source: UNCTAD Annual Report.

TABLE 3: IMPORTS OF SINGAPORE

YEAR	Imports	Index No	A.G.R
1970	2461.44	100.00	
1971	2838.31	115.31	15.31
1972	3394.75	137.92	19.60
1973	5126.98	208.29	51.03
1974	8380.04	340.45	63.45
1975	8133.10	330.42	-2.95
1976	9070.64	368.51	11.53
1977	10470.70	425.39	15.44
1978	13060.90	530.62	24.74
1979	17643.40	716.79	35.09
Ave	8058.03		68.53
1980	24007.30	100.00	36.07
1981	27572.00	114.85	14.85
1982	28167.20	117.33	2.16
1983	28157.90	117.29	-0.03
1984	28666.90	119.41	1.81
1985	26285.20	109.49	-8.31
1986	25510.90	106.26	-2.95
1987	32559.00	135.62	27.63
1988	43863.60	182.71	34.72
1989	49655.90	206.84	13.21
Ave	31444.59		11.87
1990	60899.10	100.00	22.64
1991	66292.60	108.86	8.86
1992	72178.90	118.52	8.88
1993	85234.00	139.96	18.09
1994	102670.00	168.59	20.46
1995	124507.00	204.45	21.27
1996	131338.00	215.66	5.49
1997	132437.00	217.47	0.84
1998	104719.00	171.95	-20.93
1999	111060.00	182.37	6.06
Ave	99133.56		9.15
2000	134545.00	100.00	21.15
2001	116000.00	86.22	-13.78
2002	116448.00	86.55	0.39
2003	136264.16	101.28	17.02
2004	173581.21	129.01	27.39
2005	200047.00	148.68	15.25
2006	238710.00	177.42	19.33
2007	263155.00	195.59	10.24
2008	319780.00	237.68	21.52
2009	245785.00	182.68	-23.14
2010	310791.00	230.99	26.45
Ave	192778.31		16.79

Source: UNCTAD Annual Report.

TABLE 4: BOT OF SINGAPORE

YEAR	BOT	Index No	A.G.R
1970	-907.81	100.00	
1971	-1077.18	118.66	18.66
1972	-1205.75	132.82	11.94
1973	-1474.40	162.41	22.28
1974	-2570.46	283.15	74.34
1975	-2756.90	303.69	7.25
1976	-2485.19	273.76	-9.86
1977	-2229.66	245.61	-10.28
1978	-2926.70	322.39	31.26
1979	-3410.20	375.65	16.52
Ave	-2104.43		30.63
1980	-4632.00	100.00	35.83
1981	-6604.70	142.59	42.59
1982	-7379.20	159.31	11.73
1983	-6325.30	136.56	-14.28
1984	-4596.80	99.24	-27.33
1985	-3472.90	74.98	-24.45
1986	-3015.90	65.11	-13.16
1987	-3872.90	83.61	28.42
1988	-4558.10	98.40	17.69
1989	-4994.90	107.83	9.58
Ave	-4945.27		0.87
1990	-8169.40	100.00	63.55
1991	-7326.60	89.68	-10.32
1992	-8707.30	106.58	18.85
1993	-11222.30	137.37	28.88
1994	-5844.60	71.54	-47.92
1995	-6239.00	76.37	6.75
1996	-6324.00	77.41	1.36
1997	-7452.00	91.22	17.84
1998	5176.00	-63.36	-169.46
1999	3620.00	-44.31	-30.06
Ave	-5248.92		-16.03
2000	3259.00	100.00	-9.97
2001	5751.00	176.47	76.47
2002	8729.00	267.84	51.78
2003	23699.19	727.19	171.50
2004	25055.79	768.82	5.72
2005	29602.00	908.32	18.14
2006	33097.00	1015.56	11.81
2007	36117.00	1108.22	9.12
2008	18396.00	564.47	-49.07
2009	24047.00	737.86	30.72
2010	41076.00	1260.39	70.82
Ave	22324.54		61.42

Source: UNCTAD Annual Report.

TABLE 7: RESULTS OF UNIT ROOT TEST FOR LNEXPORTS (LEVELS)

Null Hypothesis: LNExports has a unit root, Exogenous: Constant, Lag Length: 0 (Automatic based on SIC, MAXLAG=9)			
Augmented Dickey-Fuller test statistic		t-Statistic	Probability*
Test critical values:		-2.62	0.10
	1%level	-3.61	
	5%level	-2.94	
	10%level	-2.61	

Mackinnon (1996) one – sided p – values

TABLE 8: RESULTS OF UNIT ROOT TEST FOR LNGDP (LEVELS)

Null Hypothesis: LNGDP has a unit root, Exogenous: Constant, Lag Length: 1 (Automatic based on SIC, MAXLAG=9)			
Augmented Dickey-Fuller test statistic		t-Statistic	Probability*
Test critical values:		-1.71	0.42
	1%level	-3.61	
	5%level	-2.94	
	10%level	-2.61	

Mackinnon (1996) one – sided p – values

TABLE 9: RESULTS OF UNIT ROOT TEST FOR LNFDI (LEVELS)

Null Hypothesis: LNFDI has a unit root, Exogenous: Constant, Lag Length: 5 (Automatic based on SIC, MAXLAG=9)			
Augmented Dickey-Fuller test statistic		t-Statistic	Probability*
Test critical values:		-2.13	0.23
	1%level	-3.61	
	5%level	-2.94	
	10%level	-2.61	

Mackinnon (1996) one – sided p – values

TABLE 10: RESULTS OF UNIT ROOT TEST FOR LNIMPORTS (LEVELS)

Null Hypothesis: LNImports has a unit root, Exogenous: Constant, Lag Length: 0 (Automatic based on SIC, MAXLAG=9)			
Augmented Dickey-Fuller test statistic		t-Statistic	Probability*
Test critical values:	1%level	-2.44	0.13
	5%level	-3.61	
	10%level	-2.94	
		-2.61	

Mackinnon (1996) one – sided p – values

TABLE 11: RESULTS OF UNIT ROOT TEST FOR LNEXPORTS (DIFFERENCES)

Null Hypothesis: LNExports has a unit root, Exogenous: Constant, Lag Length: 0 (Automatic based on SIC, MAXLAG=9)			
Augmented Dickey-Fuller test statistic		t-Statistic	Probability*
Test critical values:	1%level	-4.65	0.00
	5%level	-3.61	
	10%level	-2.94	
		-2.61	

Mackinnon (1996) one – sided p – values

TABLE 12: RESULTS OF UNIT ROOT TEST FOR LNGDP (DIFFERENCES)

Null Hypothesis: LNGDP has a unit root, Exogenous: Constant, Lag Length: 0 (Automatic based on SIC, MAXLAG=9)			
Augmented Dickey-Fuller test statistic		t-Statistic	Probability*
Test critical values:	1%level	-3.49	0.01
	5%level	-3.61	
	10%level	-2.94	
		-2.61	

Mackinnon (1996) one – sided p – values

TABLE 13: RESULTS OF UNIT ROOT TEST FOR LNFDI (DIFFERENCES)

Null Hypothesis: LNFDI has a unit root, Exogenous: Constant, Lag Length: 0 (Automatic based on SIC, MAXLAG=9)			
Augmented Dickey-Fuller test statistic		t-Statistic	Probability*
Test critical values:	1%level	-6.29	0.00
	5%level	-3.62	
	10%level	-2.94	
		-2.61	

Mackinnon (1996) one – sided p – values

TABLE 14:- RESULTS OF UNIT ROOT TEST FOR LNIMPORTS (DIFFERENCES)

Null Hypothesis: LNImports has a unit root, Exogenous: Constant, Lag Length: 0 (Automatic based on SIC, MAXLAG=9)			
Augmented Dickey-Fuller test statistic		t-Statistic	Probability*
Test critical values:	1%level	-4.75	0.00
	5%level	-3.61	
	10%level	-2.94	
		-2.61	

Mackinnon (1996) one – sided p – values

TABLE 15:- RESULTS OF COINTEGRATING RELATIONSHIPS BETWEEN LNEXPORTS, LNIMPORTS, LNFDI AND LNGDP. UNRESTRICTED COINTEGRATION RANK TEST (TRACE)

Hypothesized rank (r)	Eigen value	Likelihood ratio	5% critical value	Probability
Race statistic for cointegrating rank				
r=0	0.55	60.29	47.85	0.00
r≤1	0.38	29.48	29.80	0.05
r≥2	0.19	11.20	15.49	0.20
r≥3	0.07	2.93	3.84	0.09
Unrestricted Cointegration Rank Test (Maximum Eigen value)				
r=0	0.55	0.81	27.58	0.01
r≤1	0.37	18.28	21.13	0.12
r≥2	0.19	8.26	14.26	0.35
r≥3	0.07	2.93	3.84	0.09

Mac-Eigen value test indicates no cointegration at the 0.05 level

TABLE 16:- PAIR WISE GRANGER CAUSALITY TESTS

Sample:1970-2010			
Lags: 2			
Null Hypothesis	Obs	F-statistic	Prob
LNFDI does not Granger Cause LNExports	39	5.52	0.02
LNExports does not Granger cause LNFDI		7.67	0.00
LNGDP does not Granger Cause LNExports	39	4.04	0.03
LNExports does not Granger cause LNGDP		6.14	0.01
LNImports does not Granger cause LNExports	39	4.04	0.03
LNEX does not Granger Cause LNImports		6.14	0.01
LNGDP does not Granger Cause LNFDI	39	8.60	0.00
LNFDI does not Granger Cause LNGDP		3.89	0.03
LNImports does not Granger Cause LNFDI	39	5.82	0.01
LNFDI does not Granger Cause LNImports		4.52	0.02
LNImports does not Granger Cause LNGDP	39	0.56	0.57
LNGDP does not Granger Cause LNImports		3.00	0.06

AN EVALUATION OF MICRO CREDIT IMPACT ON RURAL POOR WOMEN – A CASE STUDY IN BELLARY DISTRICT, KARNATAKA

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ABSTRACT

The micro credit is an effective and financially viable alternative to the existing methods of addressing rural poverty through the provision of credit. Micro credit through Self-Help Groups succeeded in reducing transaction costs both for banks and rural poor, apart from posting high loan recovery rates. The large number of women SHGs has also enabled women to have easy access to credit in recent years. The promotion and development of Self-Help groups has to provide opportunities for self-employment on a sustained basis for the rural poor women. In view of the importance and magnitude of Micro Credit, and its implications – this research paper made an attempt to evaluate the impact of Micro Credit on rural poor women in divergent areas in Bellary district of Karnataka under the title “An Evaluation of Micro Credit impact on Rural Poor Women – A case study in Bellary district, Karnataka”.

KEYWORDS

Micro credit, rural poor women, Bellary.

I. INTRODUCTION

Women form a crucial part of human resource. Unless this section of population is given opportunities to prove their capabilities, the development would be imperfect. Women form a vital part of the Indian economy, constituting 1/3rd of the labor force, and primary members contributing in the survival of the family. Women are the backbone of the agriculture sector, comprising the majority of agricultural laborers in India. The prevailing social and economic situations of rural areas so far prevented rural women to participate in the process of socio-economic development. Illiteracy, denial of access to resources, social evils has been main barriers for rural women empowerment and their active participation in decision making and in the process of development. Keeping in view, a large number of women focused schemes have been promoted. Swarn Jayanti Gram Swarozgar Yojana, Swashakti, Swayamsiddha Programme and micro financing schemes of Rashtriya Mahila Kosh were launched by the Government of India to address issues of women's economic empowerment.

An analysis of the credit needs of the rural poor reveals that they require small but regular and urgent loans essentially for the consumption purposes to meet the basic necessities of life, where as the banks cannot lend small frequent amounts nor can they entertain loans for consumption purpose. Credit is also essential for consumption purpose to alleviate poverty. The rural poor have nothing to offer as collateral except their labor and honesty.

In order to alleviate rural poverty, easy access to micro credit for development and promotion of women micro enterprises and income generation activities is imperative. The micro credit is an effective and financially viable alternative to the existing methods of addressing rural poverty through the provision of credit. Micro credit through Self-Help Groups succeeded in reducing transaction costs both for banks and rural poor, apart from posting high loan recovery rates. The large number of women SHGs has also enabled women to have easy access to credit in recent years. The promotion and development of Self-Help groups has to provide opportunities for self-employment on a sustained basis for the rural poor women. Women living in neighborhood with similar socio-economic background form the groups. The size of the groups ranges from 10 – 15 respondents. Women in these groups are encouraged to generate their own savings through thrift for six months and are then provided with one-time grant to be used as revolving fund. Any viable activity with sufficient local availability of forward and backward linkages can be taken up. Skill training is also imparted.

It is obvious that, the SHG concept was planned and implemented as a superior strategy for lending Micro Credit, eradication of poverty and development of women in the state of Karnataka. In view of the importance and magnitude of Micro Credit, and its implications – A sincere attempt has been done in this research paper to evaluate the impact of Micro Credit on rural poor women in divergent areas in Bellary district of Karnataka.

II. REVIEW OF LITERATURE

Nanda Y.C (1995) explains the significance of establishing linkages with self-help groups and banks. He observed that the main advantage to banks would be externalization of a part of the work items of the credit cycle-assessment of credit needs, appraisal, disbursement, supervision and repayment, reduction in transaction costs etc.

Ahmad (1999) through a case study on Thrift Groups in Assam, highlighted that women are coming to the administration directly for their just rights and to address their grievances boldly. It proved that Self Help Groups are successful in North East India even in the midst of insurgency

Narsimhan (1999) is of the view that more vital inhibiting factors leading to the disadvantaged position of women are their ignorance, powerlessness and vulnerability.

Lakshmi (2000) reported that the major constraints were the effective and beneficial credit programmings for women on a larger scale are lack of banking data, disaggregating by gender and lack of an adequate analytical framework for integrating women into credit analysis.

T.S. Ragavendra (2000) studied three SHGs run by forward, SC/ST and backward communities in Karnataka to assess the performance. He found member no longer borrow for moneylenders. It was suggested that with vision, participation and motivation, forward community SHGs could sustain in changing farm based activities into market based.

Nagayya (2000) stated that there has been a massive expansion in the formal credit delivery network in the last three decades and there is an acceptable gap in financing the genuine poor, especially in remote rural area.

Jain S.C (2000), noted that women are assisted for income generating in number of ways by NGOs. They are given financial assistance directly or as facilitated by NGO functionaries to have access to finance from banks, financial institutions donors, corporate sector and government schemes etc.

S.K. Singh (2000) conducted a study in Uttar Pradesh comparing the pre and post SHG situations of women SHGs. He found that the average value of assets increased by 46% and the annual income per household by 28% between pre and post SHG periods.

Jeyesh Talati and Venkatakrishnan. (2001) explained women's empowerment in Jhabua district, Madhya Pradesh. The women 'leaders' elected by the group members were responsible for the maintenance of group records and management of group. These women's groups laid the foundation for the empowerment of women.

Barbara and Mahanta (2001) in their paper maintained that the SHG's have helped to set up a number of micro-enterprises for income generation.

Manimekalai and Rajeshwari (2001) in their paper highlighted that the provision of micro-finance by the NGO's to women SHG's has helped the groups to achieve a measure of economic and social empowerment. It has developed a sense of leadership, organizational skill, management of various activities of a business, right from acquiring finance, identifying raw material, market and suitable diversification and modernization.

Deepti Agarwal (2001) reported that the status of women is low and their socio economic conditions are much more depressed than that of men.

Suman Krishna Kant (2001) reported that woman's empowerment and mutual cooperation in the family.

Bharat Dogra (2002) reported that 15 to 20 women formed such groups with as monthly savings of Rs.10 each or Rs.20 each. Initially, men in many villages used to make fun of these groups with their small savings and also observed that when these savings grew and women were able to take loans to meet several pressing needs, men also started self-help groups with monthly savings of Rs.50 each or more.

Harper, Malcom (2002) in his study on Promotion of Self Help Groups Under SHG Bank Linkage Programme in India has examined and compared the different ways in which self help promotion institutions promote Self Help Groups.

Neera Burra, et al. (2005) in her edited volume on Micro Credit, Poverty & Empowerment have highlighted the SHG based micro finance and their impact on women empowerment in India. They presented analysis of case studies and modules of micro finance in India. They are of the view that collective strategies beyond micro credit to increase the endowments of poor women enhance their exchange outcomes viz-a-viz the family, state, markets and community, and expand socio-cultural and political spaces are required for poverty reduction and women's empowerment.

III. OBJECTIVES OF THE STUDY

1. To understand the socio-economic profile of the respondents of Micro Credit (Sthree Shakthi) groups in Bellary District of Karnataka.
2. To Study the modus operandi of Micro Credit groups in the selected area
3. To evaluate the functional performance of Micro Credit groups in the study region against identified indicators.
4. To understand the Savings and Loan utilization patterns and asset creation ability of the sample groups in the study region.
5. To study the impact of Micro Credit on socio-economic empowerment of rural poor women in divergent rural areas in Bellary district of Karnataka State.

IV. RESEARCH METHODOLOGY

The choice of research method does have an influence on the inferences drawn from the analysis of data. Study design describes the choice of the study area, selection of respondents, method of data collection and analysis of data and interpretation of results for drawing inferences.

a) Choice of the study area - The selection of Bellary district for the study is primarily based on the criteria that there are larger number of self help groups in the district and there is good scope in for promoting women oriented activities.

b) Selection of the respondents - A multi-stage stratified random sampling method has been applied for the selection of sample of the study. For the effective analysis this study has covered 490 respondents from 70 groups representing 35 villages and all seven talukas of the district.

c) Collection of Data - Present study is mainly empirical in nature and based on primary data. Primary data collected from the groups, respondents and agencies involved through questionnaire, personal interaction, and interview. Beside collection and analysis of primary data, secondary data and pertinent literature has been compiled, analyzed and reviewed accordingly.

d) Analysis Of Data - The filled in interview schedules were thoroughly checked, edited and processed in tabular form, subjected to statistical and analytical treatment. The statistical tools include percentages, simple averages, and Chi-square test. Inferences, results and conclusion have been drawn out from the analysis of data. The recommendations are based on critical appreciation of pertinent literature and analysis of research findings.

e) Timescales - The Study period was 2 years, commenced from 2008- 09, and ended by June, 2011. Groups which have been given SHG bank linkage up to 2007-08 are selected for the present study to analyze the impact of micro credit.

f) Limitations of the Study - The foremost limitation is with regard to the adequacy of sample size. Sample size restrictions may keep the study within manageable limits. The inference to be drawn and the generalizations to be made are relevant to the area covered.

V. DATA ANALYSIS

PROFILE OF THE RESPONDENTS

A) AGE GROUP OF THE RESPONDENTS

TABLE 1.1: AGE OF THE RESPONDENTS

Age Group	< 25	25 – 35	35 – 45	45 – 55	> 55	Total
No.of respondents	62	189	147	72	20	490
% to total respondents	12.65	38.57	30.00	14.69	4.08	100.00

Source : Field Survey, 2011

Table 1.1 shows the age group of respondents. 38.57% (189 respondents) of the total respondents are in the age group of 25-35 years, followed by 35-45 years age group with 30% (i.e., 147 respondents). 45-55 years age group respondents are 72, (i.e., 14.69%), 62 respondents (12.65%) in the age group of less than 25 years and 20 respondents (4.08%) are in the age group of above 55 years of age.

B) EDUCATION OF THE RESPONDENTS

TABLE 1.2: EDUCATION OF THE RESPONDENTS

Level of Education	Illiterate	Literate	Primary	Middle Class	High School	PUC	UG	PG	Tech Edn	Total
No.of respondents	35	12	134	111	146	32	14	2	4	490
% to total respondents	7.14	2.45	27.35	22.65	29.80	6.53	2.86	0.41	0.82	100.00

Source : Field Survey, 2011

Based on the table 1.2 information, Respondents with high school education were 146 (29.80 percent), followed by primary education 134 (27.35%), middle class 111(22.65%), illiterate respondents 35 (7.14%), PUC qualified 32 (6.53%), graduate respondents 14 (2.86%), Literates 12 members 12 (2.45%), Technically qualified 4 (0.82%), post graduates were 2 (0.41%).

C) CASTE OF THE RESPONDENTS

TABLE 1.3: CASTE OF THE RESPONDENTS

Caste	S.C	S.T	Minorities	O.B.C.	Others	Total
No.of respondents	108	92	39	104	147	490
% to total respondents	22.04	18.78	7.96	21.22	30.00	100.00

Source : Field Survey, 2011

Caste of respondents is shown in Table 1.3. Other categories like general category respondents were 147 (30%), Scheduled caste respondents are 108 (22.04%), Other backward caste members were 104 (21.22%), scheduled tribe respondents 92 (18.78%), and minorities 39 (7.96%).

D) MARITAL STATUS OF THE RESPONDENTS

TABLE 1.4: MARITAL STATUS OF THE RESPONDENTS

Marital Status	Married	Unmarried	Widow	Divorce	Separated	Total
No.of respondents	360	68	38	17	7	490
% to total respondents	73.47	13.88	7.76	3.47	1.43	100.00

Source : Field Survey, 2011

Marital status of respondents is shown in Table 1.4. Nearly 3/4th women (360, 73.47%) were married. Unmarried respondents were 68 (13.88%), followed by 38 (7.76%), divorced women 17 (3.47%) and separated women from their families were 7 (1.43%).

FUNCTIONAL PERFORMANCE OF THE SELF-HELP GROUPS

Functional Performance of SSGs was measured against two indicators, namely organizational performance indicators and Operational performance indicators.

A) ORGANIZATIONAL PERFORMANCE

Organizational performance indicators include the aspects like average group size, motivation to join the group, stability, meeting frequency etc.,

a) Average Group Size**TABLE 2.1.1: AVERAGE GROUP SIZE**

Total Average	Initial Group Size(Avg)	Present Group Size (Avg)
	13.50	13.93

Source : Field Survey, 2011

Average group size was shown in the table 2.1.1. Initial group size in the district was 13.5, at present the average group size was grown up to 13.93, with the growth rate of 0.43.

b) Motivators to join in the groups**TABLE 2.1.2: MOTIVATORS TO JOIN IN THE GROUPS**

Self Motivation	Family members	Friends	SHPI/NGO/Govt Nodal Agency	Total
190	92	66	142	490
38.78	18.78	13.47	28.98	100.00

Source : Field Survey, 2011

Motivators to join in the groups shown in table 2.1.2. 190 respondents (38.78%) motivated by their own spirit. SHG promoting agencies influenced 142 respondents (28.98%) to join the groups. Family members encouraged 92 respondents (18.78%), friends inspired 66 respondents (13.47%).

c) Stability of the Selected Groups**TABLE 2.1.3: STABILITY OF THE SELECTED GROUPS (N = 70)**

Consist	Increase	Decrease	TOTAL
55	10	5	70
78.57	14.29	7.14	100.00

Source : Field Survey, 2011

Table 2.1.3 reveals the stability & sustain of the groups. 78.57% i.e., 55 groups are consistently performing, 10 groups (14.29%) improved their performance and sustainability at greater extent, and 5 groups (7.14%) were still in struggling phase. In all the blocks of the district, rate of consistency is similar.

d) Meetings frequency**TABLE 2.1.4: MEETINGS FREQUENCY (N=70)**

Weekly	Fortnightly	Monthly	TOTAL
7	16	47	70
10.00	22.86	67.14	100

Source : Field Survey, 2011

Meeting frequency had been observed in Table No.2.1.4. Out of 70 groups observed, 47 groups (67.14%) conducting monthly meetings, 16 groups (22.86%) meet every fortnightly and meeting frequency of 7 groups (10%) is once in week.

B) OPERATIONAL PERFORMANCE

Operational performance measured in terms of collection methods of savings, ability to do bank operations, average number of loans, purpose of loan, Training taken, etc.

a) Methods of savings collection**TABLE 2.2.1: METHODS OF SAVINGS COLLECTION (N=70)**

At group meeting	By Group leaders	By Collection Agents	By Facilitator	Total
40	16	14	0	70
57.14	22.86	20.00	0.00	100.00

Source : Field Survey, 2011

Table 2.2.1 shows the methods of savings collections in the groups. 40 groups (57.14%) collecting the savings of the group members in group meetings only. Group leaders taken the initiative of collecting the savings from the group members in 16 groups (22.86%). 14 groups (20.00%) appointed collection agents to collect the savings from the group members. Group facilitators/Promoters role is not identified in collection of savings.

b) Operators of the group bank account

Operators of the group bank account shown in Table No.2.2.2. Group leaders are the operators of Bank accounts in 53 groups (75.71%). Collection agents were looking after the bank transactions in 11 groups (15.71%). Both leader and agent were responsible for bank transactions in 6 groups (8.58%).

TABLE 2.2.2: OPERATORS OF GROUP BANK ACCOUNT (N=70)

Group Leader	Collection Agent	Both Leader & Agent	By Facilitator	Total
53	11	6	0	70
75.71	15.71	8.58	0.00	100.00

Source : Field Survey, 2011

c) Average No.of loans taken**TABLE 2.2.3: AVERAGE NO.OF LOANS TAKEN**

Average No.of members who have taken loan once	Average no.of members who have taken loan morethan once	Average No.of Total Loans taken by the members	Avg No.of Loans taken by the Representatives	Total Average
13.23	7.05	15.57	4.37	10.05

Source : Field Survey, 2011

Average No.of loans taken by the Selected group members identified in Table No.2.2.3. overall average of group members who have taken more than once is 13.23. Average No. of members who have taken loans more than once is 7.05. if we observed the statistics Average No.of total loans taken by the selected groups stood at 15.57. Group leaders average loan number is 4.37.

d) Purpose of the Loan

TABLE 2.2.4: PURPOSE OF THE LOANS TAKEN

Purpose -->	Domestic Consumption	Agriculture	Animal Husbandry	Asset Creation	Income Generating Activities	Emergency Needs	Total
No of respondents	73	105	97	89	106	20	490
%	14.90	21.43	19.80	18.16	21.63	4.08	100.00

Source : Field Survey, 2011

Loan purpose of respondents tabulated in Table No.2.2.4. Income generating activities such as dairy business, poultry, Tailoring and weaving, pickle making, arts & crafts business etc., lead the table (106 respondents - 21.63%) followed by Agriculture (105 respondents, 21.43%). Next dominant reason for the SHG loan is Animal husbandry (97 respondents – 19.80%) which includes loan for Milch cattle and sheep rearing. 89 respondents (18.16%) obtained the loan for asset creation such as land purchase, Tractor purchase, house construction, Purchase of Electronic home appliances etc., Domestic reasons such as education & marriage of the children and repayment of old loans influenced 73 respondents (14.90%), to take the loan from the group. And to meet emergencies and contingencies needs 20 respondents (4.08%) taken the loans from the groups.

e) Utility wise average loan amount

TABLE 2.2.5: UTILITY WISE AVERAGE LOAN AMOUNT

Utility -->	Domestic Consumption	Agriculture	Animal Husbandry	Asset Creation	Income Generating Activities	Emergency Needs	Total
Avg Loan Value (Rs)	8,301	14,031	20,967	11,424	20,423	5,839	80,985
% to total Loan value	10.30	17.37	26.01	14.06	25.07	7.18	100.00

Source : Field Survey, 2011

Utility wise average loan amount of selected groups recorded in Table No. 2.2.5. Loan size wise animal husbandry occupied top rank with average loan value of Rs.20,967 (26.01% of Total average loan value). Next big average loan value is Rs.20,423 (25.07% of Total average loan value) given to income generating activities as identified in the table No.5.13. After this, Loan size and its' purpose was Agriculture Rs.14,031 (17.37% of Total average loan value), Domestic consumption Rs.8,301 (10.30% of total average loan value), and Emergencies average loan size was Rs.5,839 (7.18% of total average loan value)

f) Training of the Respondents

TABLE 2.2.6: TRAINING OF THE RESPONDENTS

Training	Yes	No	Total
No. of respondents	439	51	490
%	89.59	10.41	100.00

Source : Field Survey, 2011

Details of Respondents who undergone training shown by table no.2.2.6. Out of 490 respondents 439 respondents (89.59%) undergone training. Still 51 respondents (10.41%) waiting for the training opportunities.

V. EMPOWERMENT OF WOMEN

Empowerment of women involves many things viz, economic opportunity, property rights, political representation, social equality, personal rights and so on. Under successive five year plans of the country several measures have been initiated in India to provide employment and training to women. Development of women and children contributes an integral component of the country's human resource development programmes. It is clear that the current approaches seek to link gender with poverty, using development delivery as a platform for targeting women as beneficiaries and mobilising them for social empowerment. self-help group strategy as a means to build women's 'self reliance and self confidence, to provide greater access to and control over resources, sensitise and strengthen the institutional capacity of support agencies to proactively address women's needs, increase incomes of poor women through involvement in income-generating activities, develop linkages between SHGs and lending institutions to ensure access to credit financing, and improve access to better healthcare, education and drudgery reduction facilities

Four broad features distinguish the approach taken by the Karnataka state government during the last decade or so to strengthen women's access to income and economic resources. These include (i) a strong emphasis on the self-help group (SHG) model; (ii) a clear focus on poor, dalit and tribal women as those most in need, along with women with disabilities or victims of violence; (iii) a recognition that women in the districts of Hyderabad Karnataka and Bombay Karnataka need special attention; and (iv) the use of the language of empowerment.

A. IMPACT OF MICRO CREDIT ON ECONOMIC EMPOWERMENT

Micro credit and its impact on economic empowerment observed through key economic variables such as Savings, investment, employment, and income of the members based on Pre & Post SSG membership.

a) Savings capacity of SSG members (Pre & Post Credit)

TABLE 3.1: SAVINGS CAPACITY OF SSG MEMBERS (PRE & POST CREDIT)

Sl. No	Category	Before N = 490		After N = 490	
		F	%	F	%
1	Low	360	73.47	12	2.45
2	Average	100	20.41	356	72.65
3	High	30	6.12	122	24.90
Total		490	100.00	490	100.00

Source: Field Survey-2011.

Note: Figures in decimals are the percentages.

The impact of SSGs on Savings potentials of the member is presented in Table 3.1. The percentage of members under high Savings ability category increased from 6.12 per cent to 24.90 per cent. Average savings ability raised from 20.41 per cent to 72.65 per cent after joining SSG. Low savings ability category respondents, decreased from 73.47 per cent to 2.45 per cent.

b) Investment ability of SSG members (Pre & Post Credit)**TABLE 3.2: INVESTMENT ABILITY OF SSG MEMBERS (PRE & POST CREDIT)**

Sl. No	Category	Before N = 490		After N = 490	
		F	%	F	%
1	Low	162	33.06	34	6.94
2	Average	282	57.55	260	53.06
3	High	46	9.39	196	40.00
Total		490	100.00	490	100.00

Source : Field Survey- 2011

Note: Figures in decimals are the percentages

The impact of SSGs on investment pattern of the member is presented in Table 3.2. The percentage of members under high investment category increased from 9.39 per cent to 40.00 per cent, medium investment category decreased from 57.55 per cent to 53.06 per cent after joining SSG, but in case of low investment category, it was decreased from 33.06 per cent to 6.94 per cent.

c) Employment of SSG members (Pre & Post Credit)**TABLE 3.3: EMPLOYMENT OF SSG MEMBERS (PRE & POST CREDIT)**

Sl. No	Category	Before N = 490		After N = 490	
		F	%	F	%
1	Low	264	53.88	51	10.41
2	Average	163	33.27	315	64.29
3	High	63	12.86	124	25.31
Total		490	100.00	490	100.00

Source: Field survey 2011

Note: Figures in decimals are the percentages.

The impact of SSGs on employment of the member is presented in Table 3.3. The percentage of members under high employment category increased from 12.86 per cent to 25.31 per cent, Modestly employed category also shown rise from 33.27 per cent to 64.29 per cent after joining SSG, but in case of low employment category, it was decreased from 53.88 per cent to 10.41 per cent.

d) Income levels of SSG members (Pre & Post Credit)**TABLE 3.4: INCOME LEVELS OF SSG MEMBERS (PRE & POST CREDIT)**

Sl. No	Category	Before N = 490		After N = 490	
		F	%	F	%
1	Low	315	64.29	29	5.92
2	Average	125	25.51	291	59.39
3	High	50	10.20	170	34.69
Total		490	100.00	490	100.00

Source: Field Survey – 2011

Note: Figures in decimals are the percentages.

The impact of SSGs on income levels of the member is presented in Table 3.4. The percentage of members under high income category increased from 10.20 per cent to 34.69 per cent. Moderate income level also shown rise from 25.51 per cent to 59.39 per cent after joining SSG. Low income level category, registered sharp decrease from 64.29 per cent to 5.92 per cent.

B. IMPACT OF MICRO CREDIT ON SOCIAL EMPOWERMENT

The level of social empowerment among the respondents was measured by asking them to give their opinion on identified indicators such as Mobility, Recognition in family, Recognition in Community, Interaction with outsiders, Literacy, Asset building ability, Control over Family income, Skill development, Decision making, Access to Health services, Immunization, Sanitation, and credit sources etc., through three point continuum scale.

TABLE NO 3.5 : SOCIAL IMPACT OF MICRO CREDIT

Indicators	Same	Increase	Decrease	TOTAL
Mobility	77	397	16	490
	15.71	81.02	3.27	100.00
Recognition in family	60	421	9	490
	12.24	85.92	1.84	100.00
Recognition in Community	74	402	14	490
	15.10	82.04	2.86	100.00
Interaction with outsiders	92	387	11	490
	18.78	78.98	2.24	100.00
Literacy	92	393	5	490
	18.78	80.20	1.02	100.00
Access to Health services	109	372	9	490
	22.24	75.92	1.84	100.00
Access to Immunization	72	412	6	490
	14.69	84.08	1.22	100.00
Access to Sanitation	108	374	8	490
	22.04	76.33	1.63	100.00
Access to credit sources	102	380	8	490
	20.82	77.55	1.63	100.00
Asset building	87	392	11	490
	17.76	80.00	2.24	100.00
Control over Family income	88	386	16	490
	17.96	78.78	3.27	100.00
Skills	98	377	15	490
	20.00	76.94	3.06	100.00
Voicing your concern	111	368	11	490
	22.65	75.10	2.24	100.00
Decision making	78	400	12	490
	15.92	81.63	2.45	100.00
Participation in Community Development	51	424	15	490
	10.41	86.53	3.06	100.00

Source: Field Survey, 2011

Note: Figures in decimals are the percentages

VI. HYPOTHESIS TESTING

Based on the objectives of the study the following null hypothesis has been formulated to test the significance of micro credit impact on rural poor women through two dimensions. Viz., impact on Economic empowerment and impact on social empowerment.

Hypothesis 1: Participation in microcredit program has no significant impact on economic empowerment of women in terms of savings. (Ho)

Inference drawn from the χ^2 Test: Null Hypothesis has been rejected because, there is a strong association between the membership in Micro credit group and savings of respondents (Table 3.1), the chi-square value is 524.9519 ($p < 0.01$) at 1% level of significance.

Hypothesis 2: Participation in microcredit program has no significant impact on economic empowerment of women in terms of investment (Ho).

Inference drawn from the χ^2 Test: Null Hypothesis has been rejected because, there is high significant relation between the membership in Micro credit group and investment pattern of the respondents (Table 3.2), the chi-square value is 177.46 ($p < 0.01$) at 1% level of significance.

Hypothesis 3: Participation in microcredit program has no significant impact on economic empowerment of women in terms of Employment generation (Ho).

Inference drawn from the χ^2 Test: The chi-square value is 212.2617 ($p < 0.01$) at 1% level of significance, indicates strong association between the membership in Micro credit group and employment of the respondents (Table 3.3). Therefore Null Hypothesis has been rejected.

Hypothesis 4: Participation in microcredit program has no significant impact on economic empowerment of women in terms of income generation (Ho).

Inference drawn from the χ^2 Test: At 1% significance level the chi-square value is 369.474 ($p < 0.01$), indicates highly significant association between the membership in Micro credit group and income levels of the respondents (Table 3.4). Therefore Null Hypothesis has been rejected.

Hypothesis 5: participation in microcredit program has no significant impact on Social empowerment of women. (Ho)

Inference drawn from the empirical (χ^2) Test: At 1% significance level the chi-square value is 78.7436 ($p < 0.01$), Null Hypothesis can be rejected as we found strong association between the membership in Micro credit group and social recognition & participation.

VII. CONCLUSIONS OF THE STUDY

The Micro credit program Stree Shakti has created opportunities for thrift and credit among the rural poor women, inter-loaning and bank credit have enable rural poor women for livelihood development and income generating activities. The scheme has benefited women in raising their economic status, their awareness levels and all round development. The scheme has also helped in increase in income.

The groups have perceived significant changes at group level related to financial and functional aspects. Those changes include small to large volume of credit to members, large group common fund, more respect from bank officials, reduction of quarrels & dropouts, increase in linkages with many organizations outside the village, less dependency on promoters and adherence to group norms and respect for members as models for others.

With reference to economic status of the SSG member households, significant upward mobility has been recorded. The benefits to household members are many and across generations. Most of the households have adopted larger/more economic activities than before joining the group. Within the household, the parental generation moved towards agriculture & allied activities, whereas children moved mostly towards nonfarm activities and education. The SSG members household created a good amount of productive assets followed by household articles and permanent assets.

Awareness of various social issues has also being created among women. They are now being made familiar with various developmental schemes of several departments. which benefit women. The women members are taking active role in decision-making process at the family level and in the communities. Women have also developed saving habits and thus, they are saving for the emergency purposes. Majority of the women members have received basic training regarding social issues, development programmes and starting income generating activities. However, the amount of change is limited especially with regard to intervention to reduce domestic violence and participation in political affairs.

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APPRECIATION AND APPREHENSIONS OF INDIAN CORPORATE SECTOR ABOUT CORPORATE SOCIAL RESPONSIBILITY

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ABSTRACT

Corporate Social Responsibility (CSR) is the buzz word even to-day! Leading business houses are placing society ahead of profits. Sustainable development, having been seen as the corollary of corporate social responsibility, the primacy of this dimension remains to be at the top of every business's agenda. This study attempts to seek the perceptions and apprehensions of the Indian corporate sector towards CSR. The respondents are corporate CEOs and other executives of the top 1000 companies in India as per the list published in Business Today. The study uses seventeen parameters to elicit the responses. The findings show a mixed scenario - some companies are mostly aware of the concept, whereas others are yet to understand the complete scope of CSR. For instance, one observation is that respondents agree that companies committed to social cause find their sales figures rising. It may be concluded that CSR still remains to be appreciated in its total sense by the Indian corporate sector. This paper provides leads for further research on question whether companies which are not committed to social cause are losing business or are not growing to the extent their counterparts are growing.

KEYWORDS

Sustainable Development, stakeholders, regulatory framework, corporate social responsibility, social cause.

INTRODUCTION

In recent times, the issue of Corporate Social Responsibility (CSR) has been given a lot of attention. Business is considered to be an integral part of the whole of social, political and economic system. It depends on society not only for the requisite inputs like money, men, materials, but also to market their products. Since business depends on society for its very existence, it has an obligation to return something to the society. Managers manage organizations that exist within a given society. The most important social issue that managers take into account is social responsibility (S. P. Sethi 1979). A company's social responsibility arises from the fact that a business enterprise derives several benefits from society, that must, therefore, ensure returns to the society as well (Peter Mc Kinley 2000).

Social responsibility refers to the obligation and duties of businesses to society. For the purposes of sustainable development, the World Business Council defines CSR as "the commitment of business to contribute to sustainable economic development working with employees, their families, the local community and society at large to improve their quality of life" (P. K. Pachauri 2004). The obligation of decision-makers is to take actions which protect and improve the welfare of the society as a whole alongwith their own interest, and this is popularly called Corporate Social Responsibility.

The shareholders, workers, customers, creditors, suppliers, government and society in general are the various groups associated with a business organization, called stakeholders groups / classes as shown in Figure 1. The management of a business organization owes responsibility towards all these stakeholders. Expenditure on projects related to CSR can help the business of a company positively in a financial sense. CSR gives companies a cleaner societal reputation while providing them with a socially responsible identity, involving them and their employees in the long-term process of positive social transition (Vinod Kuriakose 2007).

REVIEW OF LITERATURE

It is interesting to note that the concept of corporate social responsibility evoked a variety of opinions. On the one extreme are those who look at CSR as an unnecessary exercise which does not fall in line with the commercial nature of business and on the other extreme are the thinkers who view CSR as an essential element in the creation of shareholder value. Mid way are those who contend that CSR adds to cost and erodes competitiveness, or that there is a matter of give and take between corporations and society, or that corporations must relieve governments which already did enough.

IS CORPORATE SOCIAL RESPONSIBILITY INCOMPATIBLE WITH BUSINESS?

Until recently there has been a general belief that the profit objective of business is incompatible with the concern for social and environmental betterment. From this perspective, addressing social and environmental problems / issues by business houses is deemed to be an indulgence in activities which do not fit in the factors that make organizations commercially viable. Dunham & Pierce (1989) state, "Not every one agrees that contemporary organizations should be driven by the principles of charity and stewardship."

DOES CSR ADD TO COST AND ERODE COMPETITIVENESS?

There is a widespread belief that taking up social and environmental issues adds to the firm's cost and thereby erodes competitiveness. Michael E. Porter and Claas van der Linde(1995) state, "... there is an inherent and fixed trade-off: ecology versus the economy. On one side of the trade-off are the social benefits that

arise from strict environmental standards. On the other are the industry's private costs for preventing and cleanup-costs that lead to higher prices and reduced competitiveness..."

However, the above writers' conclusion is that the current research, as per the observations of K.E. Aupperle, A.B. Carroll, J.D. Hatfield (1985), does not show a simple relationship between social responsibility and profitability of the organization.

THE BUSINESS OF BUSINESS IS BUSINESS!

Whereas some quarters represent an increasing appreciation of the need for social responsibility, others believe that business has nothing to do with social responsibility, as presented *supra*, and business must be construed in commercial sense. This is evident from the argument of The New Zealand Round Table that, "the business of business is business." (Peter McKinlay 2000)

The argument (of the New Zealand Roundtable) goes a little further to question the validity of the managers' initiative in diverting the shareholders' wealth to upholding social cause. It is contended that "if shareholders, individually, wish to promote social or other goals, then they are free to apply their income from the company for that purpose, exercising their individual choice..." The argument further states that diversion of shareholders' wealth amounts to the act of theft. (Sunjib Dutta 2003)

SOCIETY'S INTEREST IS BEST SERVED IN AN EFFICIENT MARKET ECONOMY TOO

The corporate directors and managers of New Zealand, subject to the company law reforms as enacted in 1993, are constrained to make themselves responsible 'to act in the best interests of the company'.

Adrienne von Tunzelmann (1997), however, puts forth the corporate stand in general that in most companies' conviction, "society's interests can best be served by efficient market economy (at a national and local level) in which the company is able to perform successfully." She also cites the case of Grand Met (the UK conglomerate of companies has widespread interests in the food and drinks industries) as example, which has an elaborate Community Relations Vision, and contended to be looking like a 'mega Department of Social Welfare'.

Thus, it may be inferred that being competitive does not incapacitate an organization for assuming the burden of addressing social issues.

RATIONALE OF SYMBIOSIS BETWEEN BUSINESS & SOCIETY – A MATTER OF GIVE AND TAKE

Interestingly, there are observers who look at the relationship between businesses and society through a different scope. They see interdependence of these two sects to signify symbiosis or partnership. Howard R. Bowen, from the conclusions of his survey (1953) puts forth that businessmen on the one hand must adjust their operations to the needs of society at large and on the other hand, society must develop attitudes and policies more favorable to business. Bowen's perspective thus seems to make society, equally responsible in playing its part by helping businesses formulate their social welfare strategies. Keith Davis, professor emeritus at Arizona State University (USA) is cited to have held that organizations are members of the society and that since they draw resources from society for their own use, they have a responsibility to return to society a value for those resources (Dunham & Pierce 1989). John Kay is cited to have expressed in 'Foundations of Corporate Success', that there is a necessity on the part of the organization to share at least part of the returns among all the stakeholders in business and to secure their acquiescence in that distribution. Audrienne von Tunzelmann (1996).

CAN A FIRM MAKE PROFIT WHILE BEING SOCIALLY RESPONSIBLE?

The commercial viability of the organizations demonstrating social responsibility is a question still debated in the wake of the popular belief that a company embracing social responsibility cannot make profits. But contrary to this are testimonies which seem to be paradoxical. Adrienne von Tunzelmann vouches for the availability of adequate "empirical work that shows a positive correlation between social responsibility and the financial performance of companies ..."

WINNING THE MATCH MEANS WINNING WITH ALL THE RULES OF THE GAME OBSERVED

The popular belief as observed *supra* is that assuming social responsibility adds to cost and thereby renders the firm to be less competitive. Others contend that it is a futile exercise and erodes profits. Still others declare it to be incompatible with the philosophy of business. Challenging this conviction is the statement of N.Balasubrahmanian, who puts it so prudently as, "If you play a game by the rules, and still win, that's where your ability comes in. Include social responsibility among the rules of the game and with that, try and win." (Kishore S. Rao 2000)

Thus, if one argues that one is making profit or is enjoying competitive advantage disclaiming social cause, it may be far from real success.

CORPORATE SOCIAL RESPONSIBILITY IS A VALUE ADDING STRATEGY—BUT NOT AN INDULGENCE OF MANAGERS AT THE EXPENSE OF SHAREHOLDERS

While the debate is still on as to whether CSR is a cost escalating exercise or the one desirable very much of business, pedants feel that it is strategically an indispensable one. Howard R. Bowen (1953) upholds Cf. Alfred S. Cleveland's view that business men give noticeably more attention to those obligations, which are clearly in their own long-run interest such as giving greater emphasis to developing better public relations, and to increase productivity and efficiency. Bowen finds that these are indubitably desirable from social point of view of business.

On the other hand, Peter McKinlay (2000) of McKinlay Douglas Ltd., demonstrates that corporate social responsibility is a value adding strategy and not an indulgence of managers at the expense of shareholders.

IS SOCIAL CONTEXT AN INTEGRAL PART OF MANAGERIAL CONSIDERATIONS?

What so far has been witnessed is the much diverse and variegated conception of scholars and people from different quarters about corporate social responsibility – negative and positive in varying degrees. As businesses are so caught up in such a dilemma, Adrienne von Tunzelmann (1996), relying on the 'considerable amount of overseas empirical work', which shows a 'positive correlation between social responsibility and the financial performance of companies', concludes that corporate social responsibility is 'consistent with, and sometimes necessary to, its economic interests that the company have policies and programmes for active social and community involvement', particularly in the interest of the company's long-term consideration. Referring to Gerry Johnson and Kevin Scholes' definition of corporate strategy, the writer finds its scope enlarged to include a complex array of factors of which she alleges that social context is an integral part.

GOVERNMENTS HAVE DONE THEIR LEVEL BEST: IT IS FOR BUSINESSES TO TAKE OVER

Michael H. Green states, "Governments are relied upon to allocate tax money to the well being of society. ... Perhaps there is absolutely no way the government can do enough. Hence, organizations need to contribute." 47 Thus ultimately the responsibility remains with businesses. Seema Gupta (2000) contends that "the state is likely to look to the corporate sector to take over many of the services that it currently provides." Thus there needs to be a case for reviewing corporate social performance strategy.

CSR – NOT TO IMPLY CYNICAL MANIPULATION FOR BUSINESS ENDS

The literature on corporate social responsibility shows that there is a gradual rise in its importance, as appreciated by writers, researchers and businesses, from the state it is deemed to be an obligation of corporations to the state it is convicted as an essential component in the value adding strategy of the company/business. However, the mere fact that corporate social responsibility is believed to be a creator of value for the shareholders, it is not to be inferred to imply "cynical manipulation of society for the ends of business." (Audrienne von Tunzelmann 1997)

NEED FOR THE STUDY

With the ever growing concern world over about environment protection and employee welfare with emphasis on stress and fairness dimensions; the unabated discrimination on grounds of race, sex, social class etc., the question of legalizing social reporting still being debated on, the subject remains a 'melting pot'. The paradox is that the current scenario is an admixture of existence of both veterans and laymen (in the business sphere) concurrently as regards knowledge of the concept. This is very much characteristic of the Indian Business Community. For most business entities, funding or indulgence in philanthropic activities of varied nature is all what means social performance. Others may include environment and employee dimensions; but quite few might be knowledgeable about all stakeholder classes of a business. The question whether assuming social responsibility deprives a business of competitive power or not is still debated; though some report financial success even after commitment to social cause. On the other hand, regulation bred contempt and witnessed defiance and defensive moves among certain quarters while certain others are reported to have reaped early mover advantages through opting innovative strategies as against fighting

regulation. This being the state of affairs, there seems to be a case for a thorough review of the subject in all its dimensions to arrive at what represents the hitherto final shape of the concept and also for gauging where corporate India stands to-day as regards corporate social responsibility.

PROBLEM STATEMENT

The general observation is that most people in India still believe that CSR means addressing immediate community surrounding the factory or business premises or indulging in charitable activities. But, in fact, the stakeholder classes are many including employees, government, and competitors! Hence it is felt necessary to take a fresh look at the situation through a survey in order to verify the current observation.

OBJECTIVES

- To study the awareness levels of the Indian corporate sector about Corporate Social Responsibility
- To examine the apprehensions of the Indian corporate sector about various dimensions of Corporate Social Responsibility

HYPOTHESIS

The understanding of Indian corporate sector about the philosophy of corporate social responsibility is in its infancy.

RESEARCH METHODOLOGY

The data for the study was collected both from secondary and primary sources. Secondary sources such as journals, websites, text books and newspapers were greatly useful in the compilation of literature on CSR and also formed the base for designing the questionnaire for gathering primary data.

The universe for the survey consists of the Indian Corporate Sector. The population consists of all public limited companies that constituted the top thousand companies of India as listed and published as BT-500 in the magazine, Business Today. Of the total list of 1000 companies published, every alternate company in the list has been selected to make the sample size to be 500. A questionnaire was mailed to the top officials to elicit the necessary information. The responses got were 148 in number. The data were tabulated, analyzed and interpreted.

ANALYSIS OF RESPONSES OF CEOs AND EXECUTIVES ON CORPORATE SOCIAL RESPONSIBILITY

SELF-DECLARED AWARENESS LEVELS OF RESPONDENTS ABOUT THE CONCEPT OF CORPORATE SOCIAL RESPONSIBILITY

This is an attempt to bring out the degree of awareness of the concept of Corporate Social Responsibility among respondents. Table-1 shows the awareness levels of respondents on the concept of CSR. About 37.17 per cent of the respondents declare absolute awareness of the concept while 35.13 per cent declare moderate knowledge. Those who acknowledge considerable awareness constitute 19.60 per cent. However, only 8.10 per cent remain non-responsive.

Applying Chi-Square test for goodness of fit, the null hypothesis is taken that all expected frequencies occur with equal frequency.

$$\chi^2_{\text{cal}} = 105.54 \quad \text{whereas} \quad \chi^2_{\text{tab}} \rightarrow \chi^2_{n-1} [0.05] = \chi^2_{5-1} [0.05] = \chi^2_4 [0.05] = 9.49$$

where χ^2_{cal} = calculated value of chi-square;

χ^2_{tab} = table value of chi-square

n = number of classes of fields in the frequency distribution table

0.05 = chi-square value taken at 5 percent level of significance

Since the calculated value is much higher than the table value, it is said to be highly significant and hence the hypothesis is rejected. Hence it is concluded that all expected frequencies do not occur with equal frequency.

PERCEPTION OF RESPONDENTS ABOUT SOCIAL RESPONSIBILITIES OF BUSINESS:

This is designed to measure the perception of the respondents on the responsibilities of Business. Table-2 depicts the perception of respondents on responsibilities of Business. About 58.78 per cent of the respondents perceive the responsibilities as doing something good for mankind, 63.51 per cent perceive it as developing the community, about 50 per cent see it as having concern for employee welfare, 66.22 view it as having concern for environment protection, 35.81 discern it as having concern for consumers, 21.62 per cent consider it as having concern for suppliers, 8.11 per cent believe that it shows concern for middlemen, 2.70 per cent believe that it means to cooperate with politicians, 45.27 per cent deem it as ensuring fair returns to shareholders, 18.24 per cent opine that it shows concern for business allies, 21.62 per cent suppose that it means to have responsibility towards competitors, 44.59 per cent considered it as means to respect statutes, while 51.35 per cent believe that it point to paying taxes and duties to the government.

Those dimensions recognized by 50 percent and above are A, *doing something good for the mankind*; B, *developing community*; C, *to have concern for employee welfare*; D, *to have concern for environmental protection*, and M, *to pay due taxes and duties to Government* only. Those dimensions which are identified by less than 50 percent are E, *to have concern for consumers*; F, *to have concern for suppliers*; G, *to have concern for middlemen*; H, *to cooperate with politicians*; I, *to ensure fair return to shareholders*; J, *to have concern for business allies*; K, *to have responsibility towards competitors* and L, *to respect statutes*. The dimensions scoring 50 and above percent representation are only 5 out of a total of 12 (excluding H, *to cooperate with politicians*). Out of these 5, three are direct stakeholders, i.e., C, D & M. Hence the observation is that the Indian Corporate Sector is still lagging behind in identifying the scope of organizational stakeholder groups / classes. The dimension H, *to cooperate with politicians*, has been incorporated for misleading purpose. Anyway, respondents show their judiciousness by avoiding it, which is evident from the fact that the dimension attracts least response, i.e., by 2.70 per cent. The sum of these results need not tally with 100 on account of the replies being multiple.

DOES CSR GO BEYOND REGULATORY FRAMEWORK?

This parameter intended to find the level of agreement of respondents on whether CSR goes beyond regulatory framework of the government, and is obtained on a gradient of 5 levels ranging from extreme agreement to extreme disagreement. Table-3 depicts the agreement levels of respondents on whether CSR goes beyond regulatory framework. The observation is that as high as 95.27 per cent of the respondents agree that CSR goes beyond regulatory framework.

$$\chi^2_{\text{cal}} = 201.44 \quad \text{whereas} \quad \chi^2_{\text{tab}} \rightarrow \chi^2_{n-1} [0.05] = \chi^2_{5-1} [0.05] = \chi^2_4 [0.05] = 9.49$$

Since the calculated value is much higher than the table value, it is said to be highly significant

IS REDUCTION OF MANPOWER DUE TO AUTOMATION TREATED AS UNETHICAL?

This aims to find the agreement level of respondents on the question whether reduction of manpower due to automation goes against business ethics. People differ as to their conviction of this dimension. There are certain people who consider labour interest as being secondary as they believe that mechanization brings about long term savings through reduced manpower. At the same time there are those who deem it as opposed to the interest of the personnel since automation renders many employees unemployed or tends to reduce employment opportunities.

Table-4 shows the agreement level of respondents on whether or not reduction of manpower due to automation is repugnant with business ethics. It is noted that 52.02 per cent of the respondents do not view reduction of manpower by way of automation as being opposed to the tenets of business ethics. Almost an equal proportion of respondents (39.87 per cent) are undecided.

$$\chi^2_{\text{cal}} = 135.83 \quad \text{whereas} \quad \chi^2_{\text{tab}} \rightarrow \chi^2_{n-1} [0.05] = \chi^2_{3-1} [0.05] = \chi^2_2 [0.05] = 5.99$$

Since the calculated value is much higher than the table value, it is said to be highly significant

THE EFFICACY AND VALIDITY OF PREVAILING REGULATORY PROVISIONS:

This aspect draws its significance from the fact that some people question the validity of the standards prescribed by the government, like the standards with respect to air pollution control with permitted emission levels for different types of gases or fumes. Table-5 shows agreement levels of respondents on the validity of prevailing regulatory provisions. About 40 per cent show positive inclination to this dimension, where as those who negate constitute about 30 per cent. Thus, no clear conclusion could be drawn from these results, though the positive contenders constitute majority.

$\chi^2_{\text{cal}} = 58.29$ whereas $\chi^2_{\text{tab}} \rightarrow \chi^2_{n-1}^{[0.05]} = \chi^2_{5-1}^{[0.05]} = \chi^2_4^{[0.05]} = 9.49$

Since the calculated value is much higher than the table value, it is said to be highly significant

CONGRUENCE BETWEEN THE PREVAILING REGULATORY PROVISIONS AND WHAT THEY INTEND TO ACHIEVE:

This statement is incorporated in the questionnaire to check up for congruence between the existing government regulatory provisions, and what they are intended to achieve. Table – 6 denotes the agreement levels. About 16.89 per cent strongly agree; 63.51 per cent just agree, 10.14 per cent are neutral, 4.05 per cent disagree and 5.41 per cent are non-responsive. Those who are altogether positive constitute 80.40 per cent as against just 4.05 per cent negation.

$\chi^2_{\text{cal}} = 207.21$ whereas $\chi^2_{\text{tab}} \rightarrow \chi^2_{n-1}^{[0.05]} = \chi^2_{5-1}^{[0.05]} = \chi^2_4^{[0.05]} = 9.49$

Since the calculated value is much higher than the table value, it is said to be highly significant

IS FIGHTING REGULATIONS IS MORE EXPENSIVE THAN COST OF COMPLIANCE?

This aspect of study finds the extent to which companies agree that fighting regulations is more expensive than the cost of compliance. Researchers and some corporations find that companies have 'burnt their fingers' by fighting regulation. Table-7 shows the agreement levels of respondents on this question. More than 50 per cent of respondents accede to this question.

$\chi^2_{\text{cal}} = 89.09$ whereas $\chi^2_{\text{tab}} \rightarrow \chi^2_{n-1}^{[0.05]} = \chi^2_{5-1}^{[0.05]} = \chi^2_4^{[0.05]} = 9.49$

Since the calculated value is much higher than the table value, it is said to be highly significant.

IS THE AMOUNT SPENT TOWARDS SOCIAL ENDS DEEMED TO BE EXPENDITURE OR INVESTMENT?

This aspect of the study attempts to verify the agreement levels of the respondents on whether they consider the money spent on social causes should be deemed to be expenditure or investment. Table-8 indicates that while 54.73 per cent of the sample respondents agree that the spending on social issues is 'investment and not expenditure - a conviction, which is in line with the findings of review of literature.

$\chi^2_{\text{cal}} = 92.26$ whereas $\chi^2_{\text{tab}} \rightarrow \chi^2_{n-1}^{[0.05]} = \chi^2_{4-1}^{[0.05]} = \chi^2_3^{[0.05]} = 7.81$

Since the calculated value is much higher than the table value, it is said to be highly significant.

SHOULD THE SOCIAL SPENDING BE BUDGETED FOR?

This aspect aims to gather opinions of the respondents on whether companies must provide for social spending in their total outlay. Table-9 shows the opinions of respondents on whether they feel that social spending must be a part of a company's total expenditure budget. More than 61.49 per cent of the respondents agree that the social spending should bear some proportion to the total expenditure without expecting any returns. The phrase, 'without expecting any returns,' is repugnant with the conviction that social spending should be treated as investment.

$\chi^2_{\text{cal}} = 66.04$ whereas $\chi^2_{\text{tab}} \rightarrow \chi^2_{n-1}^{[0.05]} = \chi^2_{3-1}^{[0.05]} = \chi^2_2^{[0.05]} = 5.99$

Since the calculated value is much higher than the table value, it is said to be highly significant.

DOES CSR ADD TO THE COST AND REDUCE THE COMPETITIVE POWER OF THE FIRM?

This statement attempts to garner the views of respondents on whether they feel that Corporate Social Responsibility is a cost to the company that reduces the competitiveness of the firm. Table-10 shows that 64.19 per cent of the companies disagree with the statement, which means that embracing CSR does not incapacitate a company from competitiveness angle.

$\chi^2_{\text{cal}} = 198.11$ whereas $\chi^2_{\text{tab}} \rightarrow \chi^2_{n-1}^{[0.05]} = \chi^2_{5-1}^{[0.05]} = \chi^2_4^{[0.05]} = 9.49$

Since the calculated value is much higher than the table value, it is said to be highly significant

CAN A COMPANY DEMONSTRATING SOCIAL COMMITMENT MAKE A PROFIT?

This purports to show what proportion of respondents feel that profitability is feasible even while demonstrating social commitment. Table-11 presents the agreement levels. The data interestingly indicate that as high as 90.54 per cent of the respondents feel positive about the statement.

$\chi^2_{\text{cal}} = 213.71$ whereas $\chi^2_{\text{tab}} \rightarrow \chi^2_{n-1}^{[0.05]} = \chi^2_{5-1}^{[0.05]} = \chi^2_4^{[0.05]} = 9.49$

Since the calculated value is much higher than the table value, it is said to be highly significant

SOCIAL COMMITMENT AND GOOD CORPORATE IMAGE AMONG PATRONS AND STAKEHOLDERS –

This aspect tries to assess the degree of agreement of respondents on whether businesses that have social commitment help the company to earn a good image among their patrons and stakeholders. Table-11 illustrates that more than 90 per cent are positive towards this statement.

$\chi^2_{\text{cal}} = 171.17$ whereas $\chi^2_{\text{tab}} \rightarrow \chi^2_{n-1}^{[0.05]} = \chi^2_{5-1}^{[0.05]} = \chi^2_4^{[0.05]} = 9.49$

Since the calculated value is much higher than the table value, it is said to be highly significant.

BUSINESSES THAT HAVE REPUTE AS GOOD SOCIAL PERFORMERS FIND THEIR SALES FIGURE RISING HIGH!

This statement is used in determining the level of concurrence of the respondents on the association between social performance and the sales of a company. Table – 13 shows that though 40 per cent of positive response is considerable, the majority are undecided on this issue. Hence this principle needs to be revisited.

$\chi^2_{\text{cal}} = 130.07$ whereas $\chi^2_{\text{tab}} \rightarrow \chi^2_{n-1}^{[0.05]} = \chi^2_{5-1}^{[0.05]} = \chi^2_4^{[0.05]} = 9.49$

Since the calculated value is much higher than the table value, it is said to be highly significant.

WHETHER INVESTORS PREFER TO INVEST IN COMPANIES THAT EXHIBIT SOCIAL COMMITMENT!

This seeks to find the degree of accord among the respondents on whether investors prefer to invest in a business that exhibited a social commitment. Table – 14 shows that nearly 50 per cent are positive towards this presumption including strong contenders.

$\chi^2_{\text{cal}} = 108.06$ whereas $\chi^2_{\text{tab}} \rightarrow \chi^2_{n-1}^{[0.05]} = \chi^2_{5-1}^{[0.05]} = \chi^2_4^{[0.05]} = 9.49$

Since the calculated value is much higher than the table value, it is said to be highly significant

WHETHER THERE WOULD BE LOSS OF PATRONAGE OF CUSTOMERS IN FIRMS WHICH DISCLAIM SOCIAL CAUSE!

The above statement tries to elicit the views of respondents on whether firms face a decrease in customers when they do not advocate social causes. Table – 15 displays the agreement levels of respondents. There is more disagreement (31 per cent) than agreement, being about 28 per cent. The majority are undecided (about 36 per cent).

$\chi^2_{\text{cal}} = 66.92$ whereas $\chi^2_{\text{tab}} \rightarrow \chi^2_{n-1}^{[0.05]} = \chi^2_{5-1}^{[0.05]} = \chi^2_4^{[0.05]} = 9.49$

Since the calculated value is much higher than the table value, it is said to be highly significant.

CSR IS DESIRABLE FOR THE FIRM'S SUSTAINABILITY – AGREEMENT LEVEL OF RESPONDENTS

This aims to find if Corporate Social Responsibility is advantageous to a firm's sustainability. Table – 16 shows the agreement levels of respondents on this dimension. More than 75 per cent are positive whereas those disagreeing to this dimension are marginal.

$\chi^2_{\text{cal}} = 122.16$ whereas $\chi^2_{\text{tab}} \rightarrow \chi^2_{n-1}^{[0.05]} = \chi^2_{5-1}^{[0.05]} = \chi^2_4^{[0.05]} = 9.49$

Since the calculated value is much higher than the table value, it is said to be highly significant

IS CSR IS AN UNCONDITIONALLY ACCEPTABLE OBLIGATION OF BUSINESS?

This endeavors to find whether the respondents believe that Corporate Social Responsibility is an unconditionally acceptable obligation of business. The statement advocates that some large corporations go beyond the stage of cost-benefit considerations and believe that CSR is one of the fundamental obligations of business. Table – 17 presents the agreement levels of respondents on this dimension. It is interesting to find that as high as 80 per cent of respondents contend positively.

$\chi^2_{\text{cal}} = 173.62$ whereas $\chi^2_{\text{tab}} \rightarrow \chi^2_{n-1}^{[0.05]} = \chi^2_{5-1}^{[0.05]} = \chi^2_4^{[0.05]} = 9.49$

Since the calculated value is much higher than the table value, it is said to be highly significant.

FINDINGS

The following are the findings drawn from the analysis of the responses of executives towards corporate social responsibility.

1. As per the second dimension of the analysis [Table – 2], awareness among the Indian corporate sector is below par since they failed to recognize important stakeholder classes with good score.
2. About 95 per cent of the respondents are positive towards the idea that CSR goes beyond the realm of regulation. Of this, 47.97 per cent of the respondents strongly agree while 47.30 per cent just agree.
3. When asked whether reduction of manpower due to automation would be deemed against business ethics, 52.02 per cent responded negatively while 39.87 per cent of respondents were neutral. Thus, it can be inferred that the respondents did not think that it went against business ethics.
4. The aggregate of all those who are positive including the small proportion of those who strongly agree on the efficacy and validity of the prevailing regulatory provisions constitutes 39.19 per cent as against 34.14 per cent of respondents who negate it.
5. The agreement level of respondents on the consistency of the prevailing regulatory provisions shows that 70.40 per cent of the respondents agree as against just 4.05 per cent who disagree.
6. Of the total respondents, half of them accept that fighting regulation is more expensive than the cost of compliance.
7. While 54.73 per cent of the respondents deem spending towards social cause as investment, only 15.54 per cent considered it as expenditure.
8. The results show that 16.21 per cent of the sample members opined that social spending must be a part of the outlay, 15.54 per cent do not agree, and 61.49 per cent of them agree that the social spending should bear some proportion to the total expenditure without expecting returns.
9. About 64 per cent of the sample members disagree with the statement that “CSR is a cost to the company that reduces the competitiveness of the firm” while 14.86 per cent were neutral, 6.08 per cent strongly disagreed.
10. About 90 per cent of the respondents approve that “Profitability is feasible even while demonstrating social commitment”
11. There is a positive association between the company's image among the patrons and stakeholders and the company's level of social commitment. About 51.35 per cent of the respondents strongly agree while 7.43 per cent are neutral about the statement that businesses that have social commitment earn a good image among their patrons and stakeholders.
12. A majority of the respondents feel that CSR is not a cost to the company and does not reduce the competitiveness of the firm.
13. About 42 per cent of the respondents are positive towards the stance that businesses which enjoy a good reputation as social performers find a simultaneous increase in their sales figures. However, 50.68 per cent are skeptical about the same.
14. The study reveals that less than half of the respondents agree that investors prefer to invest in businesses with social commitment while 13.51 per cent disagree.
15. With regard to the agreement level of respondents on the loss of patronage of customers in firms which disclaim social cause, 2.70 per cent of the respondents strongly agree, 25 per cent agree and 35.13 per cent were neutral. While 31.76 per cent disagree, 5.41 per cent strongly disagree.
16. Three-fourths of the respondents agree that CSR is desirable for a firm's sustainability and about 78.05 per cent agree that CSR is an unconditionally acceptable obligation of any business.

TESTING AND MEASURING OF RESULTS

1. Chi-square test has been applied for *goodness of fit* and it is found that the responses under each dimension are significant.
2. For measuring attitude or apprehensions, scaling technique is deployed. Taking the observations from review of literature as benchmarks, attitude is measured on a 5-point scale, and is found to be 3.8. This indicates that corporate India is not lagging behind, neither is fully in line with the apprehensions of the world around.

SUGGESTIONS

The following suggestions are made to make business organizations socially responsible.

1. Since managerial decisions have a bearing on the stakeholders of a business, the strategies designed by managers must be made in the wake of probable social implications.
2. Though the findings show that while the corporate sector in general does not find fault with downsizing caused by automation, rationality should be applied while taking a decision. In countries like India where manpower is available in surplus, the option to reduce it must be carefully considered before exercising it.
3. It is no longer valid to believe that corporate social responsibility is solely the responsibility of businesses only on grounds that they depend upon society for all their profitability. But, businesses have an obligation to return something to the society, while, society too has an obligation to develop attitudes and policies that are more favorable for business.
4. In the interest of sustainable development, companies must focus on broader and longer term objectives and relationships rather than just profit maximization.
5. Business should incorporate social dimensions in their decision making process even as they show financial efficiency.
6. Of all the various agencies which usually engage themselves in the sphere of social improvement, the predominant agency in any country should be its respective government. With reference to India, the government have already done their share, and it is now for businesses to take over the burden.
7. Businesses must stay away from fighting regulation and learn their lessons from those companies that incurred a huge expenditure and wasted valuable time in the process of litigation to fight regulation vis-à-vis compliance.
8. Businesses which opted to find innovative ways in containing pollution at the input stage rather than opting to fight regulations, reaped early mover advantages for they could make sizable savings of money besides attenuating pollution.
9. An important suggestion to the government is that regulation must be so framed that it is innovation friendly and not counter-productive.
10. The Indian corporate sector opines that businesses who are reputed for their social commitments earn a good image among their patrons and stockholders. So it is suggested that businesses in their own interest must exhibit pro-activeness towards corporate social responsibility.

CONCLUSION

Referring to the first finding, it may be concluded that the Indian corporate sector is yet to all the important stakeholder classes of a business. But with respect to other dimensions like investment / expenditure nature of social spending, the responses coincided with the general opinion. Similarly, the Indian corporate sector also agrees that profitability is feasible even after commitment to social cause. Leads for further research are to investigate whether companies which are not committed to social cause are losing business or are not growing to the extent their counterparts are growing.

TABLES

TABLE -1: SELF-DECLARED AWARENESS LEVELS OF RESPONDENTS ON THE CONCEPT OF CORPORATE SOCIAL RESPONSIBILITY

DEGREE	FREQUENCY	PERCENTAGE
A. Absolutely	55	37.17
B. Considerably	29	19.60
C. Moderately	52	35.13
D. Minimally	-	-
E. Not at all	-	-
F. No Response	12	8.10
Total	148	100.00

Source: Survey

TABLE -2: STAKEHOLDER IDENTIFICATION LEVELS

Dimension of Social Performance	Frequency	Percentage*
A. Doing something good for the mankind	87	58.78
B. Developing community	94	63.51
C. To have concern for employee welfare	74	50.00
D. To have concern for environment protection	98	66.22
E. To have concern for consumers	53	35.81
F. To have concern for suppliers	32	21.62
G. To have concern for middlemen	12	8.11
H. To cooperate with politicians	4	2.70
I. To ensure fair return to share holders	67	45.27
J. To have concern for business allies	27	18.24
K. To have responsibility towards competitors	32	21.62
L. To respect statutes	66	44.59
M. To pay due taxes and duties to government	76	51.35

Source: Survey

* Percentage figure do not add up to 100 because of multiple replies allowed under this dimension

TABLE - 3: DOES CSR GO BEYOND REGULATORY FRAMEWORK? - RESULTS

Response	Frequency	Percentage
A. Strongly agree	71	47.97
B. Agree	70	47.30
C. Neither agree nor disagree	-	-
D. Disagree	3	2.03
E. Strongly disagree	-	-
F. No response	4	2.70
Total	148	100.00

Source: Survey

TABLE- 4: AGREEMENT LEVEL OF RESPONDENTS ON WHETHER OR NOT REDUCTION OF MANPOWER DUE TO AUTOMATION GOES AGAINST BUSINESS ETHICS

Response	Frequency	Percentage
A. Yes	1	0.68
B. No	77	52.02
C. It depends upon the case	59	39.87
D. No response	11	7.43
Total	148	100.00

Source: Survey

TABLE-5: AGREEMENT LEVEL OF RESPONDENTS ON THE VALIDITY OF PREVAILING REGULATORY PROVISIONS

RESPONSE	FREQUENCY	PERCENTAGE
Strongly agree	6	4.05
Agree	52	35.14
Neither agree nor disagree	34	22.97
Disagree	43	24.06
Strongly disagree	9	6.08
No response	4	2.70
Total	148	100.00

Source: Survey

TABLE-6: AGREEMENT LEVEL OF RESPONDENTS ON THE CONSISTENCY OF PREVAILING REGULATORY PROVISIONS

Response	Frequency	Percentage
Strongly agree	25	16.89
Agree	94	63.51
Neither agree nor disagree	15	10.14
Disagree	6	4.05
Strongly disagree	-	-
No response	8	5.41
Total	148	100.00

Source: Survey

TABLE – 7: AGREEMENT LEVEL OF RESPONDENTS ON FIGHTING REGULATIONS BEING MORE EXPENSIVE THAN COST OF COMPLIANCE

RESPONSE	FREQUENCY	PERCENTAGE
Strongly agree	12	8.11
Agree	62	41.89
Neither agree nor disagree	45	30.41
Disagree	18	12.16
Strongly disagree	2	1.25
No response	9	6.08
Total:	148	100.00

Source: Survey

TABLE-8: AGREEMENT LEVEL OF RESPONDENTS ON WHETHER AMOUNT SPENT TOWARDS SOCIAL ENDS IS EXPENDITURE / INVESTMENT

RESPONSE	FREQUENCY	PERCENTAGE
Expenditure	23	15.54
Investment	81	54.73
Partly expenditure and partly investment	32	21.62
Cannot be said with certainty	4	2.70
No response	8	5.41
Total:	148	100.00

Source: Survey

TABLE – 9: OPINIONS OF RESPONDENTS ON SOCIAL SPENDING BEING PART OF TOTAL OUTLAY

Response	Frequency	Percentage
A. Yes	24	16.21
B. No	23	15.54
C. Proportion is to be allocated as expenditure without expecting any outcome	91	61.49
D. No response	10	6.76
Total:	148	100.00

Source: Survey

TABLE -10: AGREEMENT LEVEL OF RESPONDENTS ON CSR ADDING TO THE COST AND REDUCING THE COMPETITIVENESS OF THE FIRM

Response	Frequency	Percentage
Strongly agree	-	-
Agree	19	12.84
Neither agree nor disagree	22	14.86
Disagree	95	64.19
Strongly disagree	9	6.08
No response	3	2.03
Total:	148	100.00

Source: Survey

TABLE – 11: PROFITABILITY IS FEASIBLE EVEN WHILE DEMONSTRATING SOCIAL COMMITMENT-AGREEMENT LEVEL OF RESPONDENTS

Response	Frequency	Percentage
Strongly agree	41	27.70
Agree	93	62.84
Neither agree nor disagree	3	2.03
Disagree	8	5.40
Strongly disagree	-	-
No response	3	2.03
Total	148	100.00

Source: Survey

TABLE-12: BUSINESSES THAT HAVE SOCIAL COMMITMENT EARN A GOOD IMAGE AMONG THEIR PATRONS AND STAKEHOLDERS – AGREEMENT LEVEL OF RESPONDENTS

Response	Frequency	Percentage
A. Agree Strongly agree	76	51.35
B. Agree	58	39.19
C. Neither agree nor disagree	11	7.43
D. Disagree	1	0.68
E. Strongly disagree	-	-
F. No response	2	1.35
Total:	148	100.00

Source: Survey

TABLE -13: BUSINESSES THAT HAVE REPUTE AS GOOD SOCIAL PERFORMERS FIND THEIR SALES FIGURE RISING – AGREEMENT LEVEL OF RESPONDENTS

RESPONSE	FREQUENCY	PERCENTAGE
A. Strongly agree	16	10.81
B. Agree	46	31.08
C. Neither agree nor disagree	75	50.68
D. Disagree	8	5.40
E. Strongly disagree	1	0.68
F. No response	2	1.35
Total:	148	100.00

Source: Survey

TABLE-14: AGREEMENT LEVEL OF RESPONDENTS ON INVESTORS PREFERRING TO INVEST IN BUSINESSES WITH SOCIAL COMMITMENT

Response	Frequency	Percentage
A. Strongly agree	7	4.73
B. Agree	64	43.24
C. Neither agree nor disagree	49	33.11
D. Disagree	20	13.51
E. Strongly disagree	-	-
F. No response	8	5.41
Total:	148	100.00

Source: Survey

TABLE-15: AGREEMENT LEVEL OF RESPONDENTS ON LOSS OF PATRONAGE OF CUSTOMERS IN FIRMS WHICH DISCLAIM SOCIAL CAUSE.

RESPONSE	FREQUENCY	PERCENTAGE
A. Strongly agree	4	2.70
B. Agree	37	25.00
C. Neither agree nor disagree	52	35.13
D. Disagree	47	31.76
E. Strongly disagree	8	5.41
F. No response	-	-
Total:	148	100.00

Source: Survey

TABLE-16: CSR IS DESIRABLE FOR THE FIRM'S SUSTAINABILITY-AGREEMENT LEVEL OF RESPONDENTS

Response	Frequency	Percentage
A. Strongly agree	38	25.68
B. Agree	73	49.32
C. Neither agree nor disagree	25	16.89
D. Disagree	5	3.38
E. Strongly disagree	-	-
F. No response	7	4.73
Total	148	100.00

Source: Survey

TABLE-17: AGREEMENT LEVEL OF RESPONDENTS ON CSR BEING AN UNCONDITIONALLY ACCEPTABLE OBLIGATION OF BUSINESS.

Response	Frequency	Percentage
A. Strongly agree	29	19.59
B. Agree	88	59.46
C. Neither agree nor disagree	12	8.11
D. Disagree	12	8.11
E. Strongly disagree	-	-
F. No response	7	4.70
Total	148	100.00

Source: Survey

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SOCIAL MEDIA MARKETING: THE NEXT FRONTIER

(AN EXPLORATORY STUDY ON SOCIAL MEDIA MARKETING PROSPECTIVE WITH REFERENCE TO PUNE CITY)

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ABSTRACT

Internet is becoming the town square for the global village of tomorrow." said Bill Gates and so right was Peter Ducker in anticipating that, "The new IT... Internet and e-mail... have eliminated the physical costs of communications." Jack Welch called internet as, "the Viagra of big business". Today tapping the online resources is not the only option but the need for every business organization. This study is very important as it has been done on the end users, it will help to understand the psyche of customers and help the organizations to build their product marketing strategies and policies accordingly. Even this study will work as a basic guideline for future research, so it will be of great importance for the academicians as well as researchers also. The data is collected from 100 respondents through questionnaire as well as interview format. The data is analyzed through Cross tabulation, Chi-square Test and Percentage Analysis. Statistical calculations and computations will be done through IBM SPSS statistical package (version 19.0). Through this research paper we come to know that in today's scenario due to technological advancement every one is an active member on social networking websites. Respondents are spending ample amount of time on these websites, which represents an opportunity for the organizations to lure the customer through this media. The size of a social network on an average is of around 300 persons per respondent, which is very suitable scenario for reference marketing activities to a marketing manager.

KEYWORDS

Social Media Marketing, Social Networking, Social Media Optimization (SMO).

INTRODUCTION

Today being online is a basic necessity for every business organization. Similar to T.V. and paper ads, a website is another essential communication tool. Through websites business can grow internationally in much better and efficient manner and is cost effective too. Online marketing is very volatile in nature as a good website can enlarge the customer base, while a bad one can affect your business more adversely than any other media i.e. Internet marketing practices should be given more importance than any other medium of advertising.

Now a days social media marketing has become a most common jargonized word. According to Philip Kotler, Nancy Lee and Michael Rothschild (2006) [1]

"Social media marketing is a process that applies marketing principles and techniques to create, communicate, and deliver value in order to influence target audience behaviors that benefit society (public health, safety, the environment and communities) as well as the target audience."

Social Media Marketing combines the internet marketing with social media (networking) websites. Any organization can use social media to manage their online reputation. Even social media marketing involve some form of viral marketing to communicate the information, idea or to create brand awareness, increase visibility within the market, and to sell a product or service.

Social Media Marketing campaigns should be targeted to the prospective community, so that the message appeals the targeted customers. For this first we need to do research and find out that for what purpose the targeted customers use social networking websites. Then what is their perception about the social media, how frequently they use these websites, and what kind of groups / communities they join. This will help the organizations to prepare their social media marketing strategies accordingly and avoid the chances of failure.

With reference to the above, we did the research to find out the social media marketing effectiveness with especial reference to Pune city. We used Questionnaire method to collect the data and use descriptive analysis, frequency analysis and Chi- square test as tools for analyzing the data.

REVIEW OF LITERATURE

The Internet and Mobile Association of India (IAMAI) said as the number of internet users goes up, the growth impact of the internet will improve significantly. Broadband, it said, has a bigger impact on growth. The statistics provided by IAMA shows that there are 900 million connection for mobile, 13 million for broadband and 120 million for internet connection in 2011. [6]

The Department of Information Technology expects to add 175 million broadband users by 2014, which will result in 700 million Internet users by that time. India has over 100 million internet users and the number of broadband users according to the latest data is just over 13 million. [2]

The internet growth in India has moved in the fast track, especially due to the onslaught of low-cost smart phone devices and the resultant mobile internet boom. Apart from smart phone devices, the evolution of the budget tablets is yet another source of accessing internet while on the move, that will have a positive impact on the growth of internet in India, which is all set to be the third largest internet market in the world after China and the United States.

According to Internet In India (I-Cube) 2011 report, the number of 'claimed' internet users in India has crossed the landmark 100 million mark in September 2011, at 112 million users (88 million urban + 24 million rural villages) who have used the internet at any point in time in the past. [3]

One research shows that around 94% internet users use emailing, 54% are active on social networking, 72% do music downloading, around 52% use info search engines, 56% do instant chatting / messaging, 50% users watch videos and around 56% use online media for Job search in India. [3, 4] More than fifty percent of online users are using internet for being socially active through social networking websites.

Annual India Digital Summit in its sixth edition on 18 January 2012 in New Delhi was held with a big focus on tapping the anticipated 600 million mobile internet user bases by 2020. [8] Dippak Khurana, founder and chief executive officer, Vserv Digital, called this as the curious case of mobile internet users. He shared that there are around 100 million mobile internet users and 500 million app downloads in India every month. "Video and social are growing as very powerful mediums. Despite all the bandwidth constraints in India, YouTube has over 35 million users and it has doubled over the last years," [8] He referred Social media as the dream baby of marketers one have to really understand the worth of the product to utilize social media in an effective way.

SOCIAL NETWORKING

Social networking is the combination of individuals into particular groups, small communities according to their will. Initially social networking was done in person, in various forms at workplace, at universities, and in neighborhoods. As technology becomes an integral part of individuals' life, social networking also comes online. Online networking is now one of the most popular ways of socializing through social networking websites. (Websites play role of media)

Social Networking is used to meet people, to gather and share first-hand information and experiences about individuals liking and disliking. The topics and interests of each person and group are as varied and rich as the universe.

Social networking websites solve the purpose of socializing for internet users. Online communities are formed in many forms depending upon members' common interests in hobbies, religion, or politics. One individual has to ask for access from a social networking website, once Social networking website grant the access one can begin to socialize through internet. [5]

Social networking websites are in existence since the mid-90, but in recent years, it has exploded across the World Wide Web. The Web 2.0 initiative made modern social networking sites increasingly popular and easier to use. One major benefit of online social networking is, it provides diversity with individuals able to access internet across globe. Meaning even if you are in India, you could build up an online community with members of different nations. Social Media can also be used as a new mean of learning as it makes the whole world one. Social Networking Website's main functional focus is on these aspects: [7]

1. **Networking:** To interact with friends, making new friends, joining groups of interest and to have discussion. (Facebook, Twitter, Orkut, Google+)
2. **Photo and Video Sharing:** Sharing photos or videos and commenting on user submissions. Getting current updates about friends' through their pictures and videos. (YouTube, Flickr)
3. **News:** To have updates about current happenings in the world in news format and even vote and opinionate on the same. (Digg)
4. **Bookmarking:** Interact within the group and share info through tagging websites and searching through websites bookmarked by others. (Blinklist, Simpy)
5. **Wikis:** Interacting by adding articles and editing existing articles. (Wikipedia, Wikia)

Same as real world online Social Networking has some disadvantages also such as; Data Theft and Viruses, Online Predators (Individuals who claim to be someone but they are not), and Fraud and Security issues. That is why using online social networking as a media for communication is a very critical aspect dealt by marketing managers.

SOCIAL MEDIA MARKETING

Social media marketing usually focuses on efforts to create substance that attracts attention and encourages readers / internet users to share it with their social networks. A message spreads from user to user apparently resonates as it is coming from a user whom the receiver have trust, as opposed to the brand or company itself. Social media can help to increase communication for the organization which may results in better brand awareness and better customer services.

Reasons for increase in the usage of social media as a marketing tool by organizations are as:

1. It is a platform that is easily available to everyone with an internet access.
2. It is relatively inexpensive tool of communication for organizations to implement marketing campaigns.
3. The entry barrier in social media is greatly reduced, so it is easily accessible for every organization.
4. The organization can centralize its information and direct customers on its recent developments via social media channels.
5. Referral marketing may work magnificent with social media.

Social media marketing is also known as SMO Social Media Optimization. It benefits organizations and individuals by providing an added channel for customer support, a way to gain customer and competitive insight, acquisition and retention of new customers/business partners/ channel members, and a method of managing brand image online. [9] Also it helps to develop an easy feedback cum review system for a brand.

Companies recognize the need for information, originality, and accessibility employ blogs through social networking websites to make their products popular and unique, and ultimately reach out to consumers who are privy to social media. [10] The only point which has to be taken care while using social media as a marketing tool is that the content which the organization is floating should be relevant to the customer.

From the above literature review it is clear that in current scenario social media plays a vital role in integrated marketing mix for any organization as India is going to be the third largest internet user base country. Through this research project we will be able to find the potential of social media as a marketing tool with reference to Pune city. In this research we are going to narrow down the potential area so that for the marketer it will work as strategic point for decision making.

OBJECTIVES OF STUDIES

Based on the literature review, following objectives have been framed:

1. To find out the awareness of social networking website with reference to Pune City.
2. To study the interest area of consumers while using social networking websites with reference to Pune city.
3. To study various factors and aspects with the usage of social networking websites.
4. To find out the relationship between the gender and frequency of websites usage.
5. To find out the major purpose of using social networking sites with reference to Pune city.
6. To study the various activities under the socializing factor.

HYPOTHESIS

- **For research objective 4**

H₀: Frequency of usage of social networking websites is independent of Gender of users.

H_a: Frequency of usage of social networking websites is not independent of Gender of users.

RESEARCH METHODOLOGY

1. **Sample Design:** The present study is based on the primary data which was collected from 100 sample respondents. The 100 respondents were selected by using random sampling technique.
2. **Data Collection:** Questionnaire as well as interview method was being used to collect data. The questionnaires were filled through e-mails, social networking websites and schedules.
3. **Area and Period of the Study:** This study is confined to Pune city (Maharashtra, India). The data was collected within 2 months (May and June 2012).
4. **Framework and Tools for Analysis:** Data collected through questionnaire were presented in a master table and required sub-tables were prepared. For analyzing the data, descriptive analysis, Cross Tabulation, Chi-square Test and Percentage Analysis were applied. Statistical calculations and computations are done through IBM SPSS statistical package (version 19.0).

DATA ANALYSIS AND INTERPRETATION

The total number of respondents selected for this research was 100, out of which 4 respondents were unaware of social networking websites. That is why the remaining questions for them were invalid. Resultant the analysis for the research study is done on 96 respondents only.

For the analysis the sample size reduced to 96 respondents.

From Table I: In this table N represent the number of respondents who are active for that particular networking websites.

TABLE I : SOCIAL MEDIA NETWORKING WEBSITES FREQUENCIES

Social Media Networking Websites	Responses		Percent of Cases
	N	Percent	
use Facebook	96	18.0%	100.0%
use Google +	79	14.8%	82.3%
use Orkut	59	11.1%	61.5%
use twitter	61	11.4%	63.5%
use LinkedIn	80	15.0%	83.3%
use YouTube	76	14.3%	79.2%
use MySpace	26	4.9%	27.1%
use Ibibio	28	5.3%	29.2%
use Flickr	28	5.3%	29.2%
Total	533	100.0%	555.2%

a. Dichotomy group tabulated at value 1.

Through table I, we come to know that 100% of respondents are aware of Facebook - the social networking website, which is followed by LinkedIn with 83.3% and Google+ with 82.3%.

From Table II: In this table N represent the number of respondents who are active member of various groups.

TABLE II : ACTIVE MEMBER OF GROUPS - FREQUENCIES

Types of Active Group	Responses		Percent of Cases
	N	Percent	
Member of Information Group	41	16.8%	45.6%
Member of Entertainment Group	32	13.1%	35.6%
Member of Social Group	69	28.3%	76.7%
Member of Technological Group	41	16.8%	45.6%
Member of News and current event Group	61	25.0%	67.8%
Total	244	100.0%	271.1%

a. Dichotomy group tabulated at value 1.

Table no II shows that maximum respondents are active member of social group that is 76.7%, followed by news and current event group (67.8%).

Table III: Count refers to the number of respondents.

TABLE III (A) : TIME-SPEND ON SOCIAL NETWORKING SITES PER USAGE

		Time-spend on social networking Sites per usage				Total
		less than 1 hr	1 to 3 hr	3 to 5 hr	more than 5 hr	
Total	Count	23	49	18	6	96
	% of Total	24.00%	51.00%	18.80%	6.30%	100.00%

TABLE III (B) : MEDIA USED TO ACCESS SOCIAL NETWORKING WEBSITES

		Access through the Media				Total
		broadband home	USB modem	Mobile	office	
Total	Count	34	12	28	18	96
	% of Total	35.40%	12.50%	29.20%	18.80%	100.00%

TABLE III (C) : SIZE OF SOCIAL NETWORK

		Size of social network				Total
		31 to 50	51 to 100	101 to 300	more than 300	
Total	Count	17	6	44	29	96
	% of Total	17.70%	6.30%	45.80%	30.20%	100.00%

Through these tables it is clear that around 50% respondents spend 1hr to 3 hr on social networking websites. Broadband is the most used media for accessing internet for socializing online. Around 46% respondents have social network of range from 101 to 300 persons followed by more than 300 people.

Table IV

TABLE IV (A): GENDER AND FREQUENCY OF SITES USAGE CROSS TABULATION

			How often sites are being Used					Total
			Daily	Thrice A Week	Twice A Week	Weekly	Monthly	
gender	Male	Count	59	1	4	5	1	70
		% within gender	84.30%	1.40%	5.70%	7.10%	1.40%	100.00%
		% of Total	61.50%	1.00%	4.20%	5.20%	1.00%	72.90%
	Female	Count	11	1	4	10	0	26
		% within gender	42.30%	3.80%	15.40%	38.50%	0.00%	100.00%
		% of Total	11.50%	1.00%	4.20%	10.40%	0.00%	27.10%
Total		Count	70	2	8	15	1	96
		% of Total	72.90%	2.10%	8.30%	15.60%	1.00%	100.00%

TABLE IV (B): CHI-SQUARE TESTS

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.513 ^a	4	.001
Likelihood Ratio	18.300	4	.001
N of Valid Cases	96		

a. 6 cells (60.0%) have expected count less than 5. The minimum expected count is .27.

The Chi-square value 19.513 is significant since the p – value (0.001) is less than level of significance $\alpha=0.05$. Thus the null hypothesis H_0 is rejected and we conclude that there is a relationship between gender and frequency of site usage. The value of df (4) indicate that the relationship is of moderate type, means the relationship between gender and frequency of site usage is moderate.

Table V

TABLE V: DESCRIPTIVE STATISTICS – EXTENT OF AGREEMENT WITH FOLLOWING FACTORS FOR USING SOCIAL NETWORKING WEBSITES

	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
use SM To be socialize	6.07	1.267	-1.377	0.246	-1.481	0.488
Use SM To chit chat	4.43	1.397	0.141	0.246	0.816	0.488
use SM To time pass	4.14	1.404	0.617	0.246	0.261	0.488
Use SM To play games	3.64	1.748	0.807	0.246	0.653	0.488
Use SM To gain knowledge	4.98	1.698	0.546	0.246	1.042	0.488
Use SM to do Shopping Online	3.25	1.361	-1.017	0.246	-0.186	0.488
use SM for Others purpose	3.79	1.929	0.878	0.597	0.552	1.154

For table V we used 7- point ordinal scale where “7” refers to strongly agree and “1” for strongly disagree. For mean to be representative, standard deviation value should be less than 1/3 of mean. Mean value for factors to socialize, to chit chat, to passing the time and to gain knowledge are truly representative, while for other factors the mean value should be taken carefully.

Table VI

TABLE VI: DESCRIPTIVE STATISTICS – WITHIN SOCIALIZING MAIN FACTORS

	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Stay in touch with current friends	5.96	1.528	-1.953	0.246	-3.252	0.488
Stay in touch with family	4.3	1.603	-0.524	0.246	0.51	0.488
To connect with Lost old friend	5.85	1.465	-1.567	0.246	-2.207	0.488
To get persons having same hobbies or interests	3.77	1.244	-0.021	0.246	1.158	0.488
To make new friends	4.08	1.739	-0.143	0.246	0.862	0.488
To follow celebrities,	3.27	1.72	0.456	0.246	0.818	0.488
To Find dating partner	2.39	1.558	1.189	0.246	-0.97	0.488

For table VI we used 7- point ordinal scale where “7” refers to strongly agree and “1” for strongly disagree. For mean to be representative, standard deviation value should be less than 1/3 of mean. Skewness value shows that maximum factors have right skewed curves, which is a representative case. Mean Value for to make new friends, to follow celebrities and to find dating partner should be carefully interpretive as the standard deviation is greater than 1/3 of mean value. For rest all factors the mean value is truly representative.

FINDINGS

From Table I and II:

1. Out of 100 respondents only 4 were not active on social media, so we can extrapolate that all respondents are aware of various social networking websites.
2. It is found that 100% active respondents are using Facebook – social networking website.
3. LinkedIn secured second rank with 83.3% of users, followed by Google+ with 82.3%.
4. Social group has maximum numbers of active member (76.7%); this is supported by table I (Facebook – 100%), so we can extrapolate that social networking websites are majorly used for socializing purpose.
5. It is found that members in news and current events group are 67.8%.
6. Members in Information and technological group are equal i.e. 45.6%.
7. In case of entertainment group only 35.6% of active members are there.

From Table III:

1. Time spend on social networking websites by maximum respondents (51%) is from 1hr to 3 hrs per usage.
2. Only 6.30% respondents are there who spend more than 5hrs on social networking websites.
3. 35.4% respondents use broadband at home and 29.2% use mobiles to access the social networking websites.
4. 45.80% respondents have social network of around 101 to 300 people, followed by 30.2% respondents having social network of size more than 300.

From Table IV:

1. Frequency of usage of social networking websites is dependent to gender of users. The relationship between the gender and frequency of usage is moderated in nature.
2. Overall around 72.9% respondent use social networking websites daily.
3. From the total sample size of 96, 70 are male who use social networking websites and rest 26 are female.
4. 84.3% male use daily social networking websites, followed by 5.7% twice a week.
5. 42.3% females use daily while 38.5% females use social networking websites once in a week.
6. The usage pattern is quite different with respect to gender. Maximum male use daily while female group is majorly divided in two segments: daily and once in a week.

From Table V and VI:

1. Through mean value we can interpret that major respondents strongly agree that social networking websites are used for socializing purpose.
2. Respondents agree that social media is used for gaining knowledge, passing the time and chitchatting (mean value around 5 - Agree).
3. Regarding the use of social media for playing games, shopping and other purposes, respondents are undecided about their opinion.
4. It is found that respondents are somewhat agree for staying in touch with current friends and to get connected with old friends are the reasons for socializing.
5. Respondents disagree to the reason of finding dating partner with socializing through social networking websites.

SUGGESTIONS

Based on the findings of the study, following suggestions can be made

1. As the penetration level of social media is very high, it can be used as an important tool in marketing mix by the organizations.
2. Referral and internet marketing can be combined with social media marketing for gaining greater customer base, which will indeed help to acquire new customers.
3. Integration between social media and mobile present magnificent opportunity for the organization to tap the unused market.
4. Organizations can segment markets of their product according to gender and other differentiators; adopting different strategies for them. For e.g.: most of Male access social networks daily while Female access weekly.
5. Socializing is the main purpose for using social networking websites so organizations should not directly market their product. They should employ strategies for socializing which will lead to goodwill making and in long run results in favor to the organizations. Such as goibibo through their social network, promotes community gaming increasing time spend on the website, thus increasing visibility of product campaigns.

CONCLUSIONS

Over the years, online marketing has grown in importance. Online media offers numerous marketing tools to the companies. Social media allows companies to interact directly with customers via various Internet platforms and monitor. Interacting with customer will provide opinions about the product and even evaluations of services can be done remarkably. Social media constitute excellent vehicles for fostering relationships with customers.

"Social media is nothing but equals to people's conversations and actions online that can be mined by advertisers for insights but not coerced to pass along marketing messages. It's the new form of media that does not exist until it happens and that cannot be bought by advertisers to carry their messages."

Dr. Augustine Fou – Marketing Science Consulting Group, Inc. [10]

Social Media is the backbone to Internet Marketing. With over 700,000,000 people on Facebook alone, it is crucial that businesses create communities on these social networks and utilize these networks for their benefits. To ensure having the advantage in a business-consumer relationship, businesses have to be aware of four key assets that consumers maintain: information, involvement, community, and control. [11] Through Social media marketing we can use these four assets in more effective way to maintain the relationship.

Social media marketing is one of the best pull techniques, through which customers are pulled in by good content / information about the product. On the other hand traditional marketing push products at prospective clients through paid form of marketing as advertising or brochures. In short we can say that social media marketing is the next frontier for which every organization should be prepared to ripe it fully.

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ROLE OF INFORMATION TECHNOLOGY IN AGRICULTURE AND AGRO-BASED INDUSTRIES

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ABSTRACT

In the light of globalisation, it is necessary for the industry related to agriculture, to review their present IT infrastructure with respect to marketing function and, undertake measures to strengthen the same. No single institution or organization can succeed in the task of e-powering farmers and rural India. At the same time, scattered and half hearted attempts cannot be successful in meeting the objective. Industries with major stake in villages, should come together to provide the initial impetus. Information technology has a major role to play in all facets of Indian agriculture in addition to facilitating farmers in improving the efficiency and productivity of agriculture and allied activities; the potential of information technology lies in bringing about an overall qualitative improvement in life by providing timely and quality information inputs for decision making. It can be argued that the next revolution in urgent need of focus is IT revolution in field of Indian farming.

KEYWORDS

IT, agriculture, agri-based industry.

1. BACK DROP

Indian agriculture is facing a tough challenge from the developed countries in this era of liberalization and WTO regime. So, in this situation, agriculture sector in India needs improvement in terms of cost, quality and output. To fulfill these needs, Indian farmers must be well informed about the latest trends in agriculture industry i.e., about new techniques of farming, new methods of cultivation, new crops, seeds, insecticides, pesticides water and nutrient management, and marketing of the produce. This can be possible only with the introduction of new millennium technology that is information technology (IT) in agriculture, which is playing an important role for sweeping changes in socio economic development in the era of globalization.

2. PRESENT SCENARIO OF IT

- * The mobile internet is overtaking the wired internet.
- * Networking is growing at a fantastic speed of 10-15% per month or about 200% a year.
- * Specialists forecast that, in less than 10 years from now, internet terminals would be as common as telephone instruments but much more useful.
- * About 99% of the districts have Optical Fiber Network (OFN) providing desired bandwidth of Internet connectivity for e-Commerce and e-Governance application in the country.
- * The farming community has more readily embraced the internet than general population in countries like USA, Canada, UK etc.

3. UNIQUE FEATURES OF INFORMATION TECHNOLOGY

- * Access to the storehouse of information is easy.
- * Information is available instantaneously.
- * Communication is interactive
- * Information from any point in the globe is available
- * Communication is dynamic and ever growing.

4. ROLE OF IT IN AGRICULTURE

In the context of agriculture, the potential of information technology can be assessed broadly under two heads: (a) as a tool for direct contribution to agricultural productivity and (b) as an indirect tool for empowering farmers to take informed and quality decisions which will have positive impact on the way agriculture and allied activities are conducted. Precision farming, popular in developed countries, extensively uses IT to make direct contribution to agricultural productivity. The techniques of remote sensing using satellite technologies, geographical information systems, agronomy and soil sciences are used to increase the agricultural output. This approach is capital intensive and useful where large tracts of land are involved. Consequently it is more suitable for farming taken up on corporate lines.

5. IT AND THE FARMER

The farmer requires timely inputs on weather forecasts, sowing time, availability and recommendations on inputs, availability of credit, expert advice on maintaining his crop in healthy condition, information on markets' and on all other areas of interest to him and his family. Despite the best efforts and expenditure, the conventional apparatus could not meet these requirements satisfactorily. Herein lies the potential of IT which can efficiently address the concerns of farmers stationed at even remote locations.

6. SERVICES TO FARMERS

A project must be started with the help of Indian Space Research Organisation (ISRO), which utilizes satellite based sensing data and Geographical Information Systems (GIS) and Outputs Remote Sensing and GIS information, which can provide warnings on evolving crop stresses, crop vigor etc.

7. IT AND THE INDUSTRIES THAT PROVIDE INPUT TO AGRICULTURE

There are various industries that provide inputs such as fertilizer, seeds, hardware equipment etc., to agriculture. If these industries use the information technology, then they can satisfy the farmers with reliable service and they can also make high turnover.

8. IT AND THE INDUSTRIES THAT DEAL WITH AGRICULTURAL OUTPUT

The industry related to agriculture, either as a supplier of inputs or receiver of agricultural output, has a major stake to be competitive in this changing world. As the motivation is driven by the compulsion of staying fit, major segment of the industry has already embraced IT in a big way. The industries, which deal with agricultural outputs, may develop websites for their own and place their quotations on various agricultural outputs. It will be very helpful for the farmer to choose the best company who gives more money for his agricultural product. The industries may also use multimedia tools to attract the customers, by explaining their services graphically.

9. IT AND THE GOVERNMENT

Proper planning, monitoring and corrective action requires availability of timely information of right quality. The Central and State governments must hasten the process of computerization of all the records and transactions. Since the government has a major say in promoting agriculture, this will have cascading effect on the entire rural areas.

To begin with, it is necessary that the government agencies should accept conventional reports in the electronic format. Many State governments are showing interest in developing proper systems for e-governance. But the implementation of the same still requires a lot to be desired. The Central and State governments should also make information available for ready reference by those interested. Similarly, research institutions should exchange and provide information through a well-conceived network.

10. IT AND AGRICULTURAL ORGANIZATIONS/RESEARCH CENTRES

The agricultural organizations and research centers may give the correct and timely advice and information to the farmers through IT in order to rectify errors. The farmer can be benefited with results of these organizations and research centers.

11. IT AND INDIAN AGRICULTURE IN THE FUTURE

Technologically it is possible to develop suitable systems to cater to the information needs of the farmer. User-friendly systems, particularly with content in local languages, can generate interest in the farmers and others working at the grassroots. It is possible to create dedicated networks or harness the power of Internet to make these services available to all parts of the country.

It is suggested that it is useful to focus more on some agricultural products to maintain an unquestionable competitive advantage for exports. This will call for urgent measures to introduce state of the art technologies such as remote sensing, geographical information system (GIS), bio-engineering etc. India has made rapid strides in satellite technologies. It is possible to effectively monitor agricultural performance using remote sensing and GIS applications. This will not only help in planning, advising and monitoring the status of the crops but also will help in responding quickly to crop stress conditions and natural calamities. Challenges of crop stress, soil problems, natural disasters can be tackled effectively through these technologies.

12. CONCLUSION

The face of Indian agriculture can be transformed by a well-conceived deployment of IT. The key players involved in this process such as industry, government and educational institutions and research centers are required to make contributions in this endeavour. This initiative to develop necessary IT based agricultural services needs to be developed immediately.

In the light of globalisation, it is necessary for the industry related to agriculture, to review their present IT infrastructure with respect to marketing function and, undertake measures to strengthen the same.

No single institution or organization can succeed in the task of e-powering farmers and rural India. At the same time, scattered and half hearted attempts cannot be successful in meeting the objective. Industries with major stake in villages, should come together to provide the initial impetus.

Information technology has a major role to play in all facets of Indian agriculture in addition to facilitating farmers in improving the efficiency and productivity of agriculture and allied activities; the potential of information technology lies in bringing about an overall qualitative improvement in life by providing timely and quality information inputs for decision making. It can be argued that the next revolution in urgent need of focus is IT revolution in field of Indian farming.

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ADVENTURE TOURISM POTENTIAL: A STUDY OF KASHMIR**FARHAT BANO BEG****RESEARCH SCHOLAR****SCHOOL OF HOSPITALITY & TOURISM MANAGEMENT****UNIVERSITY OF JAMMU****JAMMU****DR. ASHOK AIMA****PROFESSOR****THE BUSINESS SCHOOL****UNIVERSITY OF JAMMU****JAMMU****ABSTRACT**

Tourism continues to be a critical source of economic investment in the state. The tourism trade is one component of the economy organization and marketing. Adventure tourism is one of the strongest cores within tourism. The variety of landscape is a vital component of local tourist trade. Land use policies and economic development strategies in the future can have a significant impact on the maintenance of these critical natural resources. Adventure tourism is fastest growing segment and turned out to be an immense business opportunity for Kashmir region. The paper examines the psyche of the adventure tourist in the region. The present research looks at those who come into the region for a brief period as visitors. The paper is conceptual in nature and the main focus of the paper is to discuss on the adventure tourism which is still in the early phase of development in the valley. The study explores the important adventure tourist destinations in Kashmir. The study therefore recommends various strategies in order to broaden the base of tourist arrivals on one hand and sustained the growth on the other hand.

KEYWORDS

Adventure, Kayaking, Market segment, Resources.

INTRODUCTION

Adventure tourism is an outdoor leisure activity that generally takes place in an unusual, exotic, remote or wilderness setting, sometimes involving some form of unconventional means of transportation and tending to be associated with low or high levels of physical activity. As the name suggests it entails an element of risk and can range from 'getting wet' to 'getting high' to 'getting faster'. Adventure tourism is at the cutting edge of world tourism, and its newness merits a comprehensive examination, unhindered by the confines of traditional delineations. Despite a number of attempts to define the concept of 'adventure tourism', consensus remains to be lacking within the academic community; indeed, as the boundaries of knowledge are receding, the number of proposed definitions and conceptualizations appear to be increasing. A recent proposition that adopts a fresh perspective by identifying an individual's state of mind as the central factor in the creation of 'adventure' is offered by Swarbrooke *et al.* (2003), who believe that an adventure tourism experience will be:

- (1) be of a heightened nature— a stimulating context will induce a range of emotions (of which excitement will be key), and separate it from everyday life;
- (2) entail intellectual, physical or emotional risks and challenges — these will be absorbing; and
- (3) be intrinsically rewarding, providing opportunities for enjoyment, learning and self-development.

An Adventure Tourism business provider can arrange a single adventure or a combination of adventure pursuits for paying tourists. When considering an Adventure Business it is probably more cost effective to concentrate on the aspects that you are good at and have a specialized interest in. Unlike other tourism businesses an Adventure Tourism enterprise will rely heavily on the specialist interest, experience and skills. Therefore, the specialist understanding required for adventure activities, is a critical area of experience for a would-be adventure tourism entrepreneur. Adventure tourism is a special form of tourism. The Adventure Travel Trade Association found that 26% of travelers engage in adventure activities on vacation and valued international adventure tourism as an US\$89 billion industry. India has a huge Adventure tourism potential but it is still at an early stage of development and the segment is now becoming a point of focus with the Ministry of Tourism and Various state tourism boards. Activities like Diving and Snorkeling, whitewater rafting and kayaking, skiing and snowboarding, hiking and biking, climbing and mountaineering, sailing and sea kayaking, Hang gliding and paragliding, contains a strong element of adventure. Adventure tourism in India is still in the early stage of development but the country has great scope and the segment is now becoming a point of focus with the Ministry of Tourism and various state tourism boards.

LITERATURE REVIEW

Kshitij Sxena and A.K.Dey (2010) wanted to identify main motivational factors of attraction towards adventure sports among youths of National Capital Region. The main objective of the study was to improve the effectiveness of integrated marketing communications strategy. Sophie Price and Cian O Driscoll, aims to discuss the importance of managing perceived risk in the adventure tourism industry and the current the current use of management strategies. Peter B. Myles (2003) explored in his topic that there is a global concern that ecotourism and adventure travel is becoming a mass tourism market rapidly losing its tourist appeal. This will require repositioning ecotourism and adventure travel in the marketplace by introducing elements of exclusivity, perhaps at a premium price, so that the true value of the outdoor tourism experience will be measured by learning from nature rather than by boasting of luxury lodges in exotic locations filled with noisy, adrenalin pumping activities. Christian Schott (2007) examines the distribution channels structure as well as underlying factors influencing the most prominent channel choices within the adventure tourism industry. Paige P. Schneider (2007) attempts to segment the adventure travel market based on activities available to consumers. Mirna Soininen (2007) did this study for the purpose of searching for new marketing implementations for adventure travels to South-America. Adventure tourism is a rapidly growing sector in the industry, but is not commonly applying special marketing methods by the management. This research was completed by analyzing two young adventure travel companies and their current marketing applications.

TOURISM IN KASHMIR VALLEY: RESOURCE ATTRACTION

The northern most part of India and one of the three administrative provinces of Jammu & Kashmir State, valley of Kashmir is nestled in the towering Himalayas. This region often being called as "Switzerland of the east" and "Paradise on earth" consists of 10 districts namely Anantnag, Pulwama, Kulgam, Budgam, Shopian, Srinagar, Baramulla, Bandipora, Kupwara & Ganderbal. The valley offers variety of attractions for all kinds of tourists. Every district in the valley has something to attract the tourists of different nature and taste. Tourism in Kashmir is not a new concept but it has been synonymous with tourism from the time immemorial. The valley of Kashmir has attracted the attention of the countries beyond the frontiers of India and it has been an unending attraction of the visitors down the ages. The nature of Kashmir offers varied attractions to the tourists, which always made the Kashmir a land of great fascination and charm. Its

natural beauty, religious sites and rich cultural heritage makes it an ideal tourist destination. Major tourist places of Kashmir have been taken into account for development as these places hold tremendous tourism potential and have the inflow of both foreign and domestic tourists. A category wise classification of these major tourist places is given below.

S.No	Category	Name of the places
1	Scenic attractions a) Hill station	Gulmarg, Tangmarg, Sonamarg, Pahalgam, Yusmarg, Kokernag, Aharbal, Doedpathri
	b) Lakes	Dal, Nigeen, Manasbal, Wular, Alpathar, Vishensar, Krishansar, Gadsar, Satsar, Gangbal, Tarsar, Marsar
	c) Mountains and Peaks	Pir Panjal, Harmukh, Kolhoi, Kousarnag, Sheshnag
	d) Wild life protected areas	Dachigam National Park, Gulmarg wildlife sanctuary, Overa wildlife sanctuary, Baltal (Thajwas) wildlife sanctuary
2	Religious a) Muslim	Dargah Hazratbal, Shrine of Pir Dastigar, Chararsharif, Ahmshrief, Zain Shah wali, Baba Reshi, Jamia Masjid Srinagar, Shah Hamdani Masque, Pather Masjid, Aali Masjid, Janbaz Wali, Pir Baba Gafoor
	b) Hindu	Amarnath cave, Khir Bhawani, Shanker Acharia, Sharkia Devi,
	c) Sikh	Gurdwara Chati Padshahi Srinagar, Tapayana Sahib, Gurdwara Parimpillan Uri
3	Archeological and Historical	Hariparbat Fort, Pari Mahal, Badshah Dumat, Pantherthan, Harwan, Burzahama, Parhaspora, Pattan, Naranthal, Ushkura, Manasbal, Zainlank.
4	Other attractions	Royal Spring Golf Course, Mughal Gardens: (Nishat, Shalimar, Cheshimashahi, Harwan), Gulmarg cable Car, Uri Hydel Project. There are three universities in valley of Kashmir i) University of Kashmir Srinagar, ii) SKUAST Shalimar iii) IUST Awantipora

ADVENTURE TOURISM IN KASHMIR

J&K state is the India's northernmost state, lying between six mountain ranges and covering an area of 2,22,236 sq. kilometers. It is located between 32°17' and 36°58' North latitude, and between 37°26' and 80°30' East longitude. Jammu & Kashmir has three distinct regions viz. Ladakh, Jammu and Kashmir valley – offering a rich diversity in landscapes, religions and people. Tourism is considered to be an economic bonanza for Jammu & Kashmir because industrial development is very low due to hilly terrains. Tourism is considered as a multi-segmented industry which provides different type of jobs like hotel managers, receptionists, guides, tour operators, travel agents, photographers, etc to strengthen the tourism. Kashmir has been considered as a centre of tourism attraction for different people. There are various places of tourist attraction in the state visited by the tourists. Jammu & Kashmir Tourism has declared 2011 as the year of the Adventure Tourism. Tourism in Kashmir depends on the natural resources that this place offers for economic profitability. Aharbal waterfall, lush vegetation and snow covered mountains have come to symbolize what the tourism industry in Kashmir can offer. Kashmir is taken as an enchanting and captivating luxury tourist destination where one can enjoy a leisurely holiday in the most wonderful climate surrounded by some of the world's best scenery. Kashmir is the world's most challenging destination for what is known as the "Adventure Tourism". One can say that Kashmir is the "Ultimate Adventure".

The Kashmir valley received the highest ever number of 13.14 lakh tourists which was 79% higher over the previous year. Table1 shows the estimation of the number of domestic tourists' arrival in India. It has increased from 563 million (2008) and 669 million (2009) to 740 million (2010), respectively. According to the statistics shown in the Table1, the annual growth rate of domestic tourists is increasing, but, with declining growth rate i.e. 20.9 percent for 2009 to 8 percent in 2010. On the contrary, figures on foreign tourist arrivals show a major decline in the growth rate, probably due to the security/law and order issues. The observation based on the Table1 is as follows:

- The total tourist visits in India during 2010 was 7580.7 lakhs out of which nearly 1.32 percent tourists visited Jammu and Kashmir.
- Amongst these 1.32 percent tourists, 99 percent were domestic tourists.
- Domestic tourist inflow is high during the period of June-July and October to March (20 Years Perspective Plan, 2003).

TABLE1: TOURISTS' ARRIVAL IN JAMMU & KASHMIR

Particulars	2008		2009		2010	
	Domestic (in lakhs)	Foreign (in Lakhs)	Domestic (in lakhs)	Foreign (in lakhs)	Domestic (in lakhs)	Foreign (in lakhs)
Jammu&Kashmir	79.39	0.55	92.35	0.54	99.73	0.48
J&KGrowth Rate	-	-	20.9	-1.8	8	-11.1
All India	5630.34	143.81	6688	143.72	7402.14	178.53
All India Growth Rate	-	-	18.8	-0.06	10.7	24.2

Source: Ministry of Tourism

The adventure tourism in the valley of Kashmir offers the tourists with wonderful opportunity to explore the vast terrains of the exotic Himalayan mountain ranges. Apart from natural beauty, the unique landscape of Kashmir also encourages one to find out one's inherent sporting caliber. With the increase in number of operators and tourists worldwide, adventure tourism has been identified as one of the fastest growing segment. Adventure tourism could be classified into three categories:

- **Aerial adventure**
- **Water adventure**
- **Land adventure**

The activities which are offered by the different agencies in valley of Kashmir are paragliding, parachuting, white water rafting, skiing, skating, angling, golfing, Mountaineering and climbing, etc. One of the famous adventure destinations in Kashmir is Gulmarg which is the ultimate destination for skiing. All the skiing equipment may be easily hired by there. The skiing season at Gulmarg is from November to February. The slopes in Gulmarg vary between 8,700 and 10,500 feet make the ski runs the highest in India. Besides, Gulmarg is the only heli-skiing resort in Asia. Even the amateurs can enjoy with the ski lifts and the chair lifts. The beauty of the Kashmir valley will not fail to mesmerize. Skiing as an adventure sports is fast catching up with the tourists coming to the Kashmir valley. Kashmir is the best place for those who have an interest in adventure sports. Two British Army Officers, Maj. Metcalf and Maj. Hadow set up the Ski Club of India at Gulmarg in 1927. Snow Skiing has been popular in the state of Jammu and Kashmir since then. Before independence, two skiing events used to take place annually at this ski resort during both Christmas and Easter. The skiing season in Gulmarg starts around mid-December and ends around the mid-April. One of the draws of skiing tourism in Kashmir is the friendly atmosphere of the valley. Also, it is probably the cheapest ski resort in the world, making it quite suitable for learning purposes too. Gulmarg also offers some exciting treks to the tourists, especially in the northern Pir Panjal Range. Some of the popular treks from Gulmarg are: Alpathar Lake, 13 km from Gulmarg.

Sindh and Lidder Rivers are famous for white water rafting. River rafting tourism was introduced quite recently in Kashmir valley. Lidder River in pahalgam is quite popular in river rafting. Minister of State for Tourism and Culture has introduced commercial white water rafting in a big way in pahalgam. Pahalgam is the starting point of some of the best that trekking can offer in the Himalayas. Trekking to Kolahai Glacier is dream come true- and there are potential treks to across

the ranges to Sonmarg and Ladakh. Besides, there are many day treks originating in pahalgam for the novices, like hiking to Basisaran or to Chaunasar and Mansar lakes, or not to forget to Sheshnag or all the way to Amarnath Cave. To attract tourists and promote adventure sports, the government is given green signal to market the traditional trekking and mountaineering routes, including troops dominated peaks of Sonmarg and Pahalgam. The mountaineers, trekkers or tourists intending to trek the peaks will get all the facilities, including the gear and equipment at nominal charges.

RECOMMENDATIONS

The following directions in this regard will be as:

- Efforts should be made to provide the information to the tourists about the famous adventure tourism destination.
- State government should develop the policies that support and foster adventure tourism in the state.
- Destinations with unusual or rare natural resources should be well-managed and not exploited so as to earn high praise from adventure travelers.
- Adventure tourism should be promoted in such a way so that it will bring about an enormous change in terms of revenue. Effective marketing is a key element for the growth of tourism.
- In depth market research should be carried out and a detail plan prepared before proceeding with such a venture.
- Security safety precaution should be taken care.

CONCLUSION

Adventure tourism is big business. It is major part of tourism Industry. It is one of the main reasons of people to travel. Adventure tourism has a great potential in the valley of Kashmir. Kashmir valley offers diversity of landscape and range of ecosystem lure the tourists to have the glimpse of such enchanting place. Tourism in Kashmir has improper contribution towards state economy where the expectation of tourists especially foreigners is not being met according to their needs. There is need to improve the standards of the accommodation sector in adventure tourism destinations so that the delivery mechanism in these establishments will meet the requirement of the tourists. Political and social instability also effects the growth of tourist arrivals negatively. The state of Jammu and Kashmir has been declared as 'disturbed area' since long and has been living in the middle of various crises which hinders the growth of tourism in the state. Therefore, efforts should be made to promote peace in the state.

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INVENTORY MODEL IN A FUZZY ENVIRONMENT WITH ITS ASSOCIATED COSTS IN EXPONENTIAL MEMBERSHIP FUNCTIONS

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ABSTRACT

In this paper, an EOQ Model has been analyzed in a fuzzy environment. Its objective goal, holding cost, shortage cost, set-up cost and storage area are all represented by means of exponential membership functions. Fuzzy non-linear programming (FNLPP) method with Lagrange multipliers is applied. This method has been illustrated by means of numerical examples. The variations of the results with those of the crisp model have been pointed out. Sensitivity analysis of the model has been carried out.

KEYWORDS

Fuzzy non-linear programming methods, Inventory management, Lagrange multipliers, Membership functions, Sensitivity analysis.

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1. INTRODUCTION

In the real world, keeping an inventory for future sale or use is very common in business. Often uncertainties may be common in business. Often uncertainties may be associated with demand, supply or various relevant costs. After the publication of classical lot-size formula by Harris in 1915, many researchers utilized EOQ model and currently these results are available in reference books and survey papers such as Raymond [11], Hadley and Whitin [5], Clark [3] and Simmons [13].

In a realistic situation, total expenditure for an inventory model may be limited. The inventory costs, holding, shortage and set-up costs and available warehouse space to store the product may be flexible with some vagueness for their values. All these parameters in any inventory model are normally variable uncertain, imprecise and adoptable to the optimum decision making process and the determination of optimum order quantity becomes a non-stochastic vague decision making process. The vagueness pertained in the above parameters induces to analyze the inventory problem in a fuzzy environment.

The early work in using fuzzy concept in decision making has been performed by Bellman and Zadeh [1] through introducing fuzzy goals, costs and constraints. The fuzzy linear programming model was formulated and an approach for solving linear programming model with fuzzy members has been presented by Zimmermann [15]. Hamacher.H, Leberling.H and Zimmermann.H.J [6] carried out the sensitivity analysis in fuzzy linear programming where Dutta.D, J.R.Rao and R.N.Tiwari [4] investigated the effect of tolerances in fuzzy linear and linear fractional programming. In 1995, T.K.Roy and M.Maiti [12] presented an EOQ model with constraint in a fuzzy environment. The model is solved by fuzzy non-linear programming model (FNLPP) using Lagrange multipliers and illustrated with numerical examples. The fuzzy goal, storage area and costs are represented by exponential membership functions.

2. MATHEMATICAL ANALYSIS

A crisp non-linear programming problem may be defined as follows:

Min $g_0(X, C_0)$

Subject to:

$$g_i(X, C_i) \leq b_i, \quad i = 1, 2, \dots, m \quad (2.1)$$

$X \geq 0$,

where $X = (X_1, X_2, \dots, X_n)^T$ is a variable vector. g_0, g_i 's, $i = 1, 2, \dots, m$ are algebraic expressions in X with coefficients $C_0 \equiv (C_{01}, C_{02}, \dots, C_{0n})$ and $(C_{i1}, C_{i2}, \dots, C_{in})$ $i = 1, 2, \dots, m$ respectively.

Introducing fuzziness in the crisp parameters, the system (2.1) in a fuzzy environment is:

$\tilde{\text{Min}} g_0(X, \tilde{C}_0)$

Subject to:

$$g_i(X, \tilde{C}_i) \leq \tilde{b}_i, \quad i = 1, 2, \dots, m \quad (2.2)$$

$X \geq 0$,

where the wave bar (\sim) represents the fuzzification of the parameters.

In fuzzy set theory, the fuzzy objective, coefficients and constraints are defined by their membership functions which may be linear or non-linear. According to Bellman and Zadeh [1] and following Carlson and Korhonen [2] and Trappey, J.F.C., Liu, C.R. and Chang, T.C [14], problem (2.2) is transformed to

Max α

Subject to:

$$g_i(X, \mu_{\tilde{C}_i}^{-1}(\alpha)) \leq \mu_{\tilde{b}_i}^{-1}(\alpha), \quad i = 0, 1, 2, \dots, m \quad (2.3)$$

$X \geq 0$,

where membership functions of fuzzy coefficients are

$\mu_{\tilde{C}_i}(X) = (\mu_{\tilde{C}_{i1}}(X), \mu_{\tilde{C}_{i2}}(X), \dots, \mu_{\tilde{C}_{in}}(X))$ and those of fuzzy objective and fuzzy constraints are

$\mu_{\tilde{b}_i}(X), i = 0, 1, 2, \dots, m$.

Here, α is an additional variable which is known as aspiration level.

Therefore, the Lagrangian function is

$$L(\alpha, X, \lambda) = \alpha - \sum_{i=0}^m \lambda_i (g_i(X, \mu_{\tilde{C}_i}^{-1}(\alpha)) - \mu_{\tilde{B}_i}^{-1}(\alpha))$$

where $\lambda \equiv (\lambda_0, \lambda_1, \lambda_2, \dots, \lambda_m)^T$ are Lagrangian multiplier vectors.

According to the Kuhn-Tucker [10] necessary conditions, the optimal values

$(X_1^*, X_2^*, \dots, X_n^*, \lambda_0^*, \lambda_1^*, \dots, \lambda_m^*, \alpha^*)$

should satisfy

$$\frac{\partial L}{\partial X_j} = 0,$$

$$\frac{\partial L}{\partial \alpha} = 0,$$

$$\lambda_i (g_i(X, \mu_{\tilde{C}_i}^{-1}(\alpha)) - \mu_{\tilde{B}_i}^{-1}(\alpha)) = 0 \quad (2.4)$$

$$g_i(X, \mu_{\tilde{C}_i}^{-1}(\alpha)) - \mu_{\tilde{B}_i}^{-1}(\alpha) \leq 0 \quad \text{and}$$

$$\lambda_i \leq 0, i = 0, 1, 2, \dots, m, j = 1, 2, 3, \dots, n$$

The Kuhn-Tucker[7] sufficient condition demand, that the objective function (for maximization) and constraints should be respectively concave and convex. Now solving equation (2.4), the optimal solution for the fuzzy non-linear programming problem is obtained.

3. EOQ MODEL WITH FUZZY COSTS, GOAL AND STORAGE AREA

In a crisp EOQ Model, the problem is to choose the order level $Q(>0)$ which minimizes the average total cost $C(Q)$ per unit time. That is

$$\text{Min } C(Q) = \frac{1}{2} C_1 \left(\frac{Q_1^2}{Q} \right) + \frac{1}{2} C_2 \left(\frac{Q_2^2}{Q} \right) + C_3 \left(\frac{D}{Q} \right) \quad \text{-----}(3.1)$$

Subject to:

$$AQ_1 \leq B$$

$$Q_1 > 0$$

where

C_1 - Holding cost per unit time per unit quantity

C_2 - Shortage cost per unit time per unit quantity

C_3 - Set-up cost per period

D-Demand per unit time

A-The space required by each unit(in sq. mt)

B-Maximum available warehouse space(in sq mt)

When the above objective goal, costs and available storage area became fuzzy, the said problem is transformed to,

$$\widetilde{\text{Min}} C(Q) = \frac{1}{2} \widetilde{C}_1 \left(\frac{Q_1^2}{Q} \right) + \frac{1}{2} \widetilde{C}_2 \left(\frac{Q_2^2}{Q} \right) + \widetilde{C}_3 \left(\frac{D}{Q} \right) \quad \text{-----}(3.2)$$

Subject to:

$$AQ_1 \leq \widetilde{B}$$

$$Q_1 > 0$$

The corresponding fuzzy non-linear programming problem is,

Max α

Subject to:

$$\frac{1}{2} \mu_{\tilde{C}_1}^{-1}(\alpha) \left(\frac{Q_1^2}{Q} \right) + \frac{1}{2} \mu_{\tilde{C}_2}^{-1}(\alpha) \left(\frac{Q_2^2}{Q} \right) + \mu_{\tilde{C}_3}^{-1}(\alpha) \left(\frac{D}{Q} \right) \leq \mu_{\tilde{C}_0}^{-1}(\alpha) \quad \text{-----} (3.3)$$

$$AQ_1 \leq \mu_{\tilde{B}}^{-1}(\alpha)$$

$$Q_1 > 0, \quad \alpha \in [0, 1]$$

where $\mu_{\tilde{C}_1}(x)$, $\mu_{\tilde{C}_2}(x)$, $\mu_{\tilde{C}_3}(x)$, $\mu_{\tilde{C}_0}(x)$ and $\mu_{\tilde{B}}(X)$ are membership functions for fuzzy holding cost, shortage cost, set-up cost, objective goal and storage area respectively.

Here the Lagrangian function is

$$L(\alpha, Q_1, Q_2, \lambda) = \alpha - \lambda_1 \left[\frac{1}{2} \mu_{\tilde{C}_1}^{-1}(\alpha) \left(\frac{Q_1^2}{Q_1+Q_2} \right) + \frac{1}{2} \mu_{\tilde{C}_2}^{-1}(\alpha) \left(\frac{Q_2^2}{Q_1+Q_2} \right) + \mu_{\tilde{C}_3}^{-1}(\alpha) \left(\frac{D}{Q_1+Q_2} \right) - \mu_{\tilde{C}_0}^{-1}(\alpha) \right] - \lambda_2 [AQ_1 - \mu_{\tilde{B}}^{-1}(\alpha)] \quad \text{-----}(3.4)$$

where $Q = Q_1 + Q_2$ and λ_1, λ_2 are Lagrangian multipliers.

4. FUZZY GOAL, COSTS AND STORAGE AREA REPRESENTED BY EXPONENTIAL MEMBERSHIP FUNCTIONS

In this case

$$\mu_{\tilde{C}_i}(x) = \begin{cases} 1 & \text{for } x > C_i \\ \left(\frac{q^{\frac{t(C_i-x)}{P_i}} - q^t}{(1-q^t)} \right) & \text{for } C_i - P_i \leq x \leq C_i \\ 0 & \text{for } x < C_i - P_i \end{cases}$$

$$\mu_{\tilde{C}_0}(x) = \begin{cases} 1 & \text{for } x < C_0 \\ \left(\frac{q^{\frac{t(x-C_0)}{P_0}} - q^t}{(1-q^t)} \right) & \text{for } C_0 \leq x \leq C_0 + P_0 \\ 0 & \text{for } x > C_0 + P_0 \end{cases}$$

and

$$\mu_{\tilde{B}}(x) = \begin{cases} 1 & \text{for } x < B \\ \left(\frac{q^{\frac{t(x-B)}{P}} - q^t}{(1-q^t)} \right) & \text{for } B \leq x \leq B + P \\ 0 & \text{for } x > B + P \end{cases}$$

Here P_0, P and P_i 's, ($i=1,2,3$) are the maximally acceptable violation of the aspiration levels C_0, B and C_i 's, ($i=1,2,3$).

Considering the nature of these parameters, we assume membership functions to be non-decreasing for fuzzy inventory costs and non-increasing for fuzzy goal and storage area.

When $q=0.5$ and $t=1$

$$\mu_{\tilde{C}_i}^{-1}(\alpha) = C_i - P_i \log_{0.5}(0.5 + 0.5\alpha), \quad i = 1, 2, 3$$

$$\mu_{\tilde{C}_0}^{-1}(\alpha) = C_0 + P_0 \log_{0.5}(0.5 + 0.5\alpha) \quad \text{and}$$

$$\mu_B^{-1}(\alpha) = B + P \log_{0.5}(0.5 + 0.5\alpha)$$

The Lagrangian Function is

$$\begin{aligned} L(Q_1, Q_2, \lambda_1, \lambda_2) &= \alpha - \lambda_1 \left[\frac{1}{2} (C_1 - P_1 \log_{0.5}(0.5 + 0.5\alpha)) \left(\frac{Q_1^2}{Q_1 + Q_2} \right) + \frac{1}{2} (C_2 - P_2 \log_{0.5}(0.5 + 0.5\alpha)) \left(\frac{Q_2^2}{Q_1 + Q_2} \right) + \right. \\ &\quad \left. (C_3 - P_3 \log_{0.5}(0.5 + 0.5\alpha)) \left(\frac{D}{Q_1 + Q_2} \right) - (C_0 + P_0 \log_{0.5}(0.5 + 0.5\alpha)) \right] - \lambda_2 [AQ_1 - (B + P \log_{0.5}(0.5 + 0.5\alpha))] \\ &\quad \text{----- (4.1)} \\ &= \alpha - \lambda_1 \left[\frac{1}{2} \left(C_1 - \frac{P_1 \log(0.5+0.5\alpha)}{\log \frac{1}{2}} \right) \left(\frac{Q_1^2}{Q_1 + Q_2} \right) + \frac{1}{2} \left(C_2 - \frac{P_2 \log(0.5+0.5\alpha)}{\log \frac{1}{2}} \right) \left(\frac{Q_2^2}{Q_1 + Q_2} \right) + \right. \\ &\quad \left. \left(C_0 + \frac{P_0 \log(0.5+0.5\alpha)}{\log \frac{1}{2}} \right) \right] - \lambda_2 [AQ_1 - (B + P \frac{\log(0.5+0.5\alpha)}{\log \frac{1}{2}})] \\ &\quad \text{----- (4.2)} \end{aligned}$$

The Kuhn-Tucker necessary conditions are

$$\frac{\partial L}{\partial \alpha} = 0 \Rightarrow 1 + \frac{\lambda_1 P_1}{2 \log \frac{1}{2} (1+\alpha)} \left(\frac{Q_1^2}{Q_1 + Q_2} \right) + \frac{\lambda_1 P_2}{2 \log \frac{1}{2} (1+\alpha)} \left(\frac{Q_2^2}{Q_1 + Q_2} \right) + \frac{\lambda_1 P_3}{\log \frac{1}{2} (1+\alpha)} \left(\frac{D}{Q_1 + Q_2} \right) + \frac{\lambda_1 P_0}{\log \frac{1}{2} (1+\alpha)} + \frac{\lambda_2 P}{\log \frac{1}{2} (1+\alpha)} = 0 \quad \text{----- (4.3)}$$

$$\frac{\partial L}{\partial \lambda_1} = 0 \Rightarrow \left[\frac{1}{2} \left(C_1 - \frac{P_1 \log(0.5+0.5\alpha)}{\log \frac{1}{2}} \right) \left(\frac{Q_1^2}{Q_1 + Q_2} \right) + \frac{1}{2} \left(C_2 - \frac{P_2 \log(0.5+0.5\alpha)}{\log \frac{1}{2}} \right) \left(\frac{Q_2^2}{Q_1 + Q_2} \right) + \left(C_0 + \frac{P_0 \log(0.5+0.5\alpha)}{\log \frac{1}{2}} \right) - \left(C_3 - \frac{P_3 \log(0.5+0.5\alpha)}{\log \frac{1}{2}} \right) \left(\frac{D}{Q_1 + Q_2} \right) - (C_0 + \frac{P_0 \log(0.5+0.5\alpha)}{\log \frac{1}{2}}) \right] = 0 \quad \text{----- (4.4)}$$

$$\frac{\partial L}{\partial \lambda_2} = 0 \Rightarrow AQ_1 - \left(B + \frac{P \log(0.5+0.5\alpha)}{\log \frac{1}{2}} \right) = 0 \quad \text{----- (4.5)}$$

$$\frac{\partial L}{\partial Q_1} = 0 \Rightarrow \frac{\lambda_1}{2} \left(C_1 - \frac{P_1 \log(0.5+0.5\alpha)}{\log \frac{1}{2}} \right) \left(\frac{Q_1^2 + 2Q_1 Q_2}{(Q_1 + Q_2)^2} \right) - \frac{\lambda_1}{2} \left(C_2 - \frac{P_2 \log(0.5+0.5\alpha)}{\log \frac{1}{2}} \right) \left(\frac{Q_2^2}{(Q_1 + Q_2)^2} \right) - \lambda_1 \left(C_3 - \frac{P_3 \log(0.5+0.5\alpha)}{\log \frac{1}{2}} \right) \left(\frac{D}{(Q_1 + Q_2)^2} \right) + \lambda_2 A = 0 \quad \text{----- (4.6)}$$

$$\frac{\partial L}{\partial Q_2} = 0 \Rightarrow \frac{\lambda_1}{2} \left(C_1 - \frac{P_1 \log(0.5+0.5\alpha)}{\log \frac{1}{2}} \right) \left(\frac{Q_1^2}{(Q_1 + Q_2)^2} \right) - \frac{\lambda_1}{2} \left(C_2 - \frac{P_2 \log(0.5+0.5\alpha)}{\log \frac{1}{2}} \right) \left(\frac{Q_2^2 + 2Q_1 Q_2}{(Q_1 + Q_2)^2} \right) + \lambda_1 \left(C_3 - \frac{P_3 \log(0.5+0.5\alpha)}{\log \frac{1}{2}} \right) \left(\frac{D}{(Q_1 + Q_2)^2} \right) = 0 \quad \text{----- (4.7)}$$

$$\text{Therefore, } AQ_1 = B + \frac{P \log(0.5 + 0.5\alpha)}{\log \frac{1}{2}}$$

$$Q_1^* = \frac{(B + \frac{P \log(0.5+0.5\alpha)}{\log \frac{1}{2}})}{A} \quad \text{----- (4.8)}$$

The optimal order quantity is

$$Q_1^* = \frac{(B + P \log_{0.5}(0.5 + 0.5\alpha))}{A} \quad \text{----- (4.9)}$$

and the optimum Re-order level Q_2^* is

$$Q_2^* = \left[\frac{C_1 - P_1 \log_{0.5}(0.5 + 0.5\alpha)}{C_2 - P_2 \log_{0.5}(0.5 + 0.5\alpha)} \right] Q_1^* \quad \text{----- (4.10)}$$

where α^* is a root of

$$\begin{aligned} &(C_1 - P_1 \log_{0.5}(0.5 + 0.5\alpha)) (B + P \log_{0.5}(0.5 + 0.5\alpha))^2 + \\ &(C_2 - P_2 \log_{0.5}(0.5 + 0.5\alpha)) Q_2^2 A^2 + 2DA^2 (C_3 - P_3 \log_{0.5}(0.5 + 0.5\alpha)) - \\ &2A(C_0 + P_0 \log_{0.5}(0.5 + 0.5\alpha)) + (B + P \log_{0.5}(0.5 + 0.5\alpha)) = 0 \end{aligned} \quad \text{----- (4.11)}$$

Remark 4.1

If the fuzzy goal and storage area are represented by means of linear membership functions and costs by exponential membership functions, then the equation (4.11) reduces to

$$(C_1 - P_1 \log_{0.5}(0.5 + 0.5\alpha)) (B + (1 - \alpha)P)^2 + (C_2 - P_2 \log_{0.5}(0.5 + 0.5\alpha)) Q_2^2 A^2 + 2(C_3 - P_3 \log_{0.5}(0.5 + 0.5\alpha))DA^2 - 2(C_0 + (1 - \alpha)P_0)QA^2 = 0 \quad \text{----- (4.12)}$$

which is the equation derived in [9].

Remark 4.2

When $Q_2 = 0$, Then the equation (4.12) reduces to

$$(C_1 - P_1 \log_{0.5}(0.5 + 0.5\alpha)) (B + (1 - \alpha)P)^2 + 2(C_3 - P_3 \log_{0.5}(0.5 + 0.5\alpha))DA^2 - 2(C_0 + (1 - \alpha)P_0)(B + (1 - \alpha)P)A = 0 \quad \text{----- (4.13)}$$

(4.13)

which is the equation derived in [12].

5. NUMERICAL RESULTS FOR BOTH CRISP AND FUZZY MODEL

To illustrate the above fuzzy models and corresponding crisp model, let $C_1 = ₹ 5$,

$P_1 = ₹ 2, C_2 = ₹ 25, P_2 = ₹ 9, C_3 = ₹ 100, P_3 = ₹ 50, C_0 = ₹ 1700, P_0 = ₹ 300$,

$D = 5000$ units, $B = 150$ sq. mt, $A = 0.5$ sq. mt, $P = 50$ sq. mt and the results are:

In the table – I the optimal values are given for these fuzzy models with different combinations of membership functions along with the crisp model. Here the amount of expenditure for the crisp models varies from ₹ 1520.83 to ₹ 2138.89.

As our permissible expenditure range is (₹ 1700, ₹ 2000), only one crisp model expenditure fall within this range, though this value with holding cost ₹ 3 is more than those of fuzzy models with holding costs respectively ₹ 4.53, 4.55, 4.56 and 4.57. Therefore, fuzzy analysis replaces the laborious and time consuming parametric studies and the optimum results are obtained easily. Now depending on the experience or from the past observed data, the exact form of membership functions for the variations of holding cost, set-up cost, permissible expenditure (objective goal) and storage area can be defined and then the optimum values are obtained for the appropriate fuzzy model.

Remark 5.1

Total average cost for the fuzzy model corresponding to this model – 4 is slightly higher than the total average cost for the fuzzy model corresponding to the model – 4 in [9].

6. SENSITIVITY

Following Dutta.D, J.R.Rao and R.N.Tiwari [4], we study the effective of tolerances[8] in the proposed model – 4 with the earlier numerical values and construct the following five Tables (TABLES – II, III, IV, V, VI) for the effect of variations in P_0, P_1, P_2, P_3 and P respectively.

From the above tables, we make the following observations

1. In Table – II, when P_0 is about 300, 5% changes in P_0 induces 0.04 % ,0.03 % ,0.08 % and 0.23 % changes in $Q_1^*, Q_2^*, C^*(Q^*)$ and α^* respectively. Moreover as P_0 increases, α^* increases but it never becomes 1 as it is expected. Here Q^* becomes almost invariant and costs attain their highest allowable values for the large values of P_0 . Average cost also increases with the increase of tolerance of objective goal.
2. In Table – III, when P_1 is about 2, $Q_1^*, Q_2^*, C^*(Q^*)$ and α^* are changes by 0.07%, 0.55 % , 0.01% and 0.39% respectively for 5% changes in P_1 . Set-up cost increases with the decrease of holding cost, shortage cost increases with the decrease of holding cost and as a result, average cost decreases with the decrease of holding cost's tolerance.

3. In Table – IV, when P_2 is about 2, Q_1^* , Q_2^* , $C^*(Q^*)$ and α^* are changes by 0.06 %, 0.41 %, 0.04 % and 0.36 % respectively for 5 % change in P_2 . Set-up cost increases with the decrease of holding cost, shortage cost decreases with the decrease of holding cost and as a result, average cost decreases with the decrease of holding cost's tolerance.
4. In Table – V, when P_3 is approximately 50, there is a change in Q_1^* , Q_2^* , $C^*(Q^*)$ and α^* by 0.16 %, 0.13 %, 0.08 % and 0.86 % respectively for the change of P_3 by 5%. Here holding cost increases with decrease of set-up cost whereas the average cost decreases with the less tolerances of set-up cost, shortage cost increases with the increase of holding cost
5. In Table – VI, when P is about 50, its 5% change brings 0.34 %, 0.34 %, 0.44 % and 0.1 % change in Q_1^* , Q_2^* , $C^*(Q^*)$ and α^* respectively. Here average cost decreases with increased tolerances of storage area. Set-up cost decreases with the increase of holding cost and shortage cost increases with the increase of holding cost.

7. CONCLUSION

In this paper, it is proposed a real-life inventory problem in a fuzzy environment and presented its solutions along with a sensitivity analysis approach. The proposed methodology can be extended to other inventory problem including the ones with storages, shortages, deteriorating items, etc. This model has been developed for multi-item inventory problems under several limitations such as limitation inventory levels.

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TABLES

TABLE I - COMPARISON TABLE

Model	Holding Cost C_1 (Rs.)	Shortage Cost C_2 (Rs.)	Set-up Cost C_3 (Rs.)	Storage Area B (Sq.m.)	Optimum of Q_1^*	Optimum of Q_2^*	Average Total Cost $C^*(Q^*)$ (Rs.)	Aspiration Level α^*
Crisp Model	5	25	100	150	300	60	2138.89	
Crisp Model	5	25	100	200	400	80	2041.67	
Crisp Model	3	20	100	150	300	45	1899.28	
Crisp Model	3	20	100	200	400	60	1686.96	
Crisp Model	3	20	50	150	300	45	1174.64	
Crisp Model	3	20	50	200	400	60	1143.48	
Crisp Model	5	25	50	150	300	60	1444.44	
Crisp Model	5	25	50	200	400	80	1520.83	
Fuzzy Model	4.53	22.89	88.28	161.72	323.45	64.03	1871.91	0.70
Fuzzy Model	4.55	22.97	88.70	161.30	322.60	63.89	1881.11	0.71
Fuzzy Model	4.56	23.04	89.12	160.88	321.76	63.74	1890.28	0.72
Fuzzy Model	4.57	23.08	89.33	160.67	321.34	63.67	1894.86	0.725

TABLE II - EFFECT OF VARIATIONS IN P_0

P_0	α^*	Q_1^*	Q_2^*	C_1^*	C_2^*	C_3^*	$C^*(Q^*)$	B^*
300	0.6985	323.57	64.05	4.53	22.88	88.21	1870.53	161.79
315	0.7001	323.44	64.03	4.53	22.89	88.28	1872.00	161.72
345	0.7054	322.99	63.95	4.54	22.93	88.51	1876.88	161.49
500	0.7266	321.21	63.65	4.58	23.09	89.40	1896.32	160.60
1000	0.7749	317.23	62.98	4.66	23.45	91.39	1940.23	158.61
5000	0.8851	308.54	61.49	4.83	24.23	95.73	2038.59	154.27
10000	0.9135	306.38	61.12	4.87	24.43	96.81	2063.58	153.19
50000	0.9419	304.25	60.75	4.91	24.62	97.87	2088.43	152.13
100000	0.9459	303.96	60.69	4.92	24.64	98.02	2091.92	151.98
500000	0.94917	303.71	60.65	4.93	24.67	98.14	2094.77	151.86

TABLE III - EFFECT OF VARIATIONS IN P_1

P_1	α^*	Q_1^*	Q_2^*	C_1^*	C_2^*	C_3^*	$C^*(Q^*)$	B^*
0	0.6708	325.95	71.91	5.00	22.66	87.03	1908.58	162.97
1	0.6865	324.60	67.72	4.75	22.79	87.70	1889.30	162.30
2	0.7001	323.44	64.03	4.53	22.89	88.28	1872.00	161.72
2.5	0.7135	322.31	62.27	4.44	22.99	88.85	1871.03	161.15
3.2	0.7245	321.38	60.11	4.32	23.08	89.31	1864.03	160.69
4.3	0.7355	320.46	57.01	4.12	23.16	89.77	1849.20	160.23
5	0.7485	319.39	55.36	4.03	23.26	90.31	1848.56	159.69

TABLE - IV EFFECT OF VARIATIONS IN P_2

P_2	α^*	Q_1^*	Q_2^*	C_1^*	C_2^*	C_3^*	$C^*(Q^*)$	B^*
0	0.6708	325.95	65.19	5.00	25.00	87.03	1927.36	162.97
1	0.689	324.38	62.32	4.76	24.76	87.81	1906.76	162.19
2	0.691	324.21	59.72	4.52	24.52	87.89	1876.69	162.11
2.5	0.7034	323.16	58.50	4.42	24.42	88.42	1872.72	161.58
3.2	0.7143	322.24	56.89	4.29	24.29	88.88	1863.10	161.12
4.3	0.7257	321.28	54.49	4.08	24.08	89.36	1845.20	160.64
5	0.7307	320.86	52.99	3.96	23.96	89.57	1832.68	160.43
6	0.7458	319.61	51.29	3.82	23.82	90.19	1826.86	159.81
7	0.7559	318.78	49.60	3.69	23.69	90.61	1817.27	159.39
8	0.7665	317.91	48.12	3.57	23.57	91.04	1810.70	158.96
9	0.7859	316.33	47.46	3.53	23.53	91.83	1820.47	158.17

TABLE - V EFFECT OF VARIATIONS IN P_3

P_3	α^*	Q_1^*	Q_2^*	C_1^*	C_2^*	C_3^*	$C^*(Q^*)$	B^*
0	0.5254	339.08	66.58	4.22	21.48	100.00	1947.73	169.54
10	0.5941	332.73	65.56	4.35	22.05	96.73	1937.23	166.36
30	0.6885	324.43	64.19	4.51	22.80	92.67	1924.16	162.21
50	0.7001	323.44	64.03	4.53	22.89	88.28	1872.00	161.72
60	0.7242	321.41	63.69	4.57	23.07	87.16	1866.33	160.70
70	0.7352	320.49	63.53	4.59	23.16	85.66	1850.82	160.24
80	0.7445	319.72	63.40	4.61	23.23	84.23	1835.45	159.86
90	0.7654	318.00	63.11	4.64	23.38	83.80	1837.17	159.00
100	0.7974	315.41	62.67	4.69	23.61	84.59	1858.62	157.70

TABLE - VI EFFECT OF VARIATIONS IN P

P	α^*	Q_1^*	Q_2^*	C_1^*	C_2^*	C_3^*	$C^*(Q^*)$	B^*
50	0.7001	323.44	64.03	4.53	22.89	88.28	1872.00	161.72
55	0.7014	325.66	64.47	4.53	22.90	87.17	1855.37	162.83
70	0.7115	331.46	65.64	4.55	22.98	84.27	1815.19	165.73
80	0.7234	334.36	66.25	4.57	23.07	82.82	1797.78	167.18
100	0.7345	341.10	67.61	4.59	23.15	79.45	1754.64	170.55
150	0.7555	356.44	70.71	4.62	23.31	71.78	1664.29	178.22
160	0.7846	352.61	70.03	4.67	23.52	73.70	1695.41	176.30

EMPLOYEES PERSPECTIVE VIEW TOWARDS PERFORMANCE APPRAISAL AND TRAINING PROGRAMMES PRACTICED IN SUGAR INDUSTRIES IN ERODE DISTRICT

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ABSTRACT

Performance appraisal is one of the most broadly researched human resource management practices. This paper research on employees' perspective view towards performance appraisal and training programmes practised in sugar industries in Erode District. This paper examined the interdependence of Independent factors and the respondents' level of satisfaction on Performance Appraisal and Training Programmes aspect of technical measurement issues and problems, and was followed by an attack of research related to the contact of Cognitive processes on performance appraisals system. The sample was selected on the basis of stratified random sampling method. The study used self-administered structured questionnaire as the research instrument. The data obtained were analyzed using descriptive and inferential statistics. The focus of the performance appraisals and training programmes are turning towards career development relying on the dialogues and discussions with the superiors. Hence, the present study concentrated in aspects/ measure the interdependence of the independent factors of the respondents' level of satisfaction with the Performance Appraisal and Training Programmes practises, the results were subjected to multiple regression analysis. If satisfaction accounts for the merits of the respondents' performance appraisal, dissatisfaction accounts for the problems in using it. Hence, the routine problems faced by the respondents in using performance appraisal system and training programmes were studied under Henry Garrett ranking method.

KEYWORDS

Career Development, Henry Garrett Ranking Method, Performance Appraisal and Training Programmes, Multiple Regression Analysis, Performance Appraisal System (PAS).

1. INTRODUCTION

Performance appraisal means evaluating an employee's current and/or past performance relative to his or her performance standards. The present study was undertaken in the selected Sugar companies in Erode District, Tamilnadu state viz. Sakthi Sugars Ltd., Sakthi Nagar, Bhavani and Bannari Amman Sugars Ltd., Allathukombai, Sathyamangalam. These sugar companies are biggest employer of the people and act as a model employer in respect of salary and other facilities to the employees. If these companies have to cope up with the competitive environment and make rapid step, they have to develop their human resources effectively besides taking care of other resources. Needless to mention that, the growth and viability of the organization depend upon the quality of its human resources. In this context, the policies and practices of performance appraisal and training programmes play a vital role. Further, implementation of these policies and practices depend upon attitude and support of the employees. Hence, the present study concentrated in HRD aspect to measure the interdependence of the independent factors viz., Age, Designation/grade, Department, Educational Qualification, Marital Status, Family Size, Type of Family, Scale of Pay, Experience, Workers Performance, Labour Welfare Measures of the respondents' level of satisfaction with the Performance Appraisal and Training Programmes practices and the routine problems faced by the respondents in using performance appraisal and training programmes were studied. For this purpose, seven major Performance Appraisal System problems were chosen by the researcher. They were No recognition for supervisor, Biased in communication, Difficult to comparison, Assessment becomes vague, Attributes/traits were vague, Potentialities were ignored and Raters errors and also the routine problems faced by the respondents in training programme were studied. For this purpose, five major problems were chosen by the researcher, viz., Lack of impressive teaching, Advanced topics cannot be taught by the trainer, Poor communication, Training environment is artificially created and Excessive Stress.

2. REVIEW OF LITERATURE

Randell, D.L. (1973)³ in his paper titled "Performance appraisal: purposes, practices and conflicts", discusses the collection of information from and about people at work. It attempts to structure the field, define key problems, expose sources of conflict and point the way to resolving major difficulties.

Bedeian (1976)⁴ in his paper titled "Rater Characteristics Affecting the Validity of Performance Appraisals" states that the task of developing effective performance appraisal systems is one of the most preferred contemporary problems of personnel administration. An abundance of literature is available detailing the problems and difficulties inherent in subordinated appraisals. Numerous studies have made suggestions for rating format and content changes. Some have even suggested the elimination of appraisal. More recently, an identifiable body of knowledge which seriously casts doubt on the use of supervisor's judgment in evaluating employee performance has begun to emerge. The purpose of this paper is to explore this emerging body of knowledge and to examine its ramifications for performance appraisal.

Davis and Mount (1984)⁵ in their study evaluated the effectiveness of performance appraisal training in an organizational setting. Four hundred and two middle level managers were randomly assigned to one of the three conditions: no training, computer assisted instruction only (CAI), or CAI training plus a behavior modeling workshop (CAIW). Training effectiveness was assessed on two categories of dependent variables, managerial learning and managerial job performance. As predicted trained managers were found to be more knowledgeable of performance appraisal than untrained managers. Also as predicted, managers in the CAIW group conducted appraisal discussions which were perceived by employees as more satisfying than employees of managers in the no training group. Only partial support was obtained for the hypothesis that trained managers would be more effective in completing performance appraisal forms. Clinton O. Longenecker and Laurence S. Fink (1999)⁶ in their article entitled "Creating Effective Performance Appraisals", indicate that performance appraisals can be a good way for organizations to boost employees' motivation and hone their competitive edge. But creating useful performance appraisals – and making

³ Randell, D.L. "Performance appraisal: purposes, practices and conflicts", Occupational Psychology, Vol. 47, 1973, pp.221-224.

⁴ Arthur G. Bedeian, "Rater Characteristics Affecting the Validity of Performance Appraisals", Journal of Management, Vol.2, 1976 pp. 37-45

⁵ Brian L. Davis, Michael K. Mount, "Effectiveness of Performance Appraisal Training Using Computer Assisted Instruction and Behavior Modeling", Personnel Psychology, Vol. 37, No. 3, 1984, pp. 439-452.

⁶ Clinton O. Longenecker and Laurence S. Fink, "Creating Effective Performance Appraisals", Industrial Management, September 1999.

sure they are used effectively throughout an organization -- isn't easy. The 10 lessons here can help a company move closer to appraisals that help staff perform their best.

3. NEED FOR THE STUDY

Performance Appraisal is a systematic objective way of judging the relative worth or ability of an employee in performing a job. Performance appraisal provides information about the performance ranks based on which decisions regarding salary fixation, confirmation, promotion, transfer and demotion are taken. It provides feedback information about the level of achievement and behavior of subordinates. This information helps to review the performance of the subordinate, rectify performance deficiencies and set new standards of work, if necessary. Further, it helps to counsel the subordinates and to diagnose deficiency in employee regarding skill, knowledge, determine training and development needs and to prescribe the means for employee growth and provide information for correcting placement.

Performance appraisal offers a competitive advantage to a firm by improving performance, helping make correct decisions, ensuring legal compliance, minimizing job dissatisfaction and employee turnover and ensuring consistency between organizational strategy and behaviour.

4. STATEMENT OF THE PROBLEM

Performance appraisal is a systematic way of judging the relative worth of an employee in performing his/her tasks. It helps to identify the employees' (Strength), who are performing the given task well and *also* those who are not able to achieve. The reasons for such (poor) performance over the period are recorded and necessary steps taken to equip the employees where they are weak and unable to cope with the organization's task. Since, its formal introduction in 1920, Performance Appraisal has undergone tremendous changes in terms of its concept and philosophy.

Basically in all introductions, the appraisal on performance has been practised to assess the knowledge, skill and involvement of an employee towards the jobs assigned to him/her, which enables the employer to decide the structure of their salary and promotion. The Performance Appraisal is done to identify the employees' weakness and train them to acquire technical knowledge and skills.

In order to ascertain the problems in performance appraisal and training programmes practised in sugar industries of Erode District, the research has mainly focused on the performance appraisal system and its functioning in sugar industries. Further, it has collected the opinion of the employees regarding performance appraisal.

On certain occasions, the employees are exhibiting their full talents. At this juncture, it is very difficult to measure accurately or appraise the potential of each and every employee working in the study area (i.e. Sugar industries). Based on the above issues, the following questions were probed.

1. How far the Performance Appraisal is measured in the selected sugar industries?
2. What are the problems faced by the respondents in using traditional method or modern method of appraising the potential of employees working in sugar industries in Erode District?

5. OBJECTIVES OF THE STUDY

The following are only a part of the main objectives of the study.

- To find out the relationship between various factors that influence that Performance Appraisal and Training Programme practises in sugar industries in Erode District.
- To find out the main factors that affects the Performance Appraisal and Training Programmes
- To study the routine problems faced by the respondents in using Performance Appraisal System and Training Programmes.
- To appraise employees performance and provide the feedback to employees.

6. STUDY AREA

For the purpose of this study, "Sakthi Sugars Ltd., Sakthi Nagar, Appakudal, Bhavani" and "Bannari Amman Sugars Ltd., Allathukombai, Sathyamangalam" in Erode District, Tamil Nadu have been chosen purposively, due to their reputation. The time period considered for the study is limited to 3 years from 2009-2012.

7. RESEARCH METHODOLOGY

The present study is designed as a descriptive approach. It has been carried out on the basis of secondary as well as primary data.

PRIMARY DATA

Primary data were collected with the help of a well structured questionnaire from 600 sample respondents. For this purpose, stratified random sampling method was employed by selecting respondents from four major departments. The distribution of sample respondents according to their respective departments is furnished in the following table.

TABLE NO. 1: SAMPLE OF RESPONDENT

DEPARTMENT	NO. OF RESPONDENTS
LABOUR	80
FITTER	310
OPERATOR	102
ELECTRICIAN	108
TOTAL	600

SECONDARY DATA

Secondary data, the study also used secondary source of information. The conceptual theoretical framework of performance appraisal and its applications to Manufacturing Industries are gathered from standard text books available in the Library. Further Web resources are also used to gain the latest information on performance appraisal.

ANALYTICAL TOOLS

The collected data are compiled, tabulated and classified according to the objectives of the present study and the following statistical tools are used to analyze the data.

- Percentage Analysis
- Chi-Square Analysis
- Multiple Regression Model and
- Henry Garrett Ranking Method

8. RESULTS & DISCUSSION

8.1 PERCENTAGE ANALYSIS

8.1.1. RESPONDENTS' SCALE OF PAY IN THEIR JOB IN PERCENTAGE ANALYSIS

Salary is a powerful determinant to fulfill the needs of an employee. Generally, salary structure of different categories of employees in an organization influences the satisfaction level of the employees in an organization. The satisfaction of employees with the Performance Appraisal and Training Programmes is also likely to differ on the basis of the salary structure of the employees. For the purpose of this study, the salary structure of the sample was classified into four

categories namely, i) Below Rs.4000 ii) Rs. 4001 – 6000 iii) 6001 – 8000 and iv) Above Rs.8000. If the employees get more salary, their performance and their satisfaction level is more. This study aims in deriving the employees' scale of pay and their level of satisfaction towards their job and it is displayed in the following table 10.1.1.

TABLE NO. 2: RESPONDENTS' SCALE OF PAY AND THEIR LEVEL OF SATISFACTION ABOUT THEIR JOB

S. No.	Scale of pay	Bannari Amman Sugars		Sakthi Sugars	
		No. of Respondents	Percentage (%)	No. of Respondents	Percentage (%)
1.	Below Rs.4000	27	9.0	21	7.0
2.	Rs.4001-6000	42	14.0	32	10.7
3.	Rs.6001-8000	75	25.0	38	12.7
4.	Above Rs.8000	156	52.0	209	69.7
	Total	300	100.0	300	100.0

The above table reveals that out of 600 respondents, 300 respondents are working in Bannari Amman Sugars Ltd., and 300 respondents are working in Sakthi Sugars Ltd. In Bannari Amman Sugars Ltd, out of 300 samples 27(9.0%) respondents earn less than Rs.4000, 42(14%) respondents earn between Rs.4001 – 6000, 75 (25%) respondents earn between Rs.6001 – 8000 and 156 (52%) respondents earn more than Rs.8000. In Sakthi Sugars Ltd., out of 300 samples 21 (7.0%) respondents earn less than Rs.4000, 32 (10.7%) respondents earn between Rs.4001 – 6000, 38 (12.7%) respondents earn between Rs. 6001 – 8000 and 209(69.7%) respondents earn more than Rs.8000.

8.2 CHI-SQUARE TESTS**HYPOTHESIS- I**

Null hypothesis H_0 : There is no significant relationship between age and level of satisfaction with existing performance appraisal system.

Alternative hypothesis H_1 : There is significant relationship between age and level of satisfaction with existing performance appraisal system.

TABLE NO.3: AGE AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM

S. No.	Age	No. of Respondents	%	Ave rage	Range		S.D
					Min	Max	
1.	Below 35 yrs.	74	12.3	51.8	48	60	4.4
2.	26-35 yrs.	163	27.2	52.7	46	60	3.8
3.	36-45 yrs.	254	42.3	52.0	48	60	4.5
4.	Above 45 yrs.	109	18.2	53.6	48	60	4.0
	Total	600	100.0				

TABLE NO. 4: AGE AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (TWO – WAY TABLE)

S. No.	Age	Level of satisfaction with existing Performance Appraisal System			Total
		Low	Medium	High	
1.	Below 25 yrs.	29 (39.2)	31 (41.9)	14 (18.9)	74
2.	26-35 yrs.	38 (23.3)	86 (52.8)	39 (23.9)	163
3.	36-45 yrs.	108 (42.5)	94 (37.0)	52 (20.5)	254
4.	Above 45 yrs.	24 (22.0)	63 (57.8)	22 (20.2)	109
	Total	199	274	127	600

TABLE NO.5: AGE AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (CHI – SQUARE TEST)

Factor	Calculated χ^2 Value	Table Value	D.F	Remarks
Age	26.946	12.592	6	Significant at 5% level

Result: Since the χ^2 value is greater than table value, the null hypothesis is rejected. Hence, there is a significant relationship between age and level of satisfaction with existing performance appraisal system practised in the selected sugar industries.

HYPOTHESIS- II

Null hypothesis H_0 : There is no significant relationship between designation and level of satisfaction with existing performance appraisal system.

Alternative hypothesis H_1 : There is significant relationship between designation and level of satisfaction with existing performance appraisal system.

TABLE NO. 6: DESIGNATION AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM

S. No.	Designation	No. of Respondents	%	Ave rage	Range		S.D
					Min	Max	
1.	Labour	80	13.3	53.0	48	60	4.3
2.	Fitter	309	51.5	52.6	48	60	4.4
3.	Operator	103	17.2	53.0	48	60	4.3
4.	Electrician	108	18.0	51.1	46	60	3.4
	Total	600	100.0				

TABLE NO. 7: DESIGNATION AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (TWO – WAY TABLE)

S. No.	Designation	Level of satisfaction with existing Performance Appraisal System			Total
		Low	Medium	High	
1.	Labour	16 (20.0)	44 (55.0)	20 (25.0)	80
2.	Fitter	100 (32.4)	134 (43.4)	75 (24.3)	309
3.	Operator	34 (33.0)	43 (41.7)	26 (25.2)	103
4.	Electrician	49 (45.4)	53 (49.1)	6 (5.6)	108
	Total	199	274	127	600

TABLE NO. 8: DESIGNATION AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (CHI – SQUARE TEST)

Factor	Calculated χ^2 Value	Table Value	D.F	Remarks
Designation	26.804	12.592	6	Significant at 5% level

Result: Since the χ^2 value is greater than table value, the null hypothesis is rejected. There is a close relationship between designation of the respondents and their level of satisfaction towards performance appraisal system practised in the selected sugar industries.

HYPOTHESIS- III

Null hypothesis H_0 : There is no significant relationship between department and level of satisfaction with existing performance appraisal system.

Alternative hypothesis H_1 : There is significant relationship between department and level of satisfaction with existing performance appraisal system.

TABLE NO. 9: DEPARTMENT AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM

S. No.	Department	No. of Respondents	%	Ave rage	Range		S.D
					Min	Max	
1.	Electrical	153	25.5	51.4	48	57	3.1
2.	Engineering	255	42.5	53.3	46	60	4.9
3.	Administration	100	16.7	50.6	48	60	3.0
4.	Distillery	92	15.3	53.9	48	60	4.0
	Total	600	100.0				

TABLE NO. 10: DEPARTMENT AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (TWO – WAY TABLE)

S. No.	Department	Level of satisfaction with existing Performance Appraisal System			Total
		Low	Medium	High	
1.	Electrical	53 (34.6)	82 (53.6)	18 (11.8)	153
2.	Engineering	78 (30.6)	97 (38.0)	80 (31.4)	255
3.	Administration	51 (51.0)	41 (41.0)	8 (8.0)	100
4.	Distillery	17 (18.5)	54 (58.7)	21 (22.8)	92
	Total	199	274	127	600

TABLE NO. 11: DEPARTMENT AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (CHI – SQUARE TEST)

Factor	Calculated χ^2 Value	Table Value	D.F	Remarks
Department	52.684	12.592	6	Significant at 5% level

Result: Since the χ^2 value is greater than table value, the null hypothesis is rejected. Hence, there is a close relationship between Department of the respondents and their level of satisfaction towards performance appraisal system practised in the selected sugar industries.

HYPOTHESIS- IV

Null hypothesis H_0 : There is no significant relationship between educational qualification and level of satisfaction with existing performance appraisal system.

Alternative hypothesis H_1 : There is significant relationship between educational qualification and level of satisfaction with existing performance appraisal system.

TABLE NO.12: EDUCATIONAL QUALIFICATION AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM

S. No.	Educational Qualification	No. of Respondents	%	Ave rage	Range		S.D
					Min	Max	
1.	Upto school level	230	38.3	54.4	46	60	4.6
2.	Diploma	186	31.0	50.4	48	58	3.2
3.	Graduate	100	16.7	51.1	48	60	3.8
4.	Post Graduates	84	14.0	53.2	48	60	2.5
	Total	600	100.0				

TABLE NO. 13: EDUCATIONAL QUALIFICATION AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (TWO – WAY TABLE)

S. No.	Educational Qualification	Level of satisfaction with existing Performance Appraisal System			Total
		Low	Medium	High	
1.	Upto school level	25 (10.9)	123 (53.5)	82 (35.7)	230
2.	Diploma	112 (60.2)	57 (30.6)	17 (9.1)	186
3.	Graduate	54 (54.0)	29 (29.0)	17 (17.0)	100
4.	Post Graduate	8 (9.5)	65 (77.4)	11 (13.1)	84
	Total	199	274	127	600

TABLE NO. 14: EDUCATIONAL QUALIFICATION AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (CHI – SQUARE TEST)

Factor	Calculated χ^2 Value	Table Value	D.F	Remarks
Educational Qualification	178.513	12.592	6	Significant at 5% level

Result: Since the χ^2 value is greater than table value, the null hypothesis is rejected. Hence, there is a close relationship between Educational Qualification of the respondents and their level of satisfaction towards performance appraisal system.

HYPOTHESIS- V

Null hypothesis H_0 : There is no significant relationship between type of family and level of satisfaction with existing performance appraisal system.

Alternative hypothesis H_1 : There is significant relationship between type of family and level of satisfaction with existing performance appraisal system.

TABLE NO. 15: TYPE OF FAMILY AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM

S. No.	Marital status	No. of Respondents	%	Ave rage	Range		S.D
					Min	Max	
1.	Married	415	69.2	52.5	46	60	4.3
2.	Unmarried	185	30.8	52.2	46	60	4.1
	Total	600	100.0				

TABLE NO. 16: MARITAL STATUS AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (TWO – WAY TABLE)

S. No.	Marital status	Level of satisfaction with existing Performance Appraisal System			Total
		Low	Medium	High	
1.	Married	136 (32.8)	187 (45.1)	92 (22.2)	415
2.	Unmarried	63 (34.1)	87 (47.0)	35 (18.9)	185
	Total	199	274	127	600

TABLE NO. 17: MARITAL STATUS AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (CHI – SQUARE TEST)

Factor	Calculated χ^2 Value	Table Value	D.F	Remarks
Marital status	0.810	5.991	2	Not Significant

Result: Since the χ^2 value is less than table value, the null hypothesis is accepted. Hence, there is a no significant relationship between marital status and level of satisfaction with existing performance appraisal system practised in the selected sugar industries.

HYPOTHESIS- VI

Null hypothesis H_0 : There is no significant relationship between family size and level of satisfaction with existing performance appraisal system.

Alternative hypothesis H_1 : There is significant relationship between family size and level of satisfaction with existing performance appraisal system.

TABLE NO. 18: FAMILY SIZE AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM

S. No.	Family size	No. of Respondents	%	Ave rage	Range		S.D
					Min	Max	
1.	Upto 3 members	117	19.5	51.5	48	60	4.4
2.	3-5 members	346	57.7	52.5	46	60	4.6
3.	Above 5 members	137	22.8	53.2	48	60	2.7
	Total	600	100.0				

TABLE NO. 19: FAMILY SIZE AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (TWO – WAY TABLE)

S. No.	Family size	Level of satisfaction with existing Performance Appraisal System			Total
		Low	Medium	High	
1.	Upto 3 members	53 (45.3)	43 (36.8)	21 (17.9)	117
2.	3-5 members	139 (40.2)	121 (35.0)	86 (24.9)	346
3.	Above 5 members	7 (5.1)	110 (8.3)	20 (14.6)	137
	Total	199	274	127	600

TABLE NO. 20: FAMILY SIZE AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (CHI – SQUARE TEST)

Factor	Calculated χ^2 Value	Table Value	D.F	Remarks
Family size	95.091	9.488	4	Significant at 5% level

Result: Since the χ^2 value is greater than table value, the null hypothesis is rejected. Hence, there is a close relationship between Family Size of the respondents and their level of satisfaction towards performance appraisal practices.

HYPOTHESIS-VII

Null hypothesis H_0 : There is no significant relationship between type of family and level of satisfaction with existing performance appraisal system.

Alternative hypothesis H_1 : There is significant relationship between type of family and level of satisfaction with existing performance appraisal system.

TABLE NO. 21: TYPE OF FAMILY AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM

S. No.	Type of family	No. of Respondents	%	Ave rage	Range		S.D
					Min	Max	
1.	Joint family	295	49.2	52.5	46	60	3.3
2.	Nuclear family	305	50.8	52.4	48	60	5.0
	Total	600	100.0				

TABLE NO. 22: TYPE OF FAMILY AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (TWO – WAY TABLE)

S. No.	Type of family	Level of satisfaction with existing Performance Appraisal System			Total
		Low	Medium	High	
1.	Joint family	61 (20.7)	191 (64.7)	43 (14.6)	295
2.	Nuclear family	138 (45.2)	83 (27.2)	84 (27.5)	305
	Total	199	274	127	600

TABLE NO.23: TYPE OF FAMILY AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (CHI – SQUARE TEST)

Factor	Calculated χ^2 Value	Table Value	D.F	Remarks
Type of family	85.457	5.991	2	Significant at 5% level

Result: Since the χ^2 value is greater than table value, the null hypothesis is rejected. Hence, there is a close relationship between type of family of the respondents and their level of satisfaction with performance appraisal practices.

HYPOTHESIS- VIII

Null hypothesis H_0 : There is no significant relationship between experience and level of satisfaction with existing performance appraisal system.

Alternative hypothesis H_1 : There is significant relationship between experience and level of satisfaction with existing performance appraisal system.

TABLE NO. 24: EXPERIENCE AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM

S. No.	Number of years of service	No. of Respondents	%	Ave rage	Range		S.D
					Min	Max	
1.	Upto 10 years	81	13.5	53.2	46	60	4.5
2.	10-20years	300	50.0	50.8	46	60	3.4
3.	Above 20 years	219	36.5	54.4	48	60	4.3
	Total	600	100.0				

TABLE NO. 25: EXPERIENCE AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (TWO – WAY TABLE)

S. No.	Number of years of service	Level of satisfaction with existing Performance Appraisal System			Total
		Low	Medium	High	
1.	Upto 10 years	22 (27.2)	32 (39.5)	27 (33.3)	81
2.	10-20years	136 (45.3)	130 (43.3)	34 (11.3)	300
3.	Above 20 years	41 (18.7)	112 (51.1)	66 (30.1)	219
	Total	199	274	127	600

TABLE NO. 26: EXPERIENCE AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (CHI – SQUARE TEST)

Factor	Calculated χ^2 Value	Table Value	D.F	Remarks
Number of years of service	58.212	9.488	4	Significant at 5% level

Result: Since the χ^2 value is greater than table value, the null hypothesis is rejected. Hence, there is a close relationship between the number of years of service of the respondents and their level of satisfaction with performance appraisal system practised in selected sugar industries.

HYPOTHESIS- IX

Null hypothesis H_0 : There is no significant relationship between workers performance and level of satisfaction with existing performance appraisal system.

Alternative hypothesis H_1 : There is significant relationship between workers performance and level of satisfaction with existing performance appraisal system.

TABLE NO. 27: SUPERIORS' RATING OF WORKERS PERFORMANCE AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM

S. No.	Superior rates workers performance	No. of Respondents	%	Ave rage	Range		S.D
					Min	Max	
1.	Low	187	31.2	49.0	48	60	2.3
2.	Medium	198	33.0	53.4	46	60	2.6
3.	High	215	35.8	54.5	48	60	4.9
	Total	600	100.0				

TABLE NO. 28: SUPERIORS' RATING OF WORKERS PERFORMANCE AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (TWO-WAY TABLE)

S. No.	Superior rates workers performance	Level of satisfaction with existing Performance Appraisal System			Total
		Low	Medium	High	
1.	Low	135 (72.2)	46 (24.6)	6 (3.2)	187
2.	Medium	11 (5.6)	159 (80.3)	28 (14.1)	198
3.	High	53 (24.7)	69 (32.1)	93 (43.3)	215
	Total	199	274	127	600

TABLE NO. 29: SUPERIORS' RATING OF WORKERS PERFORMANCE AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (CHI-SQUARE TEST)

Factor	Calculated χ^2 Value	Table Value	D.F	Remarks
Workers performance	297.618	9.488	4	Significant at 5% level

Result: Since the χ^2 value is greater than table value, the null hypothesis is rejected. Hence, there is a close relationship between superiors rating of workers performance and their level of satisfaction towards performance appraisal system practised in selected sugar industries.

HYPOTHESIS - X

Null hypothesis H_0 : There is no significant relationship between labour welfare measures and level of satisfaction with existing performance appraisal system.

Alternative hypothesis H_1 : There is significant relationship between labour welfare measures and level of satisfaction with existing performance appraisal system.

TABLE NO.30: LABOUR WELFARE MEASURES PRACTISED AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM

S. No.	Labour welfare measures Practised	No. of Respondents	%	Ave rage	Range		S.D
					Min	Max	
1.	Low	119	19.8	51.9	46	58	3.2
2.	Medium	304	50.7	51.3	48	60	3.4
3.	High	177	29.5	54.7	48	60	5.2
	Total	600	100.0				

TABLE NO. 31: LABOUR WELFARE MEASURES PRACTISED AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (TWO-WAY TABLE)

S. No.	Labour welfare measures practised	Level of satisfaction with existing Performance Appraisal System			Total
		Low	Medium	High	
1.	Low	39 (32.8)	70 (58.8)	10 (8.4)	119
2.	Medium	123 (40.5)	149 (49.0)	32 (10.5)	304
3.	High	37 (20.9)	55 (31.1)	85 (48.0)	177
	Total	199	274	127	600

TABLE NO. 32: LABOUR WELFARE MEASURES PRACTISED AND LEVEL OF SATISFACTION WITH EXISTING PERFORMANCE APPRAISAL SYSTEM (CHI-SQUARE TEST)

Factor	Calculated χ^2 Value	Table Value	D.F	Remarks
Labour welfare measures	112.148	9.488	4	Significant at 5% level

Result: Since the χ^2 value is greater than table value, the null hypothesis is rejected. Hence, there is a close relationship between labour welfare measures practised in the organization and their level of satisfaction towards performance appraisal system practised in selected sugar industries.

8.3 MULTIPLE REGRESSION ANALYSIS:

The regression is a statistical relationship between two or more variables. When there are two or more independent variables, the analysis that describes such relationship is multiple regression. This analysis is adopted where there is one dependent variable that is presumed to be in relation with the function of two or more independent variables. In multiple regression, a linear composite of explanatory variable is formed, in such a way that it has maximum correlation with an active criterion variable. The main objective of using this technique is to predict the variability of the dependent variable, based on its co-variance with all the independent variables. It is useful to predict the level of dependent phenomenon through Multiple Regression Analysis Models, if the levels of independent variables are given. The linear multiple regression problems is to estimate coefficients of $\beta_1, \beta_2, \dots, \beta_j$ and β_0 such that the expression,

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_j X_j$$

provides a good estimate of an individual Y score based on the X scores.

In this analysis, the relationship between the respondents' level of satisfaction with the Performance Appraisal and Training Programme practices were studied by selecting eleven independent factors. It was found that out of eleven variables, only eight were closely associated with the level of satisfaction with the Performance Appraisal and Training Programme practices among the selected sample respondents. The eleven independent variables used in multiple regression analysis are shown below. They are,

Where, Y	=	Level of satisfaction in performance appraisal system
X_1	=	Respondents' Age
X_2	=	Respondents' Designation or grade
X_3	=	Respondents' Department
X_4	=	Respondents' Educational Qualification
X_5	=	Respondents' Marital Status
X_6	=	Respondents' Family Size
X_7	=	Respondents' Type of Family
X_8	=	Respondents' Scale of Pay
X_9	=	Respondents' Experience
X_{10}	=	Respondents' Workers Performance
X_{11}	=	Respondents' idea about Labour Welfare Measures and

$\beta_0 + \beta_1 + \beta_2 + \dots + \beta_j$ are the parameters to be estimated.

HYPOTHESIS- XI

H_0 = There is no significant relationship between independent and dependent variables

The respondents' level of satisfaction with the Performance Appraisal and Training Programmes and independent factors were studied by selecting eleven independent factors used, the results were subjected to multiple regression analysis are shown below.

TABLE NO. 33: COEFFICIENTS

Sl.No.	Variables	Unstandardized coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	-0.091	0.191			
1	Age	0.848	0.023	0.813	36.158	1%
2	Designation	0.564	0.033	0.542	17.105	1%
3	Department	-0.054	0.023	-0.056	-2.374	5%
4	Educational Qualification	0.172	0.045	0.083	3.833	1%
5	Marital Status	-0.005	0.034	-0.003	-0.138	NS
6	Family Size	-0.031	0.044	-0.016	-0.698	NS
7	Type of family	-0.067	0.021	-0.068	-3.099	1%
8	Scale of Pay	0.171	0.034	0.120	5.042	1%
9	Experience	0.072	0.027	0.062	2.656	1%
10	Workers Performance	0.434	0.037	0.388	11.660	1%
11	Labour Welfare Measures	0.009	0.022	0.010	0.403	NS

TABLE 34: Table Value of F

R-Value	R ² -Value	Degree of Freedom – V ₁	Degree of freedom – V ₂	F Value	Significance
0.888	0.788	14	985	262.21	1% Level

The larger the F ratio there will be more variance in the dependent variable that is associated with the independent variable. The F ratio = 262.21. The multiple linear regression co-efficient (dependent variables) is found to be statistically a good fit since r^2 value is 0.788 (Table 11.1.2). It shows that the independent variables contribute 79% of variations in the level of satisfaction of the employees, and this is statistically significant at 1% level and 5% level respectively. The F ratio = 262.21. Since reject the null hypothesis is rejected. Hence, there is close relationship between independent and dependent variables.

Out of eleven variables, only eight variables are showing much influence against the level of satisfaction perceived by the respondents on the Performance Appraisal and Training Programmes practiced in sugar industries. The standardized coefficient column reveals that age of the respondent has the beta coefficient 0.813 which is statistically significant at 1% (0.001), Designation of the respondent has beta coefficient 0.542 which is statistically significant at 1%

(0.001), Department has the beta coefficient -0.056 which is statistically significant at 5%(0.005), Educational Qualification of the respondent has beta coefficient 0.083 which is significant at 1%(0.001), Marital status of respondent has the beta coefficient -0.003 which is not significant at 1% (0.001), Family size of the respondent has beta coefficient -0.016 which is not significant at 5% (0.005), Type of family has the beta coefficient -0.068 which is significant at 1%(0.001), Scale of Pay has the beta coefficient -0.120 which is significant at 1%(0.001), Experience has the beta coefficient 0.062 which is significant at 1%(0.001), Experience has the beta coefficient 0.0388 which is significant at 1%(0.001), Workers Performance has the beta coefficient 0.388 which is significant at 1%(0.001), Labour Welfare Measures has the beta coefficient 0.010 which is not significant at 1%(0.001).

9. PROBLEMS FACED BY THE RESPONDENTS IN THE PERFORMANCE APPRAISAL SYSTEM

An appraisal interview, when conducted properly, yields benefits for individual employees, management and the organization as a whole. If satisfaction accounts for the merits of the respondents' performance appraisal, dissatisfaction accounts for the problems in using it. Hence, the routine problems faced by the respondents in using performance appraisal system were studied. For this purpose, seven major problems were chosen by the researcher. They were No recognition for supervisor, Biased in communication, Difficult to comparison, Assessment becomes vague, Attributes/traits were vague, Potentialities were ignored and Raters errors.

The respondents were asked to pinpoint from the most burning issue to the less concerning problems. Henry Garrett ranking method was employed and the results were furnished in the following table.

TABLE NO. 35: PROBLEMS FACED BY THE RESPONDENTS IN THE PERFORMANCE APPRAISAL SYSTEM

S. No	Problems	Total Score	Mean Score	Rank
1.	No recognition for supervisor	33974	56.6	II
2	Biased in communication	26149	43.6	VI
3	Difficult to comparison	28587	47.6	V
4	Assessment becomes vague	34881	58.1	I
5	Attributes/traits were vague	32469	54.1	III
6	Potentialities were ignored	29149	48.6	IV
7	Raters errors	26042	43.4	VII

The above table highlights that out of the seven problems listed; the prime problem pinpointed by the respondents was "Assessment becomes vague", which was ranked first with a Garrett score of 34881 points. It is followed by "No recognition for supervisor", placed in the second rank with the Garrett score of 33974 points. The problems such as "Attributes/traits were vague", "Potentialities were ignored" and "Difficult to comparison" were ranked in the third, fourth and fifth places with the Garrett scores of 32469, 29149 and 28587 points respectively. The other issues namely, the Biased in communication was ranked in the sixth position with the Garrett score of 26149 points. Lastly, Raters errors were ranked in the seventh place with a Garrett score of 26042 points.

10. PROBLEMS FACED BY THE RESPONDENTS IN THE TRAINING PROGRAMS

There are many impediments which can make a training programme ineffective. Hence, the routine problems faced by the respondents in training programme were studied. For this purpose, six major problems were chosen by the researcher, viz., Lack of impressive teaching, Advanced topics cannot be taught by the trainer, Poor communication, Training environment is artificially created and Excessive Stress. The respondents were asked to reveal their opinion from the most burning issue to the less concerning problems. Henry Garrett ranking method was employed and the results were furnished in the following table.

TABLE NO. 36: PROBLEMS FACED BY THE RESPONDENTS IN THE TRAINING PROGRAMS

S. No	Problems	Total Score	Mean Score	Rank
1.	Lack of impressive teaching	33822	56.4	II
2	Advanced topics cannot be taught	34523	57.5	I
3	Poor communication	27207	45.3	V
4	Training environment is artificially created	30396	50.7	III
5	Excessive Stress	29260	48.8	IV

The above table highlights that out of the six problems listed, the prime problem pinpointed by the respondents with 1st rank was Advanced topics cannot teach by the trainer which obtained a Garrett score of 34523 points. It is followed by lack of impressive teaching placed in the second rank with the Garrett score of 33822 points. The problems such as Training environment is artificially created, Excessive Stress and Poor communication were ranked in the third, fourth and fifth places with the Garrett scores of 30396, 29260 and 27207 points respectively.

11. FINDINGS

From the results of the multiple regression analysis it is concluded that out of eleven variables, only eight variables are showing much influence against the level of satisfaction perceived by the respondents on the Performance Appraisal and Training Programmes practiced in sugar industries. They are respondents' Age, Designation, Department, Educational Qualification, Type of Family, Scale of Pay, Experience and Workers Performance.

From Henry Garrett ranking method Problem faced by the respondents in the Performance Appraisal System was analyzed and it revealed that "Assessment becomes vague" which was ranked first with a help of Garrett Ranking Method. Problem faced by the respondents in the Training Programs was analyzed and it revealed that the prime problem pinpointed by the respondents and it revealed that "Advanced topics cannot be taught" by the training which was ranked first with a help of Garrett Ranking Method.

12. SUGGESTIONS

1. Age-wise analysis reveals that only the respondents belonging to above 45 years have satisfied in the existing Performance Appraisal System. Hence, it is suggested that the management should change that Appraisal System has practiced in the Government Organization and Public sector Organizations to retain in the young and middle aged respondents.
2. The employees having Operator and Labour Designation have perceived maximum level of satisfaction than the Fitter and Electricians. Hence, it is should be suggested that uniformity should be practiced for all Designations.
3. Employees working in Distiller Department have perceived maximum level of satisfaction than the employees working in the other departments. Hence, it is suggested that both the sugar industries top management should practiced uniformity should be practiced in all departments including Electrical, Engineering and Administration.
4. The employees' education and their satisfaction on Performance Appraisal System have studied and it is found that the respondents having the school level educations should high level of satisfaction. Hence, the management should take new care towards Diploma holders, Graduates and Post-Graduates.

13. CONCLUSION

Measuring employee performance is the basis of the Performance appraisal processes and performance management. Evaluation of the Employees Performance Appraisal depends upon the organization. The overall Performance Appraisal and Training Programmes practiced in sugar industries in Erode District was studied

and found good. The development of employees' workforce is continuous and essential process and it is realized by the top management and workforce of Sugar Mills. Performance Appraisal and Training programmes helps to promote the employee in a right scale of pay. The employees have close association with the Performance Appraisal and Training Programmes Practiced in Sugar Industries. The management should come forward to change the Appraisal System as practiced in the Government Organization and Public Sector Organizations to retain in the young and middle aged respondents. The employees should realize that the organization conducts Performance Appraisal and Training Programmes to enhance the knowledge and skills of the employees and to achieve its goals. Effective monitoring and measuring also includes providing timely feedback and reviews to employees for their work and performance according to the pre-determined goals and standards and solving the problems faced. Timely recognition of the accomplishments also motivates the employees and help to improve the performance. Performance appraisal offers competitive advantage to the select sugar industries by improving the employees performance, helps them to make correct decisions, ensuring legal compliance, minimizing job dissatisfaction and employee turnover and ensuring consistency between organizational strategy and behavior. Training Programmes practiced in sugar mills contributing to its capacity to grow. Accident, scrap and damage to machinery and equipment can be avoided or minimized.. Furthermore, future need of employees will be taken care by Performance Appraisal and Training Programmes practiced in sugar industries. There are several initiatives for career planning and career development, but it is not just organizations alone, even the employees themselves have a roal in shaping their careers.

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INTEREST IN MANAGEMENT EDUCATION: THE CURRENT TREND AND ITS IMPLICATIONS

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ABSTRACT

In recent years, management education is considered as elitist in higher education in India. Many young men and women with high scholastic records have been attracted to pursuing higher education in management field. The obvious reason for this trend is the high and lucrative remuneration and other positive consequences associated with MBA. The authors came across a number of cases of MBA pursuing students, who feel stressed out and have difficulty in coping with the non passionate subjects. And they become less motivated to perform in the academics. These in turn resulted in adjustment difficulties, anxiety and low self-esteem. All these dynamics could affect their academic performance in one hand and personality on the other hand. The present study explores career interest of the prospective MBA students in a popular B-School in India. The Thurstone's Interest Schedule (TIS) was administered to these subjects. The total sample size was 241. The ten core interest dimensions were regrouped into two clusters, namely management education oriented and non management education oriented dimensions. The analysis shows that only 55% of aspirants have core interest in management education oriented dimensions. The remaining 45% of aspirants whose core interest is in non management oriented dimensions.

KEYWORDS

Career interest, Career choice, Management education.

CASE 1

Mr. Nath (name changed) is a 4th Semester MBA student of a reputed management school came to meet one of the authors of this article for counseling of his own accord. During the counseling session, he expressed signs of depression and anxiety. The discussion went on to his interest in management studies and his family background. The assessment measure of depression showed he had mild amount of depression and could do well with counseling. Later assessment of his career interest showed he was least interested in management/ business education. This low interest in management education made him focus very little on the subject and made him less interactive in the classroom participation sessions. This has lead to poor assessment of him in internals by faculties, and also poor performance in the assignments. It got to be a vicious circle, where his peers also showed less inclination towards him and he was not able to do well in many team assignments. Finally he got low marks in all the subjects and a need arose for him to come for counseling sessions. The awareness he got in counseling and the choices he made thereafter, altering of his belief system, all put together, and helped him come out of depression within a fort night.

CASE 2

Ms. Anitha (name changed) is a top ranked student in engineering and joined a business school to do her MBA. She came to meet one of the authors of this article for counseling for irregularity in her attendance and missed the first internal test. Initially, she was not willing to talk and wanted full assurance about the confidentiality. When she felt reassured, she started talking about how she had difficulty in coping with the new subjects and how she thought of quitting the course. The interest and personality test revealed that she was least interested in management education and was inclined towards research. She was passionate about working in depth on the same project instead of knowing subjects in bits and pieces. The personality test also correlated with her interest dimensions and revealed that she could excel in the research area. She discussed these things with her parents and quit the college and joined Post-Graduate course in engineering.

CASE 3

Ms Sawani (name changed) has been referred by one of the faculty for counseling. Sawani was caught smoking marijuana. Sawani was reluctant to meet the counselor but cooperative. She was moderate in studies, but had a burning desire to work as a fashion designer. Her family was not interested in putting her for fashion designing. She came from an elite family, where everybody was into senior executive positions in various MNC's. The career interest test and personality assessment showed her burning desire for creative field. The counseling was focused on her de-addiction programme as well as career aspects. She left the MBA programme and started working on some fashion design projects.

All the above cases are revealing significant influence of one's core interest in career choices and later its effect on the behavior and personality of a person. The present study focuses career interest as a predominant factor in one's career choices.

MBA: A MOST SOUGHT COURSE OF THE PRESENT GENERATION

MBA as a course does not have a long history. It was started in Harvard University in 1908 with 80 students as an experimental basis. However, in Harvard itself, it grew enormously. Many research authors consider MBA degree as the popular academic qualification in the present day global market (Jain & Stopford, 2011). Even though there were speculations about MBA degree's effectiveness (Mintzberg, 2004), the recent study says that CEO's with MBA degree have higher level of corporate environmental performance (Slater & Dixon-Flower, 2010). However, recent survey says that there is a slight decline in MBA application volume compared to previous years and as well as with specific master's programmes (GMAC report, 2011). In India, IIM Calcutta and IIM Ahmedabad were the pioneers in initiating the MBA degree on a model similar to MIT Sloan School of Management and Harvard Business School respectively.

INTEREST: DEFINITION AND SCOPE

The nature and strength of one's interests, values and attitudes represent an important aspect of personality (Anastasi, 1990). Even though they are not mutually exclusive, the study of interest is important for understanding one's career choices. Interest has been defined as activities for which we have likings or dislike and which we go towards or away from (Strong, 1928). Another assumption is that an individual's preference for an occupation or selection for a course of study can be determined by his/her motivation, which is influenced by one's interests, values and preferences (Freeman, 1965). Super (1949, 1957) elaborated and classified interests into four types such as expressed, manifested, tested and inventoried interests. The majority of interest inventories are designed to assess the individual's interest in different fields of work (Anastasi, 1990). These interest inventories are not test of aptitudes. They indicate only the extent of similarity between interests and preferences expressed by those being examined and those of persons successfully engaged in the specified occupations or areas (Freeman, 1965).

OBJECTIVES OF THE STUDY

The present study applies practice based research approach, where the focus is more on on-going process and its outcome. This study assesses the student's interest in management education programmes, when these students are in the process of joining the management programme after their graduation course. This assessment will enable the counselors to guide students to choose a field based on their core interests rather than racing with the trend.

NULL HYPOTHESES OF THE STUDY

The MBA aspirants are expected to have a lot of passion about their future studies and this passion is supposed to be reflected in their interest test. The assumption is that when other things like remuneration and prestige associated with the occupation are constant, the student would choose the job to the best of his liking. In this case, the null hypothesis would be, "To do well, all the MBA aspirants will have the high score of interest in management oriented dimensions (H_01) or in the other way no MBA aspirants will have high score of interest in non management oriented dimensions on interest schedule (H_02)". However, the authors feel that the null hypotheses are mutually exclusive and need to be tested differently rather than combining the data.

Further, in the above hypotheses statements like, "All the MBA aspirants" does not mean that at the absolute level of 100%. Similarly, "No subjects" means 0% of the total number of aspirants. It is relative and arbitrary. We are considering 95% of the expected data as 'ALL' the MBA aspirants and 5% of the expected data as 'NO' MBA students...

METHOD

RESEARCH DESIGN

The present study explores the students' career interest through a test and groups them according to either management education oriented dimensions or non management oriented dimensions. The Percentage analysis and Chi-Square analysis are carried out to show case the significance impact of this trend and its consequences on future academic issues.

SAMPLE AND SAMPLING

The subjects are aspirants of MBA course in a reputed management college in India. The protocol of the college is to invite the students to have an open session with the faculty of the college and get the gist of its culture and process. During this time they also go through an interest test to know their core interest areas. The total number of aspirants to go through this test was 251 of an academic year and 241 valid test profiles were taken for the study. The method of sampling is convenient sampling of random subjects.

The average age of the aspirants is 21.39 years and 96 aspirants were females and 145 were males. However, gender as a variable was not studied in the present study. Another assumption about the subjects was that all the aspirants had cleared the aptitude test, which was a mandatory requirement for any MBA admission. This was not verified by the authors. The actual educational background of the aspirants was B.A. (5), BBA (16), B.Com (66), BBM (73), BCA (10), Engineering (51) and others (6).

TEST MATERIAL

Thurstone interest schedule was used for exploring the Students' Career Interests (Thurstone, 1948). The reliability of the instrument is 0.90 to 0.96 and can be used for students above secondary schooling. The test consists of 100 different job designations. The test assesses individuals ten career interest dimensions, namely, Physical science, Biological science, Computational, Business, Executive, Persuasive, Linguistics, Humanitarian, Artistic and Musical. Business, Executive and Persuasive career interest dimensions are directly related to courses in management education and it can be hypothesized that students who are aspiring to study MBA have high interest in one of these career interest dimensions. Computation is close to Education in Finance and Accounting services and it is considered to be appropriately included in management education oriented dimensions by management experts. However, authors have not come across any research evidence to support this opinion. Physical science, biological science, linguistics, humanitarian, artistic and musical dimensions were considered as non management education oriented interest dimensions.

PROCEDURE

The schedule was administered in a group of 25 and above. Individual queries were also made and the responses noted. Response sheets were scored and interpreted as described in the manual. For analysis purpose, only highest career interest and second highest career interest were considered as equal in terms of weight age for further discussion.

RESULTS AND DISCUSSION

This section of the article focuses on descriptive analysis of the data obtained through TIS test.

TABLE 1: THE RESPONSE DISTRIBUTION OF MBA ASPIRANTS' CAREER INTEREST ON TIS (n=241)

Particulars	PS	BS	C	B	E	P	L	H	A	M	Total
Highest score	13	7	60	65	34	5	18	7	50	27	286
Second Highest Score	17	8	32	66	42	23	37	18	42	24	309
Total	30	15	92	131	76	28	55	25	92	51	595
% of responses	5.042	2.521	15.46	22.016	12.773	4.705	9.243	4.20	15.46	8.57	100

Source: Authors calculations.

TABLE 2: CHI-SQUARE ANALYSIS

SI Number	Observed frequencies	Expected frequencies	Obtained Chi value	Table Chi value	Interpretation
Management oriented dimensions	327	565.25	100.4212	3.84	Rejecting the null hypothesis
Non management oriented dimensions	268	29.75	1908.002	3.84	Rejecting the null hypothesis

Source: Authors calculations.

The above table shows that in the management oriented dimensions, the obtained Chi value is quite higher than the Table chi value i.e. $\chi^2_{.05}(1) = 100.42 > 3.84$. This means the null hypothesis H_01 has to be rejected. In the non management oriented dimensions, the obtained chi value is also quite higher than the table chi value i.e. $\chi^2_{.05}(1) = 1908 > 3.84$. This would also lead us to reject the appropriate null hypothesis H_02 .

The rejection of both null hypotheses forces us to formulate alternative hypotheses and there are follows:

In the first null hypothesis, All the MBA aspirants will have the high interest in management oriented dimensions is not accepted means that 95% of the MBA aspirants will not have high scores of interest in management oriented dimensions and in the present case it is only 55%. That allows us to say that:

H_{a1} : All the MBA aspirants will not have the high scores in management oriented dimensions of the assessed interest schedule.

In the second null hypothesis case, no MBA aspirants will have high scores of interest in non management oriented dimensions on interest schedule has not been accepted indicates there are more than 5% of MBA aspirants, who have high scores in non management oriented dimensions in the assessed schedule.

H_{a2} : There will be many MBA aspirants will have high scores of interest in non management oriented dimensions on the assessed interest schedule.

The consequences of accepting the alternative hypotheses are generally not positive in terms of students' career and personal life. Students, who showed high interest in non management oriented dimensions, may get into problems, if they join the MBA course as they aspired. It will be difficult for them to cope up with pressure of studying extensively and they may end up with low academic performances, in which case, the emotional well being and self-esteem will be negatively affected. This can in turn lead to depression or some other psychological problems. On the other hand the low in interest will affect the student's motivation to participate in classroom activities and pull the overall classroom performance down. For teachers, all these factors will affect the teacher's interaction with students and at times it may de-motivate the faculty. On organisational level, the low performers may often show unrest, which in turn would take away the focus of the management from academic to non academic issues. Eventually, the reputation of the institute may come down.

CONCLUSION

The result and the following discussion reveal that students are aspiring to study MBA without strong interest or knowledge of management education. This trend has a lot of consequences on different level: On individual level, on faculty level, and finally-at the organizational level. Career counseling and guidance with the support of psychometric tests could help to minimize the harm coming out of these issues, and maximize the candidate's success in his long career.

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IMPACT OF CORPORATE GOVERNANCE PRACTICES ON THE FIRM PERFORMANCE: AN EMPIRICAL EVIDENCE OF THE SMALL AND MEDIUM ENTERPRISES IN INDIA

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ABSTRACT

The present paper throws light on the various factors influencing changes occurring in organizational climate and culture by the adoption of corporate governance in small and medium enterprises in India and several external forces affecting this practice. Attempts have been made to identify the relationship between the corporate strategy development and the relative increase in the performances in such firms using factor analysis and regression analysis techniques. In these contexts, corporate governance data are grouped into four different factors: ownership component, board development, committee component and board procedure component. Tobin's Q-method is used to evaluate the firm's performance.

KEYWORDS

Corporate governance, Tobin's Q.

INTRODUCTION

World over, the SME sector has grown rapidly over the years and contributes almost 40 percent of the total industrial output. This sector has occupied an important position in generating revenue for countries because the growth rate in this sector has consistently been higher than the average industrial growth rate. At present, there are three sectors recognized by the government of India: cottage and tiny industry, small-scale industry, and large-scale industry. However, a definition exists only for tiny and small units; medium sized enterprises are not defined either technically or legally. But, Confederation of Indian industry (CII) an independent agency in India has recognized a firm with Rs.1 Crore (Rs 10 million) investments as a SME. The definition used by CII is based on the level of investment in plant, machinery or other fixed assets whether held on an ownership, lease or hire purchase basis. It seeks to keep in view the socio economic environment in India, where capital is scarce and labor is abundant. The SME in India characterized by low capitalization and limited assets, geographical diversity and high mortality, poor access to capital markets, cash intensity in transactions, lack of credit information, poor financial disclosure on account of tax issues, directed lending based on central Bank guidelines, high risk perception has led to high borrowing costs. In spite of all these limitations, SMEs in India are reckoned as one of the most vibrant sectors of the economy. Over the years, this sector has played a significant role in the development of Indian Industry sector (Figure-1). This is one of the fastest growing sectors in India.

REVIEW OF LITERATURE

The literature on the corporate governance suggests that the relationship between corporate governance and the value of a firm (performance) is affected by the endogeneity among the corporate governance variables. Larcker, Richardson and Tuna (2004) find a weak relationship between the value of a firm and corporate governance. Similarly, Bauer, Gunster and Otten (2003) do not find any relationship between the value of a firm (performance) and corporate governance variables. They argue that lack of a significant relationship between these variables is due to endogeneity and selection bias among the variables. The endogeneity in regression makes the coefficient of variables inefficient and unreliable affecting the robustness of the result of the hypotheses. The endogeneity among the variables in this study will be tested and suitable treatment will be given to solve this problem. Again, Black (2001), Klapper and Love (2003), Gompers, Ishii and Metrick (2003) and Beiner and Schmid (2005), have said that corporate governance plays an important role in improving the performance of a firm and there is a direct relationship between the two in both developing and developed financial markets. So, in this paper, an attempt has been made to study the effect of corporate governance practices in small and medium enterprises in India by considering several corporate governance variables classifying into four components as follows:

OWNERSHIP COMPONENT

- Family share holdings
- Private corporate shareholdings
- Public shareholdings

BOARD COMPONENT

- Ratio of the executive directors to total directors
- Ratio of the non-executive directors to total directors
- Duality in board (CEO in board chairman or not)

BOARD PROCEDURE COMPONENT

- Head of the audit committee
- Head of the remuneration committee
- Head of the shareholders grievance committee

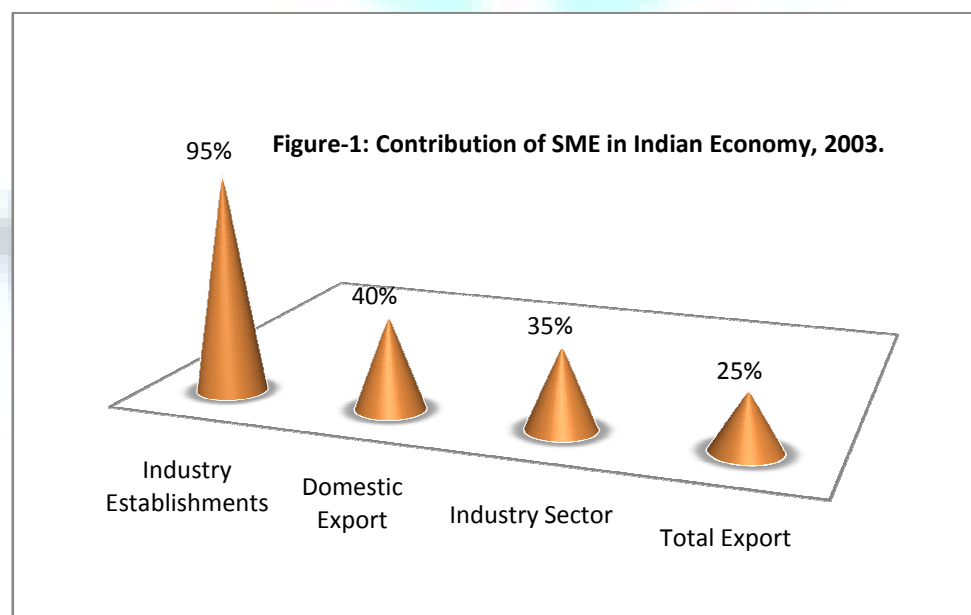
BOARD COMMITTEE COMPONENT

- Size of the board
- Number of committees in the board

Again the corporate governance in India, CII has stated that "Corporate Governance deals with laws, procedure, practices, and implicit rules that determine a company's ability to take managerial decisions vis-à-vis its claimants in particular, its shareholders, creditors.... There is a global consensus about the objective of good corporate governance: maximizing shareholders value". Subsequently Security and Exchange Board of India (SEBI) has come out with report on C.G. It stated that ".... a fundamental objective of corporate governance is the enhancement of shareholders' value keeping in view the interests of other shareholders...."

PRACTICE OF CORPORATE GOVERNANCE IN SMEs IN INDIA

The practice of adoption of 'corporate governance' shows a wide range of variation in the context of developed and developing countries. In developed countries, the awareness towards C.G. is more, as a result of that, ownership concentration is less and legal protection of minority shareholders is relatively strong. But, in the developing countries like India, ownership is highly concentrated with identity of family shareholders, which is an important difference. Different researchers like Shleifer and Vishny (1997), Agrawal and Knoeber (1996), Jensen and Warner (1988) studied particular aspects of adopting corporate governance practices in small and medium enterprises and the relative gain in performances by these firms. Also, it was found that a company with a highly concentrated ownership structure has superior performance. Family firms are businesses in which a single family exercises significant management and financial authority (Leach, 1994). Casson (1999) stated family shareholders are widely considered as the owners and residual claimants who control firms that largely belong to their own family and pass the firms assets to their descendants rather than wealth to shareholders. Family firms are corporations in which the founder or their descendants have a major role in managing the firm Rando and Goel, (2000). Jennings (1997), Francis (1997), studied the role of family ownership on firm performance. The performance indicators used are market to equity ratio, and stock returns. When firms with family ownership are compared with non-family ownership, the former have higher ME/ BE and stock market returns than firms with non-family ownership or closely held ownership. Thomsen and Pedersen (2000) investigated the identity of controlling ownership and firm performance indicators such as market to book value, return on assets, and sales growth of companies in 12 European nations. He suggested that family ownership is related to negative market to book value and return on assets compared to institutional investors and the result in sales growth regression showed that growth rates are significantly higher in firms with family owners. Jira and Sudhir (2004) examined the relationship between family ownership and firm performance in Thailand between 1998 – 2000. They have used market returns, return on asset, and net income to sales as performance indicators. The results showed that family ownership is positively significant to profitability, but it is less significant to market returns. The empirical evidence concerning the possible association of firm performance and corporate governance is extremely limited. This paper tries to explain family owned firms influence on board governance practices. The board governance variables used in this paper are board size, outsider ratio, CEO as chairman of the board, and Board meetings. The justification of inferring a relationship between board composition and performance is implied by the impact of the decision-making authority of the board on the firm performance. Baysinger and Butler (1985) and Hambrick and Jackson (2000) found evidence for the proportion of independent non-executive directors to be positively correlated with the accounting measure of performance. Further, Agrawal and Knoeber (1996) found a negative relationship between board independence and firm's performance. Hermalin and Weisbach (1991) and Bhagat and Black (1999) used the approach of Tobin's Q as performance measure, on the ground that it reflects the 'value added' of intangible factors such as governance (Yermack, 1996). Jensen (2000) found that large boards can be less effective than small boards. Similar inverse relationship between board size and performance has been reported by Yermack (1996), Eisenberg et al.(1998), Mak and Kusnadi (2005), Andres et al.(2005). According to Indian company's act 1956, the board of directors is the ultimate governing body on company affairs. Hsiang-Tsai, (2005), Bonn (2004) studied the role of the board and board size regarding the firm's performance. Lawrence and Stapledon (1999) and Garg (2007) found that different proportions of board independence have dissimilar impact on firm performance and suggested that it is important to have some independent board of directors. According to SEBI listing clause 49, not less than 50 % of the total number of directors should be an independent non-executive director. In the case CEO as a chairman of the board, at least half of the board should have independent directors. Past research have shown mixed results on performance influence of outside versus inside directors on firm performance. Most of the researches have support outside board members influence on firm performance. Argued there is high degree of association between outsider ratio and firm performance. They found board with high proportion of outside directors works effectively. It is common practice that CEO of the firm may act as chairman of the board of directors. There is contrasting opinion among researcher regarding CEO of the firm concurrently acting as chairman of the board. One set of researchers argued against it, just because board effectiveness may come down drastically due to lack of independence. On the other hand, CEO can give ultimate direction to the boards regarding company's future strategy and able to run in a proper way. Hsiang-Tsai (2005) discussed the role of CEO in the board and its implications from various angles. Kyereboah-Coleman and Biekpe (2005) proved that CEO duality is negatively related to the performance of a firm in the developing market. The division of role of CEO and Chairman is important as it enables the board to carry out its duties more effectively. According to SEBI, listing agreement 49, minimum four board meetings must be held in a year with time gap not exceeding 4 months between two meetings. CII code on corporate governance has recommended minimum of six meetings in a year. Each meeting should hold at an interval of every two months. The logic behind this exercise is to examine and question the executive actions. Executives are held responsible for the way they conduct the business in the board meetings. There is relationship exists between number of board meetings held and firm performance.



SOURCES OF DATA AND METHODOLOGY

The data used in this paper has been obtained from Prowess, a financial database of Center for Monitoring Indian Economy (CMIE) and annual reports of the firms. The sample consisting of 50 cross sectional firms have been taken from firms listed in Small Cap Index of Bombay Stock Exchange (BSE) as on 31st March 2009. Data used for different variables are considered during the time period 1st April, 2008 to 31st march, 2009. Different variables considered in this paper are as under:

TABLE 1: DESCRIPTION OF THE VARIABLE

Dependent Variable	Independent Variables		Control Variables
Firm Performance (Y)	Concentrated Ownership (X ₁)	Percentage of share held by Concentrate Ownership	Firm Age (X ₁₂) (It is considered as the logarithm of the number of years since the firms were established. Jira & Sudhir, (2004), Khanna and Palepu, (2000))
	Private Corporate Ownership Percentage (X ₂)	Percentage of share held by private corporate body	
	Public Ownership (X ₃)	Percentage of share held by Indian Public	
	Executive Ratio (X ₄)	Ratio of Executive director to total directors	
	Non-Executive Ratio (X ₅)	Ratio of Non-Executive director to total directors	Debt to Equity Ratio (X ₁₃) It is measured by dividing total debt by total equity (Sarkar and Sarkar, 2000).
	Duality (X ₆)	If CEO as a Chairman of the board, then 0 if not 1	
	Head of Share Committee (X ₇)	If Independent non-executive director is head of the shareholders' committee, then 1 if not 0	
	Head of Audit Committee (X ₈)	If Independent non-executive director is head of the shareholders' committee, then 1 if not 0	
	Head of Remuneration Committee (X ₉)	If Independent non-executive director is head of the shareholders' committee, then 1 if not 0	Sales to Market capitalization Ratio (X ₁₄) (Sample firms consist only of service firms. So this measure is used to explain firm's financial performance with respect to firm's market capitalization of equity shares.)
	Board Size (X ₁₀)	Total number of directors in the board	
	Committees (X ₁₁)	Total number of committees in the board	
		Control	

Also, factor analysis is used to analyze the interrelationship between the independent and dependent variables.

ECONOMETRIC MODEL

The econometric model for estimating the firm performance(Y) is given by the following equation:

$$Y = \beta_0 + \sum_{i=1}^m \beta_i X_i + \epsilon$$

Where β_0 is a constant, β_i 's are multiple regression coefficients and ϵ is the error term. By using the above mathematical model we are estimating the firm's performance basing upon the values of all the 14 variables on all the 50 firms. The values of β_0 and β_i are determined by using least square regression technique. To measure the firm's performance, we use Tobin's Q method, which is as follows:

$$Q = \frac{MVE + LVPS + BVB + BVCL}{BVTA}$$

Where, MVE = Market Value Equity,
 LVPS = Liquidation Value of Preference Share,
 BVD = Book Value of Debt,
 BVCL = Book Value of CL,
 BVTA = Book value of Total Assets = FA + INV + CA.

This method of computing Tobin's Q was given by Chung and Pruitt (1994) who report that this computation approximates the actual q to the extent of 96%. The modification was being done to make it compatible with the manner of reporting in the Indian context. Tobin's Q is an unambiguous measure of value-added by the management and can also capture the value of future investment opportunities. Garg (2007) studied the performance of firms basing upon directly Tobin's Q value as well as taking logarithmic specification due to non-linearity and found that the results regarding the performance remains unchanged. MVE is calculated by multiplying year-end closing pricing of the share with outstanding equity shares. The year-end closing price varies widely in a year; the average stock price at the end of each quarter (June 30, September 30, December 31, and March 31) is taken into consideration. The BVTA is calculated as on 30th, March 2009.

RESULTS AND DISCUSSION

Factor analysis is used to discern the underlying dimensions or regularity in phenomena. Its general purpose is to summarize the information contained in a large number of variables into a smaller number of factors. These are a number of factor-analytical techniques. When the variables are interrelated in a complex fashion, then factor analysis may be used to untangle the linear relationship into their separate patterns. The statistical purpose of factor analysis is to determine linear combinations of variables that aid in investigating the interrelationships. Here, we reduce the large number of variables to certain underlying constructs or dimensions that will summarize the important information contained in the variables, so that our purpose is to discover the basic structure of a domain and to add substantive interpretation to the underlying dimensions. Factor analysis accomplishes this by combining the questions to create new, more abstract variables called factors. In general, the goal of factor analysis is parsimony: to reduce a large number of variables to as few dimensions or constructs as possible.

TABLE-2: FACTOR ROTATED COMPONENT MATRIX

Factor/ Criteria	Factor-I	Factor-II	Factor-III	Factor-IV
Concentrated Ownership (X_1)	0.852			
Private Corporate Ownership Percentage (X_2)	-0.769			
Public Ownership (X_3)	-0.747			
Executive Ratio (X_4)		-0.898		
Non-Executive Ratio (X_5)		0.898		
Duality (X_6)		0.551		
Head of Share Committee (X_7)			0.499	
Head of Audit Committee (X_8)			0.751	
Head of Remuneration Committee (X_9)			0.822	
Board Size (X_{10})				0.658
Committees (X_{11})				-0.720
Eigen Value	2.229	2.066	1.645	1.257
Percentage of variance	20.922	18.765	14.923	11.687
Cumulative percentage of variance	20.922	39.687	54.610	66.297

Here the factor analysis reduces various interdependent variables into four factors. These factors can be analyzed to study the performance of the firms. For the validation of factor analysis we consider the KMO (Kaiser-Mayer-Olkin) measure of sampling adequacy, which is 0.876 at 95% confidence level. It indicates that factor analysis is an appropriate technique to be used. Using principal component analysis for identifying the factors, the four factors are:

Factor-I : Ownership component (X_1, X_2, X_3)

Factor-II : Board component (X_4, X_5, X_6)

Factor-III : Committee component (X_7, X_8, X_9)

Factor-IV : Board procedure component. (X_{10}, X_{11})

TABLE-3: ORDINARY LEAST SQUARE REGRESSION ANALYSIS

Criteria	Unstandardized Coefficients	Standardized Coefficients	t- test	p-value
Concentrated Ownership (X_1)	2.976E-02	0.010	0.065	0.945
Private Corporate Ownership Percentage (X_2)	3.015E-02	0.012	0.067	0.946
Public Ownership (X_3)	2.957E-02	0.010	0.061	0.944
Executive Ratio (X_4)	-0.654	-0.207	-1.438	0.158
Non-Executive Ratio (X_5)	0.654	0.207	1.438	0.158
Duality (X_6)	-0.586	-0.204	-1.437	0.157
Head of Share Committee (X_7)	0.930	0.299	2.120*	0.042
Head of Audit Committee (X_8)	0.892	0.289	2.117*	0.042
Head of Remuneration Committee (X_9)	0.887	0.286	2.117*	0.042
Board Size (X_{10})	-0.552	-0.177	-1.234	0.224
Committees (X_{11})	-0.499	-0.174	-1.232	0.223
Firm Age (X_{12})	-5.502	-0.322	-2.176	0.035
Debt to Equity Ratio (X_{13})	-0.564	-0.175	-1.234	0.218
Sales to Market capitalization Ratio (X_{14})	-0.545	-0.268	-1.867	0.068
F-Test	P – Value	R	R squared	R squared adjusted
2.835*	0.023	0.616	0.468	0.322
Standard Error of Correlation Coefficient			0.07	

OLS regression analysis is used to determine which corporate governance components have influence over firm performance. From the table, it is clear that the committee component has significant influence over firm performance. It shows that the committee factor really played very crucial role in influencing firm performance because it has 't' statistics value of -2.182 at 95 percent confidence level. It is evident from the table that head of the committees have definite influence over firm performance. It is understood from the data that most of committees have independent non-executive directors as a head of the committee. So, it is concluded that non-executive independent directors contribute very significantly to the firm performance. Further, firm's age is the only control variable that has statistically significant relationship with firm performance.

CONCLUSION

In this paper, an attempt has been made to analyze the small and medium enterprises in the Indian economy as these SMEs have significant contributions in affecting Indian economic scenario. The corporate governance practices were being widely adopted by these firms in order to gain competitive advantage. So, in an attempt to study the firm's performance various statistical techniques like Factor Analysis, Principal Component Analysis and Multiple Regression techniques were used to analyze the firm's performance. The sample firms are extracted from Bombay stock exchange (BSE), because it has constructed 'BSE Small- Cap' index to track the performance of the companies with relatively small market capitalization that would exclusively represent the mid and small cap companies listed on the Stock Exchange. These firms (Indian private service firms) have been categorized as SME based on the market capitalization. The factor analysis clearly identified four factors based on corporate governance practices followed in the Indian private service firms. Subsequently, these four factors were submitted for OLS regression analysis in order to prove that corporate governance practices in Indian private service firms have positive influence on the firm performance. It is evident from analysis part of this paper that Indian private service firms' corporate governance practices have positive influence on firm performance. Particularly, committee component factor has statistically very significant relationship with firm performance. Further, firms' age has negative relationship with firm performance. Finally, this paper concludes that non-executive independent directors have contributed very significantly towards firm performance.

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A REVIEW OF HUMAN ERROR IN MAINTENANCE AND SAFETY

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ABSTRACT

Industrial safety mainly depends on the performance of equipments and operations of the organization. The performance of the equipment and operations are highly dependent on the maintenance activity. The maintenance activity is heavily reliant on humans. Various studies have proved that human error is a major factor for the premature failure of equipments after the maintenance activities has been performed on them. The role of humans in maintenance has received much importance; recently more attention has been towards reducing human error in maintenance and inspection. Maintenance and inspection tasks are an inevitable part of an organization, where individuals perform varied tasks in a non conducive environment and difficult ambient conditions. These situational characteristics, in combination with generic human behaviors, results in error and leads to accidents. This also impede productivity and efficiency of the operations. As the maintenance quality is largely dependent on the conditions of the maintenance staff. These conditions, along with many others, which are called human factors will lead directly lead to failures. Even though it is never possible to eliminate human error totally, it is possible to reduce these errors through a good maintenance management. This paper overviews the various constituents of human factors that affect maintenance and analyzes various methodologies which can be used to reduce errors and thereby improve safety, reliability and availability of the organization. This paper also reviews current strategies in identifying, and managing human error in maintenance and inspection for a better industrial safety.

KEYWORDS

Human factors, Inspection, Maintenance, Safety.

INTRODUCTION

As Industrial safety is heavily depended on maintenance. If it is not performed correctly, it will lead to an accidents and incidents. Major maintenance errors are incorrectly installed parts, missing parts, and not performing the necessary checks. In contrast to many other threats to safety, the errors made by a maintenance people are very difficult to identify. Many times, these mistakes are present but not able identify easily and will remain latent, affecting the safe operation of the equipment. Maintenance staffs are confronted with lot of unique human factors within the organization. Often times, they are working in the unpleasant hours, in a limited space, and unergonomic postures, and in adverse environmental conditions. The work can be physically challenging, and it also requires more attention. Because of the unique nature of the maintenance tasks, usually maintenance staffs spend more time in preparing for the task rather than actually performing it. The key element is the correct documentation of all maintenance activities, and they spend much time updating maintenance details as they are performing the work. The awareness of various Human factors will lead to quality improvement; the presence of a conducive environment ensures worker safety, and lead to more involvement and responsibility. More specifically, the reduction of errors can provide a large quantity of benefits including reduced cost, avoiding delays, reduction in injuries, reduction of customer services, and reduction significant events because of maintenance error. The aspects of human errors are discussed in relation to maintenance. The most and the best advantage is that the introduction of ways to mitigate the risk and to stop them from developing into a problem.

EVOLUTION OF MAINTENANCE HUMAN FACTORS

By the end of the of World War I (1914–1918), more and more sophisticated equipment was being developed because of the non availability of competent personals to use such systems and the increased level in human expectation. Till this time, the focus was on the humans, but as the time progressed, the focus gradually shifted onto the design of equipments in connection with environmental factors. The major consequence of the war was the introduction of need for research and Development. The other major development was the identification of the Hawthorne Effect, which suggested that motivational factors could significantly influence human performance. By the end of World War II (1939–1945), it was difficult to match the existing individuals to preexisting jobs. By The time design of equipment had shifted its focus into human factors and also to take advantage of human capabilities. On this there was a large number of researches where performed to determine the human capabilities and limitations. The study done by Fitts and Jones, in 1947 on the most effective configuration of control knobs. Much of this research transcended into other equipment with the aim of making the controls and displays easier for the operators to use. The beginning of the Cold War led to a major expansion of these and large number research laboratories were set, and the aim of the researches was to design small equipments. The scope of the research also broadened from small equipment to entire workstations and systems. In the industry, the focus gradually shifted from research to participation through engineers by advice to in the design of equipment. H

HUMAN ERROR

To understand the role of human error in an accident or incident is different from simply attributing such an event to an fallible human. Human error has been differently characterized as: any member of a set of human actions that exceeds some limit of acceptability (Swain and Guttman, 1983), any human action or inaction that exceeds the tolerances defined by the system with which the human interacts (Lorenzo, 1990), the failure to achieve an intended outcome beyond the influence of random occurrence (Reason, 1990), a necessary outcome to allow humans to explore and understand systems (Rasmussen, 1990; Reason, 1990), and derivative of operators' social experience of responsibility and values (Taylor, 1987). These definitions convey the complex nature of human error. However, they suggest that: humans behaviors are tolerant to the elements of a system, and also that human error is a term for normal human behavior in an unpleasant environments. These observations are also reflected in the two major approaches developed to address human error in accident and incident analyses: human reliability assessment (HRA) and human error classifications (Kirwan, 1992a). Summarized below, HRA methods and human error classifications are more fully reviewed and contrasted by [Kirwan, 1992a] and [Kirwan, 1992b].

HUMAN ERROR IN MAINTENANCE

The simple explanations do not convey the complexity of the system. Most of the equipments in the systems are becoming increasingly technologically complex. New methods for inspecting and diagnosing these systems are increasingly needed Further, inspecting and maintaining machineries is organizationally complex; emerging from a socio-technic process in which hundreds, even thousands, of people are directly involved (Taylor, 1990). These conditions will result in a work environment that is not conducive for the humans to work. Moreover simultaneous efforts to accomplish the competing goals of industrial safety, time pressures. The economic pressures may motivate operators to violate the inspection/maintenance practices. Consequences of errors are not immediately obvious (Graeber and Marx, 1993). The Delay in feedback reduces the ability of operators to learn from errors. Such delays also lead to delay in accident investigation because situational factors surrounding the errors are lost. In addition, because different types of maintenance problems present themselves randomly to individual operators, it is difficult for any one operator to identify what may be a systematic problem in an equipment type or mechanism (cf. Inaba

and Dey, 1991). Maintenance often lasts for shifts and days, making coordination of activities and communication among different operators very difficult. Quality control audits and inspections and error reporting systems obtain data on inspection and repair performance. However they do not provide accurate feedback to operators on errors. Further, feedback during training for inspection tends to focus on procedural aspects of the task rather than providing feedback for other, more cognitive, aspects of the inspection task (Prabhu and Drury, 1992). By observing these complexities, it is not surprising that humans in this system make errors. Maintenance and inspection errors can be explained in terms of their most immediate and observable effect on equipment, ultimate effects on equipments and secondary effects on the industry. The various types of errors in maintenance and inspection are explained as failures of the tasks involved. The incidence and forms of maintenance and inspection human errors can be explained by these factors..

EFFECTS OF MAINTENANCE ERROR ON EQUIPMENT

Several studies have identified the most common, immediate effects of human error in maintenance. A major study shows that distribution of 122 maintenance errors over a period of years are: omissions (56%), incorrect installations (30%), and wrong parts (8%), other (6%) (Graeber and Marx, 1993). Data collected from industry (Prabhu and Drury, 1992) revealed several major categories of human errors in maintenance and inspection tasks, are: Defective component, missing component, wrong component, incorrect configuration, incorrect assembly sequence, functional defects, tactile defects, procedural defects.

GUIDELINES FOR REDUCING HUMAN ERROR IN MAINTENANCE

According to the various studies conducted over the years various methods have been developed to reduce human error in maintenance. This paper examines some guidelines which can be used to reduce human error in maintenance. Many of these guidelines can also be used in other areas of maintenance. The guidelines cover the areas of procedures, risk management, tools and equipment, training, design, communication, and maintenance feedback. By ensuring the following this procedural errors can be minimized:

Perform the work in the standard ways, Periodic and routine check ups are to be administered in accordance with the standard procedures. Adequate control methods to ensure that the check ups are more effectively done. The check list must ensure that it serves the objectives. The other things that are to be noted while ensuring the safety are: the routine checkups and other things are to be administered without disturbing the normal working practices because the disturbances are one of the probable sources of error. The adequacy of methods of detecting maintenance errors is to be critically evaluated, make sure that the systems is not checking simultaneously the same maintenance task in a similar redundant system.

The importance of supervision is to be strengthened, particularly in the late hours of each shift as the chances of occurrence of are more. Make sure that there is a proper way of communication to ensure that important information to all maintenance staff are shared without delay information's such as changing procedures or methods to control errors in an effective manner. The other important area of communication is time of shift handovers, as the transfer of incomplete tasks across shifts are another possible source of error.

ADDRESSING HUMAN ERROR IN MAINTENANCE AND INSPECTION

As one determines that human error is a factor in an error, or error-likely situation, we must know how to control, or manage, these errors. Most of the situations can be explained through a variety of interventions as suggested by Rouse. Further, interventions are most effectively implemented when used in combination. Interventions for error reduction include: selection, training, equipment design, job design, and aiding (Rouse, 1985). More detailed lists of interventions specifically intended for the maintenance and inspection environment have been classified as short term and long-term interventions (Shepherd et al., 1991). This paper reviews some of the methods proposed by different studies in the reduction of error. This review considers the effects of: training, equipment design considerations, working environment, communication, and automation. At last we try to describe an approach to identifying, selecting among, and justifying intervention strategies for managing errors in maintenance and inspection.

TRAINING

According to HSE (HSG 48:1999) Human error is inevitable, everyone makes mistakes how well they are trained and motivated Prabhu and Dury (1992) explains the importance of Training at the individual level will improve ability of the worker to take advantage of new tools and methodologies. For example, inspection training tends to focus on procedural aspects rather than providing feedback for other, more cognitive aspects (Prabhu and Drury, 1992). However researches have proved that there are still opportunities for improving individual training and thereby reducing the errors. Thus the safety can be ensured in the organization.

EQUIPMENT DESIGN CONSIDERATIONS

Humans are prone to errors (James Reason and Allan Hobbs, 2003) As the complexity of equipments increase the skill and knowledge of the operator has to be increased. The maintenance staff requires more attention for performing the maintenance tasks. The various researches have established that Attention is key element in human error. By human nature humans cannot have the attention for longer period because which will result in stresses. Further Reason and Hobbs explains that attention is an extremely limited quantity and we can only attend to very small proportion of our sensory data and the ability to capture of unwanted data is very large. Correct performance of the operator to complex equipment requires right balance of attention which is very difficult. So if we have a simple user friendly design the chances of failure are less and proper safety can be assured.

WORKING ENVIRONMENT DESIGN

As stated earlier maintenance activity is a human related performance. Humans are prone to errors, According to James Reason we cannot change the human nature but we can change the conditions in which they work. (Reason J:2000) The various aspects of the environment affect maintenance performance in a great way. Almost all the maintenance tasks are performed in extremely severe conditions. Many researches have found that chances of making error in an adverse condition are more compared to that of in good environment. Researches have proved that improper space, lighting extra can severally affect the performance of the staff. Good working environment will help the maintenance staff in decision making and controlling which will result in reduction of error. Research has most fully addressed issues of lighting adequacy and postural/biomechanic hazards associated with aviation maintenance and inspection tasks. Ninety percent of all inspection is visual inspection (Johnson and Shepherd, 1993).

A good and properly designed environment in coordination with the system will improve the safety of the organization.

COMMUNICATION

Most of the "human errors" in maintenance and inspection are the results of poor interfaces to equipment and information. Therefore, the most important thing is to implement methods for controlling these errors is to redesign equipment and the staff interfaces. The chances of making a wrong decision can be minimized by sharing the correct information to the staff at the right time. Industrial maintenance and inspection tasks are increasingly computer based and include the use of new tools and techniques. As such, the human/machine interface to computer-based systems and new equipment is increasingly important. In general, designing these interfaces would benefit from usability assessment and engineering (Ravden and Johnson, 1989; Nielsen, 1993). A well designed communication channel in accordance with system will reduce the chances of occurrence of error thereby ensuring the safety of the organization.

AUTOMATION

Eventhough the entire maintenance operations cannot be automated, some automation will appear useful. The development of these has typically been technology driven, rather than human-centered and requirements driven. This approach has resulted in the development of automation systems that are not well integrated (Drury, 1996). The automation approaches to maintenance and inspection by function (Drury, 1996). Drury emphasizes the importance of considering the additional training requirements of automation interventions and sensitively incorporating automation into the organizational context and individuals' jobs will result in the reduction of errors there by increasing the safety of the organization.

ERROR MANAGEMENT

Along with managing human error in maintenance, we must manage interventions also. For the growth of the organization more and more interventions are required. The system should try incorporating various schemes and methods to employees to generate potential alternative strategies (Drury et al. 1996) the prototype system (PERS) proposed by C.G. Dury describes a system for a more comprehensive approach to error reduction and management. This system begins with the assumption that pro-active error monitoring and reactive error reporting are both essential for effective error control. It is based on the premise that it is important to identify and organize error reporting information in a manner consistent with intervention strategies. The proposed system has five modules: (1) error reporting, (2) critical incident reporting (reports of situations where errors/incidents almost happened but were recovered without consequences), (3) error audit (auditing specific tasks to find human-system mismatches), (4) error assessment (anonymous assessment of the task environment by technicians and management), and (5) solutions database (of information from industry sources and human factors experts for design changes). This prototype system is called PERS (Pro-active Error Reduction System). This can be implemented for the risk management in an organization for minimizing the consequences of error.

CONCLUSION

The very existence of the industry is depended on the contribution of maintenance personnel, yet maintenance error is a significant and continuing threat to safety. Earlier days, maintenance errors were often viewed as nothing more than failures of individuals to perform their assigned tasks, and organizations often responded with punishment or dismissal. Recent studies conducted by S Dunn reveals that traditional approaches are not effective in dealing with the human errors and now the world has accepted that human errors are the consequences of personal matters, workplace, and organizational factors. Even now maintenance personals must still take responsibility for their actions, and the threat of maintenance error.

The industrial approach to maintenance error involves, the probability of reducing maintenance error by identifying and controlling the error-producing conditions in the organization. This involves attention to human factors training, the provision of appropriate tooling and equipment, and other actions directed at the human factors associated with maintenance error. And further to accept that maintenance error is a threat to safety and that is to be reduced. Industries must learn to manage the inevitable threat of maintenance error in the same way they deal with natural hazards such as weather. The human error in the organization can be minimized by ensuring that appropriate risk controls methods are there to identify and correct errors, and minimize the consequences of those errors that remain unidentified, despite the best efforts of the organization. By considering the above discussed points along with and properly designed system in accordance with the organization can reduce the possible threat to industrial safety.

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SEARCH-EXPERIENCE FRAMEWORK: A CASE OF MOVIE INDUSTRY

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ABSTRACT

A very important criterion that differentiates a service and a product is the associated tangibility/intangibility. When new products are launched in the market, customers have the benefit of seeing, touching and feeling the product. Any associated incongruity can be resolved once they are able to examine the products on their own. But this is not the case with services, because lots of intangibility is associated with the services being provided and the consumer finds it tough to resolve any incongruity associated with the service. The present study tries to identify elements of a movie's success at the box office. The main objective of this paper is to recognize the effect of various search-experience framework on performance of a movie at the box office. Using the multivariate regression analysis with short-term and long-term box office performance of a movie as dependent variables, hypothesis developed with regard to various factors are tested against a sample of 201 movies. The results show that factors considered in the study explain a significant amount of a movie's box office success. The study helps in better understanding of the movie industry, thereby contributing to reducing the number of movie failures at box office.

KEYWORDS

Search-experience framework, Movie industry, box office revenues, sequels, audience ratings, advertising budget, production budget.

1. INTRODUCTION

The motion picture industry when compared to other businesses still remains one of the most competitive and innovative industry across domains, it is growing stronger and faster each year. Though the movie industry is growing steadily a lot of unpredictability exists with the customers. Movies come under the categories of services where there is constant innovation taking place; each movie is different from the earlier ones. And it becomes very difficult for the prospective viewer to find out about the movie without experiencing it. Economics of information theory raises the issue of how various attributes interrelate to consumers search and experience. Nelson (1970) extends the work done by Stigler (1961) and identifies factors which differentiate search and experience attributes. Usually when a new product is launched in the market people can evaluate the products by seeing, touching and feeling it. People use search attributes to find more and more information about the product and evaluate the product. From the literature it can be seen that consumers basically judge products on the basis of two traits: search and experience attributes (Thurau et.al, 2001). Search attributes are described as those characteristics which can be reviewed by the consumer without actually using what is being offered, that is he is not directly involved in the judgment of the product/service. On the other hand experience qualities are those features which have to be experienced before a consumer makes any judgment. In case of services (especially service innovations) the search attributes are more or less missing and the consumer has to entirely depend on experience attributes to evaluate the offering. In case of movies which come in the category of experiential learning, that is it has to be experienced to evaluate the movie. In such case as movies where there are not many search attributes present, people have to depend on experience attributes. Movies are an example of service innovation products which are highly experience goods and are characterized by asymmetry of information between the buyer and the seller (Eliashberg and Sawhney, 1994). They are innovative products because every movie is new in story, cast, and directors and so on. And a viewer cannot judge the value he/she can derive from the movie unless they have experienced it after seeing it. To resolve the uncertainties associated with such offerings, a consumer tries to gather more and more information from various sources. The present study inspects the influence of search and experience attributes/factors on both short-term success (first week box office revenues) and long-term success (box office revenues collected after first week) and tries to find out does these qualities really have an impact on the success of the movies.

2. LITERATURE REVIEW

Search and attribute are associated to communication between the distributor and the consumer (Thurau et.al, 2001). Search attributes are the ones provided by the supplier of the service and experience attributes are communicated by other experienced people in the field or people who have experienced the service. The search attributes for a movie constitute of genre of the movie, if the movie is a sequel, presence of the star, budget of the movie, distributor of the movie and MPAA ratings for the movie. And the experience related attributes for a movie constitute of critics review of the movie, review by the audience and word of mouth effects.

Previous literature examining the determinants of a movie's success has proposed various factors that contribute significantly to a movie's performance at box office. The factors can be classified into different headings like search and experience related attributes. What influence does a star have on the success of a movie in the box-office? How much can a star persuade potential audience to see a particular movie? Is success guaranteed for a movie which has a star in it? Elberse (2007) in her study tries to study the impact of presence of a star actor on the success of a movie. The study tries to study whether this investment in star cast provides sufficient returns or not. Vast literature on this topic in the past has provided mixed results. The author analyzed 1200 casting pronouncement on real and stimulated stock markets. The result of the analysis showed strong relationship between presence of a star and box-office revenues.

Sequels: The literature on branding suggests that a brand extension takes place when an organization utilizes the name of a recognized brand to launch a new product (Keller, 1998). So a movie sequel can be very well thought of as a brand extension. Using a brand extension reduces the uncertainty in a consumer associated with a new product. As they can gather consumers focus very easily. In case of movies producing a sequel acts like a signal to the potential audience regarding the quality of the movie. There has been mixed results with regards to sequel as a variable, having a positive impact on box-office. Sood and Dreze (2006) suggest a reversal of effect of brand names as compared to earlier research findings. The study suggests that dissimilarity is more like than similarity when consumers are evaluating extensions (this is in case of evaluation of numbered vs. named sequels).

Production Budget: Most of the works done in the area of studying the factors that have an impact on box-office revenue do include the variable production budget. This is considered as a very important predictor of future revenues. Huge production budgets mean inclusion of high profile cast and directors, expensive sets and costumes, lots of special effects etc, which provide some kind of signal to the audience about the movie and may attract them (Basuroy et.al, 2003). Previous researches have supported production budget as significant predictors of box-office revenues. Chang and Ki (2005) find a significant effect of production budget in all the three models they developed. Basuroy et.al (2003) predict that when a movie receives more negative reviews than positive reviews then budget has a positive and significant, where as when number of positive reviews are more there is no significant effect of budget. Gemser et.al's (2007) study which was conducted for movies released in the Netherlands revealed that budget did not have significant impact on both art house movies and

mainstream motion pictures. Various other studies have found positive and significant impact of production budget on box-office revenues (Zyfyden, 2000; Thraur et.al, 2006; King, 2007 and Lampel&Shamsie, 2000).

Advertising Budget: Advertising budget represent a huge part of a movie's budget and most of it is spend before the release of the film (Basuroy et.al, 2006). Investing in advertisement can act as a positive signal to the potential viewers, as studios would like to spend more on advertising only when they think that the quality of movie is good. Basuroy et.al (2006) have found significant impact of advertising budget on first week box-office revenues. Zufryden, 1996 has shown that the intensity of advertising is shown to influence a movie's box office performance. However it is probable that movies with high production cost or which have heavy star cast would spend more on advertising to create responsiveness and buzz, thereby making sure that a positive response arises from the viewers for the movie at the box office.

Number of Screens: the more a product is distributed the more quickly it reaches to the mass and the more revenue it generates. Hence it is very realistic to predict that the more the number of screens a movie is released the higher the box –office returns. Several researchers (Chang and Ki, 2005; Thraur et.al, 2006; Basuroy et.al, 2003; Liu, 2006; Basuroy et.al, 2006; Zufryden, 1996; Zufryden, 2000; King, 2007; Lampel&Shamsie, 2000; Gemser et.al, 2007 (only for main stream movies); and Larceneux, 2007) predict and number of screens indeed has a positive and significant impact both on the opening week box-office and the total box-office revenue of a movie.

Distributor: A lot of research has not been conducted using distributor as a predictive variable of box office success; distributors having influence in market will have a distinct advantage over competitors as they can use their power to gain more number of screens for showing the movie distributed by them (Chang and Ki, 2005). Chang and Ki (2005) study show that the power of distributors does not have any significant impact on first week and total box office revenues, but it does have a positive and significant effect on the length of the run of a particular movie. Basuroy et.al (2006) also found that distributors tend to have some effect on the opening week of the box office. Gemser et.al (2007) from their study show that distributors do not have any significant influence on box office revenues of both art films as well as main stream movies.

Genre: Movie genres also at times act as cue for a viewer about a movie's quality, certain type of genre receive more attention than others by consumers. Genre as a whole and each genre separately have been considered as predictors of box office success. Chang and Ki (2005) classified the movies into seven genres (action/adventure, children/family, comedy, drama, horror, mystery/suspense and sci-fi/fantasy) and their study showed that only drama as a genre had significant but negative relationship with total box office revenue. All the other genres had no significant effect. Liu (2006) did not find any relationship between genre and box office revenues. Zufryden (1996) from his study showed that only action and comedy genre movies were significant and all the others did not have any impact on box office.

MPAA ratings: The rating provided by MPAA for every movie is often considered as a strong signal to the prospective viewer about the content of the movie. These ratings basically grade the movie based on its content and suggest the appropriateness of it for a particular kind of audience. Liu's (2006) study did not find any significant relationship between MPAA rating and box office revenues. Basuroy et.al (2003) reported in their study that only rating 'G' had some significant but negative relationship with the opening week box office. All other ratings (PG, PG13 and R) did not have any significant effect. Chang and Ki (2005) found significant positive relationship between rating 'PG' and total box office returns and significant but negative impact of rating 'R' on total box office revenue. But none of the rating had any effect on the opening week box office revenues.

Critics Ratings: Critics ratings are one of the most studied variables by previous researchers. Critics refers to "persons usually employed by newspapers, television stations or other media who see newly released movies, understand the content of the movie and provide their subjective views and comments for the public's information" (Eliashberg and Shugan, 1997). In the absence of information regarding the quality of the movie, consumers usually depend on these critical ratings in order to judge the quality of the movie. It acts as a very good signaling mechanism for people. Critics help people to know more about a movie in detail. Chang and Ki (2005) found that critics rating form a very significant variable in predicting the total box office revenue, but the same does not have any significant impact in predicting the opening week's box office. This suggests that critics' ratings act as predictors of box office revenues than influencers as predicted by Eliashberg and Shugan (Eliashberg and Shugan, 1997). Liu (2006) found a significant impact of critics' review on performance of a movie at the box office. Basuroy et.al (2006) also found that critics' reviews are significant. Larceneux (2007) in his study reports that the buzz created by critics has a positive and significant effect on both opening box office and long term box office revenue. The study also states that number of critics rating a movie is not related to number of screens a movie is released. Reinstein and Snyder (2005), found critics reviews to have an effect on opening week box office. The study also found that critics' reviews are significantly positive for limited release movies and movies in the genre drama. They also suggest that a positive critical review not only increases the opening weekend revenue, it also increases the movies total box office revenue.

Audience Ratings: other than critics rating another source from where people can get a lot of information is the word of mouth. It tends to carry more weight as this word of mouth is based on someone's experience with the movie. The genre, MPAA rating, sequels and remakes and presence of stars in a movie are considered important determinants of audience reviews and ratings. It creates a buzz among the people and can pull people who at first were not interested in going to the theatres. Not enough study has been done on this variable by the past researchers. Chang and Ki(2005), found that audience rating had a very significant and positive influence on both the total box office and first week box office revenues. Liu (2006) found that number of reviews by viewers had a significant impact on both initial and long term box office but the valence of the reviews did not have any significant impact.

3. METHOD

The study sample consisted of 201 movies screened in American theatres between May 2003 and December 2004. The sample was finally reduced to 197 movies after accounting for missing value data. The data was operationalized by collecting data from various sources on the internet. In the present study we would see the impact experiential attributes and search attributes on box-office revenues (opening (first week) box office and total box office revenue). Data for all the variables were collected from the following reliable sources: the numbers.com (www.the-numbers.com), internet movie database (www.imdb.com), yahoo movies (<http://movies.yahoo.com>), Metacritic.com, and Rottentomatoes.com. Separate multivariate regression analysis with short-term box office revenues and long-term box office revenues as dependent variables were carried out. The analysis was carried out on SPSS 16.0.

3.1 SAMPLE CHARACTERISTICS

Table 1 provides the descriptive statistics (mean, standard deviation, minimum and maximum) of the variables used in the study. The movies selected in the sample had an average opening week box office collection of nearly US \$ 20 million and an average collection of \$ 52 million in the long term box office. This shows us that nearly 38% of a movie's revenue is earned in the first week itself. The average production budget was \$ 50 million and average advertising budget was \$ 23 million. This is clearly an evidence to show that the movie studios leave no stones unturned to make their films a huge success and hence they invest huge amount in promoting their films. Critic ratings which can influence people to go or not to go for a movie, all the ratings here are on a scale of 1 – 10, mean metacritic rating is 5.237, rotten tomatoes has a mean rating of 4.9455 and mean yahoo critic rating is 5.3655. Yahoo viewers have a mean rating of 5.9848 and mean rating of IMDB viewers is 6.1970. The average number of screens in which movies opened for screening is 2440. The sampled movie consisted of 42 (21.32%) action/adventure movies and 73 (37%) of the movie were of the genre comedy.

3.2 RESULTS

Table 2 correspond to the results of the multiple regression analysis with opening box office revenue as the dependent variable and table 3 presents the results with long term box office revenue as the dependent variable. Both the models were significant and the independent variables were explaining a high amount of variations in the dependent variable (adjusted $R^2 = 0.884$ and 0.741 respectively). Table 2 which contains the results of multiple regression of model 1 (dependent variable: opening week box office) tells us that distributor (Sony, Universal and Newline), genre (drama), sequel (based on earlier movie), advertising budget, opening screens, MPAA ratings (PG, PG13 and R) and critics ratings were having significant impact on opening box office revenues. In congruence with the other studies sequel 2 based on earlier movies adaptation was found to have significant impact on opening week's revenue where as sequel which were adapted from other sources were found to be insignificant.

In the second multiple regression model (table 3) where the dependent variable is long term box office revenues, the following independent variables were found to have significant effect on the dependent variables: genre (animation and fantasy), sequel (both adapted from other sources and based on earlier movie), production budget, opening screens, viewers ratings and number of viewers' ratings.

4. DISCUSSION

The different aspects of search and experience attributes have differential impact on the box office success of any movie. As per the literature search attributes should create an initial buzz and contribute to the initial success of the movie, though it cannot be said that search qualities will not have any impact on the success of the product at the later part. On the other hand experience qualities basically have an effect on the products success at the later part of the product. So in case of movie industry also the search attributes should have an impact on the opening week box office revenues (they will also have an effect on the long term revenues) and experiential attributes should impact the long term box office revenues. A sequel is a search quality because consumers (viewers) would like to have an idea about the movie and a sequel provides that clue. In the study it was found that movies based on prior movies rather than adapted from various other sources has better signaling properties and positively affect box office revenues. MPAA ratings of the movie also relate to the search attributes as it informs everyone that what type of viewers can watch a particular movie. From the present study we found that MPAA ratings (PG, PG13 and R) were having a significant negative impact on box office revenue. It can be said that when a movie is about to be released its MPAA rating plays a very important role in attracting the viewers to the theatres and have an impact on the box office revenues. The movies having these ratings should put extra effort to provide more information to the viewer about the movie.

Budget of the movie can inform a lot about the movie, heavy budget films tend to have good stars or exotic locations, huge sets, or heavy use of graphics and technology. But in the study we did not find production budget to have any significance in explaining the box office revenues. On the other hand advertising budget was found to be significant. As the consumer tries to search for information about the movie, advertisements help him/her to resolve the uncertainty existing with the movie. The genre of the movie sends a signal to the viewer what can be expected from the movie and people search for movies towards which they are more oriented. From our study we found that other than drama no other genre had any significant impact on the opening week box office revenues. Drama is significant but is negatively related to the success of the movie in the initial phase after the movie is released. People give lot of credibility to the distributor of the movie. Well known distributors are thought of as providers of good quality movies. We found three distributors (Sony, Universal and Newline) to have a positive impact on the box office revenues.

A very strange observation from our study is that, critics' rating which would come under experiential attributes was found to be significantly impacting the short term box office revenue. But the same thing did not have any significant effect on the long term box office revenues. As expected viewers rating is an experience attribute, as people will post a review only after seeing a movie and it was found to have significant impact on the long term box office revenues. It was also found that the total number of viewers posting their reviews significantly increase the long term box office revenue. In this case as discussed earlier few of the variables which are classified as search attributes have some effect on long term revenues. Genre (fantasy) was found to have negative relationship, where as animation was having significant positive relationship. Sequel both based on earlier movies and adapted from other sources were found to have an impact on the long term box office. In this case production budget was significant but not advertising budget. Number of screens a movie is released was found to be significant in both opening week's revenue and long term revenues.

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TABLES

TABLE 1: DESCRIPTIVE STATISTICS

	N	Minimum	Maximum	Mean	Std. Deviation
opening week box office	198	45572	150139984	20665000	22279851
long term box office	198	4516074	370050815	52253000	56453736.9
production budget	198	130000	200000000	50633000	39620599
advertising budget	198	1000000	80000000	23035000	14664784
Meta critic rating	198	1.50	9.40	5.2374	1.71911
rotten tomato rating	198	.20	9.80	4.9455	2.72739
yahoo critic rating	197	1.00	9.00	5.3655	1.85671
sequels	198	.00	1.00	.3889	.48873
yahoo viewers rating	198	2.00	9.00	5.9848	1.26442
imdb viewers rating	198	2.00	8.50	6.1970	1.27911
opening screens	198	2	4163	2440.68	1073.786
Valid N (listwise)	197				

TABLE 2: COEFFICIENTS^a

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	5.704	.992		5.752	.000
BueVis	.145	.146	.029	.992	.323
Sony	.246	.129	.052	1.901	.059
WB	.142	.129	.031	1.097	.274
Univ	.404	.200	.055	2.016	.045
Newli	.441	.217	.054	2.031	.044
DWSKG	.053	.222	.006	.237	.813
TCFox	.180	.172	.028	1.042	.299
D_G_A	.069	.118	.021	.589	.556
D_G_Ani	.185	.231	.025	.801	.424
D_G_Dr	-.310	.141	-.071	-2.201	.029
D_G_Ho	.241	.179	.039	1.349	.179
D_G_Fa	.085	.286	.009	.298	.766
D_G_SF	.327	.214	.042	1.524	.129
D_G_Oth	.038	.140	.007	.274	.784
Sequel1_other	.039	.093	.011	.414	.680
Squel2_movie	.537	.116	.128	4.611	.000
Code_InBUD	-.038	.062	-.027	-.611	.542
Code_InADVBUD	.340	.076	.173	4.463	.000
LnOpnScrn	.698	.029	.819	24.176	.000
D_G	-.551	.467	-.036	-1.180	.240
D_PG	-.693	.261	-.179	-2.655	.009
D_PG13	-.540	.245	-.176	-2.201	.029
D_R	-.515	.254	-.154	-2.029	.044
Code_Y_Cri	.130	.025	.157	5.293	.000

a. Dependent Variable: InOBO

TABLE 3: COEFFICIENTS^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	4.999	.946		5.282	.000
Code_InOBO	.395	.072	.677	5.499	.000
BueVis	-.026	.128	-.009	-.201	.841
Sony	-.008	.114	-.003	-.067	.947
WB	-.177	.114	-.066	-1.553	.122
Univ	-.004	.181	.000	-.023	.982
Newli	-.104	.194	-.022	-.535	.594
DWSKG	-.172	.194	-.036	-.885	.378
TCFox	-.044	.151	-.012	-.290	.772
D_G_A	-.166	.103	-.085	-1.616	.108
D_G_Ani	.414	.204	.097	2.028	.044
D_G_Dr	.013	.125	.005	.100	.920
D_G_Ho	.070	.157	.020	.448	.655
D_G_Fa	-.533	.250	-.094	-2.133	.034
D_G_SF	-.065	.188	-.015	-.348	.728
D_G_Oth	.076	.123	.025	.616	.538
Sequel1_other	.190	.082	.095	2.323	.021
Squel2_movie	.258	.108	.106	2.399	.018
Code_InBUD	.097	.056	.118	1.735	.085
Code_InADVBUD	.083	.072	.073	1.148	.253
LnOpnScrn	-.296	.055	-.595	-5.401	.000
D_G	.041	.409	.005	.101	.920
D_PG	-.015	.232	-.007	-.066	.948
D_PG13	-.254	.217	-.142	-1.169	.244
D_R	-.313	.224	-.161	-1.395	.165
Ln_no	.467	.053	.490	8.875	.000
Code_Y_vei	.090	.039	.124	2.320	.022
Code_Y_Cri	.003	.028	.006	.105	.917

a. Dependent Variable: Code_InLTBO

GENDER EQUALITY AND INCLUSIVE GROWTH: IN CASE OF PUNJAB

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ABSTRACT

This paper reviews the recent progress toward gender equality in Punjab by examining a number of indicators, focusing on gender inequalities in education and health outcomes (capability) and in labor market (access to resources and opportunities) and security. Despite the improvement observed in education and, to a lesser extent, in health, the paper finds that women's improved capabilities do not seem to have been translated into an equal participation between men and women in economic activities. Empirical evidence also suggests that gender inequality is greater when a country's economic opportunities are more limited or households are in greater economic hardship. In conclusion, the paper argues that along with efforts in removing cultural, social, and institutional obstacles by educating the public and introducing/enforcing antidiscrimination legislations, promoting economic development to generate economic opportunities and improving women's capabilities and access to the opportunities are the key ingredients of a policy package for greater progress toward gender equality and inclusive growth.

KEYWORDS

gender equality, Punjab.

INTRODUCTION

The subject of inclusive growth has been in the spotlight recently, for very obvious reasons. The parliamentary election campaign of 2004, with its 'India Shining' vs. 'Aam Aadmi' confrontation, highlighted an apparently widespread perception that the benefits of economic growth were simply passing too many people by. This orientation is most visibly manifested in the theme of the Eleventh Five-Year Plan, which runs from 2007 to 2012. The theme is 'towards faster and more inclusive growth,' which clearly reflects the need to find a sustainable balance between growth and inclusion. Before we decide whether our growth is inclusive or not, or whether it even can be inclusive or not, we must first understand what inclusiveness means.

Definition of inclusiveness that involves Three attributes:

1. **Capability:** Education, health, and nutrition
2. **Access:** Access to economic and political opportunities
3. **Security:** Vulnerability to violence and conflict

Hence Inclusive growth basically means, "Broad based, shared, and pro-poor growth". "Inclusive" carries with it the notion of nondiscrimination, a feature that is less clear with the other terms. Thus inclusive growth can be characterized as broad-based growth that includes **nondiscriminatory participation**.

When assessing the role of gender equality in promoting inclusive growth, its inherent value may be distinguished. The inherent value is based on the belief that equal access to opportunity is a basic right of a human being, and it is unethical and immoral to treat individuals differently in access to opportunity. Gender equality should thus be considered as a development goal in its own right, as evidenced by the Convention on the Elimination of All Forms of Discrimination against Women and by the existence of the Third Millennium Development Goal on gender equality and women's empowerment. Any kind of inequality in access to opportunity diminishes growth potential and its sustainability. Gender inequality can also weaken other development goals which, in turn, affect growth. The available empirical evidence often suggests a negative relationship between, higher gender inequality and growth rate. One of the consequences of gender inequality in access to economic opportunity is the inefficient allocation and/or underutilization of resources. If a woman with appropriate capabilities is excluded from the labor market because of her gender, she cannot maximize her abilities, which can lead to loss of output for the society and impose costs on economic development. Restrictions on women in access to opportunity can also indirectly affect the power relationship between men and women within the household. This can result in the misallocation of resources even at the household level. Meanwhile, gender inequality in capabilities lowers the average level of human capital and productivity, which can subsequently hinder economic growth. Moreover, gender-based violence can have a lasting psychological impact on its victims, lowering women's self-esteem and productivity, and destroying marriages, with all the costs that children will eventually have to bear.

Another important link between gender inequality and economic growth is through its effect on child well-being. A mother's health or well-being affects her pregnancy and ability to nurse her infant. Mothers with better educational attainment are also found to be associated with better child development outcomes through, for example, better use of available health care services and programs. Women with greater control over resources within the household are also likely to allocate more for children's health and education. Through these effects, improvements toward gender equality can improve the capabilities and productivity of future generations, and, ultimately, a country's long-term prospects for economic growth and poverty reduction.

CASE OF PUNJAB

Taking up the particular case of Punjab, Men are dominating in every sphere in Punjab, be it economy or society. Therefore, it is leading to discriminatory Growth. Tracing the history of Punjab, right from the times of Guru Nanak Dev Ji, Punjab has witnessed the discrimination against women. In present also women are lagging behind in all the three attributes of inclusive growth.

A. CAPABILITY: EDUCATION

Achieving gender equality in capabilities such as education and health is a viable avenue to improving women's access to opportunity and children's well-being, and eventually to economic growth.

Now an important social item like education / literacy status which has many influences on many fields such as social taboos, injustice, and health condition and so on. Here an attempt is made to analyze the main theme of the paper in the light of literacy status of females. It is defined as the number of literate population per hundred eligible populations. The gender differential in literacy is measured by the Index of dissimilarity between male-female literacy rates. The index of dissimilarity is 0.15 in Punjab. Highest dissimilarity is found in district Firozpur i.e. 0.23.

There is great gap between male and female literacy rates. Females are lagging behind males in each district as shown in Table-1. But the state has a reason to smile for doing well in the field of female education, registering 71.3 per cent literacy rate. In last ten years, male literacy rate has increased by 6.3 percent, while female literacy rate has gone up by 7.9 percent. The literacy rate among males increased from 75.2 per cent to 81.5 per cent in ten years. However, the

rate among females rose to 71.3 per cent from 63.4 percent. So there is a sign of relief that the female population in Punjab has overshadowed their counterpart in literacy rate.

FIG. 1

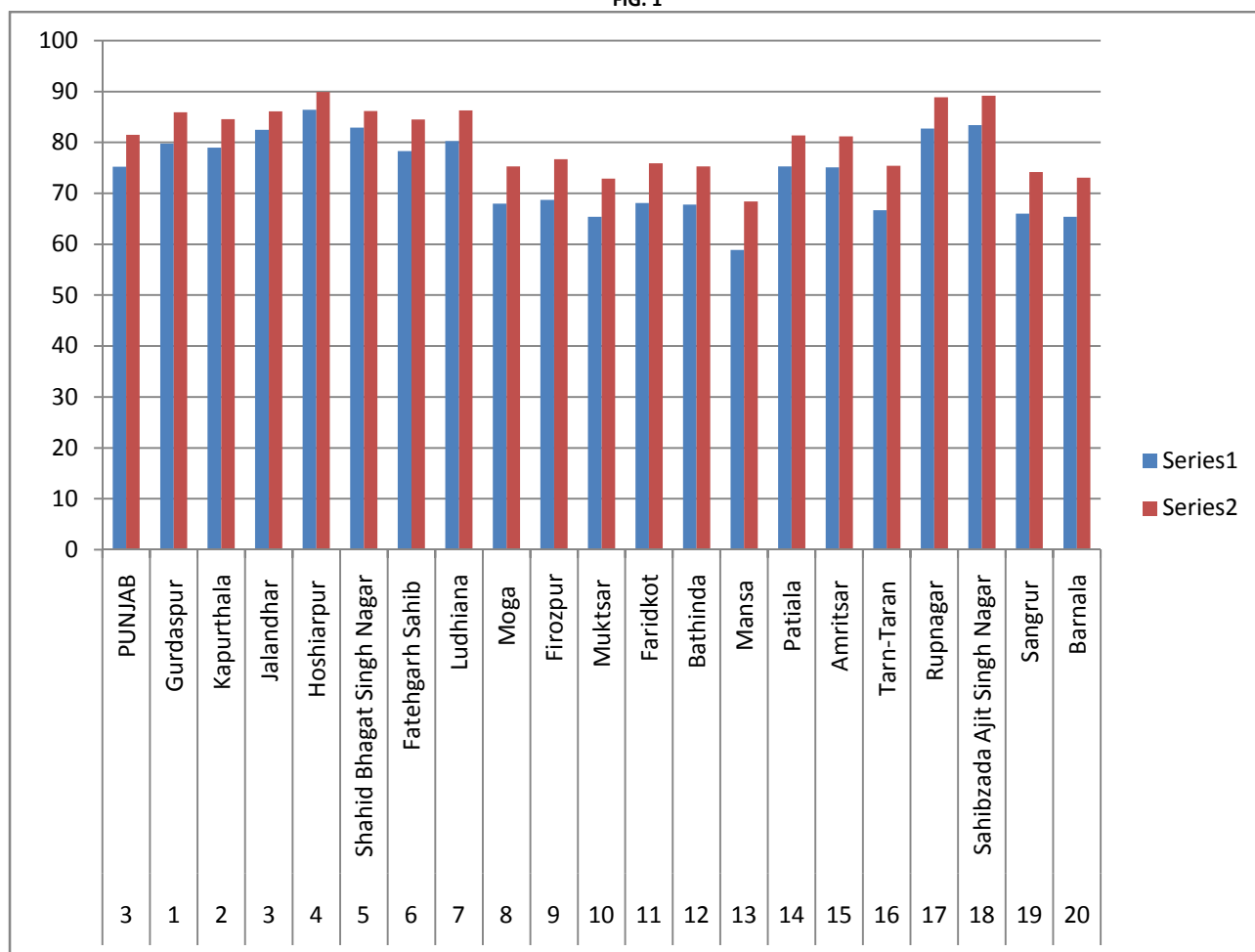


TABLE 1: LITERACY RATES IN PUNJAB AND ITS DISTRICTS 2001-2011

State/ District code	Districts	Males		Females		INDEX of DISSIMILARITY in 2011	
		2001	2011	2001	2011	Rx(M/F)	ΣRx-1
3	PUNJAB	75.2	81.5	63.4	71.3		
1	Gurdaspur	79.8	85.9	67.1	75.7	1.134742	0.1347
2	Kapurthala	79	84.6	68.3	75.4	1.122016	0.122
3	Jalandhar	82.5	86.1	73.1	78.3	1.099617	0.0996
4	Hoshiarpur	86.4	89.9	75.3	80.8	1.112624	0.1126
5	Shahid Bhagat Singh Nagar	82.9	86.2	69.5	74.3	1.160162	0.1602
6	Fatehgarh Sahib	78.3	84.5	68.3	75.5	1.119205	0.1192
7	Ludhiana	80.3	86.3	71.9	78.2	1.103581	0.1036
8	Moga	68	75.3	58.5	67.4	1.117211	0.1172
9	Firozpur	68.7	76.7	51.7	62.2	1.233119	0.2331
10	Muktsar	65.4	72.9	50.3	60	1.215	0.215
11	Faridkot	68.1	75.9	55	64.8	1.171296	0.1713
12	Bathinda	67.8	75.3	53.7	62.9	1.197138	0.1971
13	Mansa	58.9	68.4	45.2	56.4	1.212766	0.2128
14	Patiala	75.3	81.4	62.5	70.5	1.15461	0.1546
15	Amritsar	75.1	81.2	65.2	72.8	1.115385	0.1154
16	Tarn-Taran	66.7	75.4	52.3	62.9	1.198728	0.1987
17	Rupnagar	82.7	88.9	68.7	77.2	1.151554	0.1516
18	Sahibzada Ajit Singh Nagar	83.4	89.2	71.5	80	1.115	0.115
19	Sangrur	66	74.2	53	62.9	1.17965	0.1797
20	Barnala	65.4	73.1	54.5	64.1	1.140406	0.1404
TOTAL							3.0538
Index of Dissimilarity in Punjab						Σ(Rx-1)/n=0.15	

B. ACCESS TO RESOURCES AND OPPORTUNITY: EMPLOYMENT

Even if countries advance in achieving gender parity in basic human capabilities, the Instrumental effects of gender equality on economic development would be limited unless women have as much access as men to economic and political opportunity to apply their capabilities. As the next section illustrates, economic empowerment, in particular, is crucial to reducing gender disparity within and outside the household. Before engaging this particular segment of population in politics at a national arena it is quite worthwhile to see whether they are actively involved in economic activities per se at the helm of men dominated society. For this, a simple analysis may be done by seeing the position of this section of population as far as participation rate is concerned.

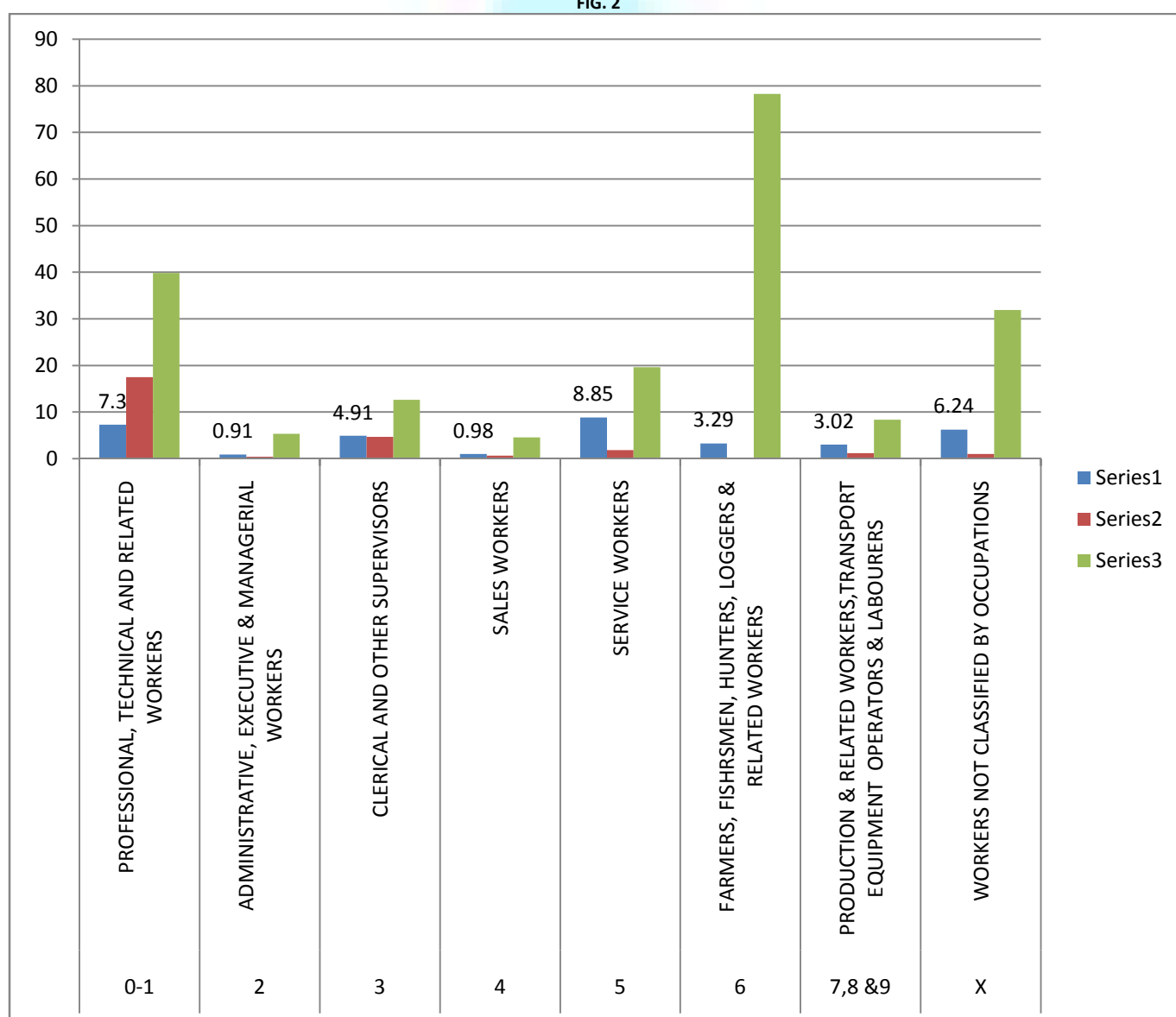
The national classification of occupation, 1968 has been adopted in this paper with some modifications in order to accommodate certain occupations pursued by scheduled Castes and Scheduled Tribes and to make data comparable. The national classification of occupation, 2004 has been converted according to the Classification of 1968 as 2001 data was available according to NCO 2004. All occupations have been divided into ten divisions shown in following table. In each occupation there is increase in Women participation in 2001 in comparison to 1981. We can notice that in 1991 there is a fall in each occupation except professional, technical and related works, it has been increased to 17.48 per cent in 1991 from 7.3 per cent in 1981. Overall participation of women has increased in each occupation but maximum increase is found in Farming and related works which is 78.24 per cent in 2001 against 3.29 per cent in 1981. The occupational distribution analysis revealed certain facts i.e. about 78.24 per cent of women workers in Punjab are engaged in agriculture sector as agriculture labourers or as cultivators.

TABLE 2: FEMALE PARTICIPATION RATE IN PUNJAB

Code	NCO-1968 OCCUPATION	Female Participation Rate		
		1981	1991	2001
0-1	PROFESSIONAL, TECHNICAL AND RELATED WORKERS	7.30	17.48	39.82
2	ADMINISTRATIVE, EXECUTIVE & MANAGERIAL WORKERS	0.91	0.44	5.31
3	CLERICAL AND OTHER SUPERVISORS	4.91	4.68	12.65
4	SALES WORKERS	0.98	0.68	4.59
5	SERVICE WORKERS	8.85	1.81	19.61
6	FARMERS, FISHERMEN, HUNTERS, LOGGERS & RELATED WORKERS	3.29	0.23	78.24
7,8 & 9	PRODUCTION & RELATED WORKERS, TRANSPORT EQUIPMENT OPERATORS & LABOURERS	3.02	1.17	8.34
X	WORKERS NOT CLASSIFIED BY OCCUPATIONS	6.24	1.03	31.89

Source-Census of India 1981, 1991 and 2001

FIG. 2



It has been observed that the women participation in sales workers is negligible. In administrative, Executive and Managerial works also participation is very low i.e. 5.31 in 2001. In fact, most of women lack minimum level of education and skill. Change in occupational pattern is also observed. In 1981 maximum participation of women was in Service sector i.e. 8.85 per cent followed by Professional, technical and related works i.e. 7.30 per cent. And least participation is observed in Administrative works and sales work which was approximately 0.91 percent. In 1991 highest participation rate was in Professional, technical and related works 17.48 per cent and minimum participation was in farming and related works i.e. 0.23 only. In 2001 trend is entirely changed, women are significantly dominating in agriculture and related works i.e. 78.24 percent of total workers. Second highest participation is in Professional, technical and related works i.e. 39.82 per cent. Least participation of women is in sales work 4.59 per cent in 2001.

TABLE 3: INDEX OF DISSIMILARITY

Code	NCO-1968 OCCUPATION	2001		Index of dissimilarity	
		MALE	Female	M/F	$\Sigma Rx-1$
0-1	PROFESSIONAL, TECHNICAL AND RELATED WORKERS	151620	100342	1.51	0.51
2	ADMINISTRATIVE, EXECUTIVE & MANAGERIAL WORKERS	213306	11952	17.85	16.85
3	CLERICAL AND OTHER SUPERVISORS	168681	24433	6.90	5.90
4	SALES WORKERS	591430	28423	20.81	19.81
5	SERVICE WORKERS	591261	144249	4.10	3.10
6	FARMERS, FISHERMEN, HUNTERS, LOGGERS & RELATED WORKERS	122385	440020	0.28	-0.72
7,8 & 9	PRODUCTION & RELATED WORKERS, TRANSPORT EQUIPMENT OPERATORS & LABOURERS	1753317	159535	10.99	9.99
AX	WORKERS NOT CLASSIFIED BY OCCUPATIONS	215380	100843	2.14	1.14
Index of dissimilarity		$\Sigma(Rx-1)/N=7.1$			

Source-Census of India 1981, 1991 and 2001

Index of dissimilarity indicates that highest dissimilarity is in occupation of sales workers i.e. 19.81 followed by administrative, executive and managerial workers i.e. 16.85. Females surpass male in farming and related works. It's clear from table-3 females in Punjab are more engaged in low paid works, they have very low participation in status and high paid jobs. In overall Punjab index of dissimilarity is very high (7.1). While in India index of dissimilarity is only 2.5.

C. SECURITY

In spite of gains in education, longevity and income for some groups of women, Punjab remains the heart land of pre-natal sex selections and post-natal gender discrimination, in the country. Punjab state has topped the list in number of female foeticide cases. According to figures released by the National Crime Records Bureau, in Punjab, 81 cases were registered for female foeticide while for Rajasthan the corresponding number was 51; M.P. registered 21 cases, Haryana 18 and Chattisgarh 24. Gender differential in population size is measured by examining the male-female ratios of the absolute size of the population over the year. Apart from this, an Index of dissimilarity has been prepared to know the population differentials.

The sex ratio in Punjab has been skewed since 1901 as is evident from the census figures that the sex ratio in the state has been consistently lower than the national average ever since. The gap in female-male ratio has been ranging from 45 in 1991 to 184 points in 1911. The basic reasons for such an adverse situation, lies in the socio-cultural fabric of the society. The birth of a son is preferred over that of a daughter since ancient times. Being a patriarchal and patrilineal society, the sons are charged with the responsibility to carry on the family name. They have to support their parents during the old age. And after death they are assigned the duty to perform funeral rites. The daughter cannot do this because after marriage, they live and become a part of the groom's family. The prosperity Punjab has, in fact, increased the peoples' aspiration for a son.

It is observed from Table-4 the gaps in absolute sizes between male and female populations have decreased slightly in all the districts of Punjab. Sex-ratio in Punjab has increased from 876 in 2001 to 893 2011. The lowest sex ratio is found in Bathinda i.e. 865 and highest in Hoshiarpur i.e. 962. This is lower than the national average sex-ratio i.e. 940. This shows that status of women in Punjab is still very low. The index of dissimilarity indicates more male-female gap in absolute size of the population in all the districts of Punjab. Highest dissimilarity is found in Bathinda and Ludhiana i.e. 0.16 and 0.15 respectively, which shows approximately 16% gap between Male and Female. In Punjab index of dissimilarity has been found 0.12.

Child sex ratio of population in age group 0-6 in Punjab has also increased from 798 in 2001 to 846 in 2011. But again this is very low in comparison to India. In India child sex-ratio is 914. Lowest child sex-ratio is in Taran-taran i.e. 819 and highest child sex-ratio is found in Shahid Bhagat Singh Nagar i.e. 879. District wise child ratio has been shown in Table-5.

FIG. 3

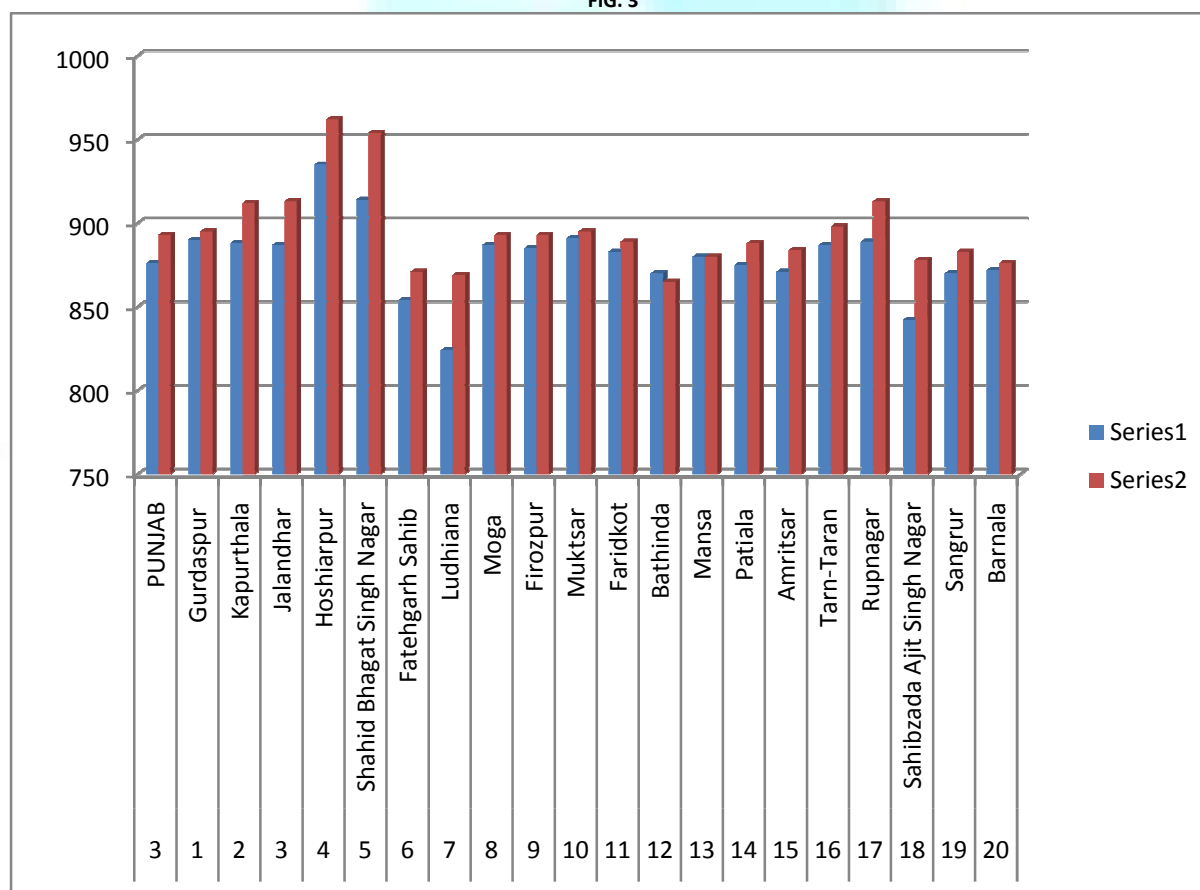


TABLE 4: SEX- RATIO IN PUNJAB AND ITS DISTRICTS 2001-2011

State/ District code	State /District	Sex-Ratio		Rx	ΣRx-1
		(females per1000 males)			
				M/F	
		2001	2011		
3	PUNJAB	876	893
1	Gurdaspur	890	895	1.1169064	0.116906
2	Kapurthala	888	912	1.0965362	0.096536
3	Jalandhar	887	913	1.0953874	0.095387
4	Hoshiarpur	935	962	1.0400182	0.040018
5	Shahid Bhagat Singh Nagar	914	954	1.0482352	0.048235
6	Fatehgarh Sahib	854	871	1.1482463	0.148246
7	Ludhiana	824	869	1.1507845	0.150784
8	Moga	887	893	1.1202756	0.120276
9	Firozpur	885	893	1.120074	0.120074
10	Muktsar	891	895	1.117021	0.117021
11	Faridkot	883	889	1.1245638	0.124564
12	Bathinda	870	865	1.1566669	0.156667
13	Mansa	880	880	1.1362483	0.136248
14	Patiala	875	888	1.1257535	0.125754
15	Amritsar	871	884	1.131147	0.131147
16	Tarn-Taran	887	898	1.1140137	0.114014
17	Rupnagar	889	913	1.0956226	0.095623
18	Sahibzada Ajit Singh Nagar	842	878	1.1384146	0.138415
19	Sangrur	870	883	1.1325737	0.132574
20	Barnala	872	876	1.1415068	0.141507
			TOTAL		2.349996
		Index of Dissimilarity In Punjab		ΣRx-1/n=0.1175	

Source-Census of India 2011

TABLE 5: CHILD SEX- RATIO IN PUNJAB AND ITS DISTRICTS 2001-2011

State/ District code	State /District	Child Sex Ratio (0-6 Years)	
		2001	2011
	PUNJAB	798	846
01	Gurdaspur	789	824
02	Kapurthala	785	872
03	Jalandhar	806	874
04	Hoshiarpur	812	859
05	Shahid BhagatSingh Nagar	808	879
06	Fatehgarh Sahib	766	843
07	Ludhiana	817	865
08	Moga	818	863
09	Firozpur	822	846
10	Muktsar	811	830
11	Faridkot	812	851
12	Bathinda	785	854
13	Mansa	782	831
14	Patiala	776	835
15	Amritsar	792	824
16	Tarn-Taran	784	819
17	Rupnagar	799	866
18	Sahibzada AjitSingh Nagar	785	842
19	Sangrur	784	835
20	Barnala	792	847

Source-Census of India 2011

FIG. 4

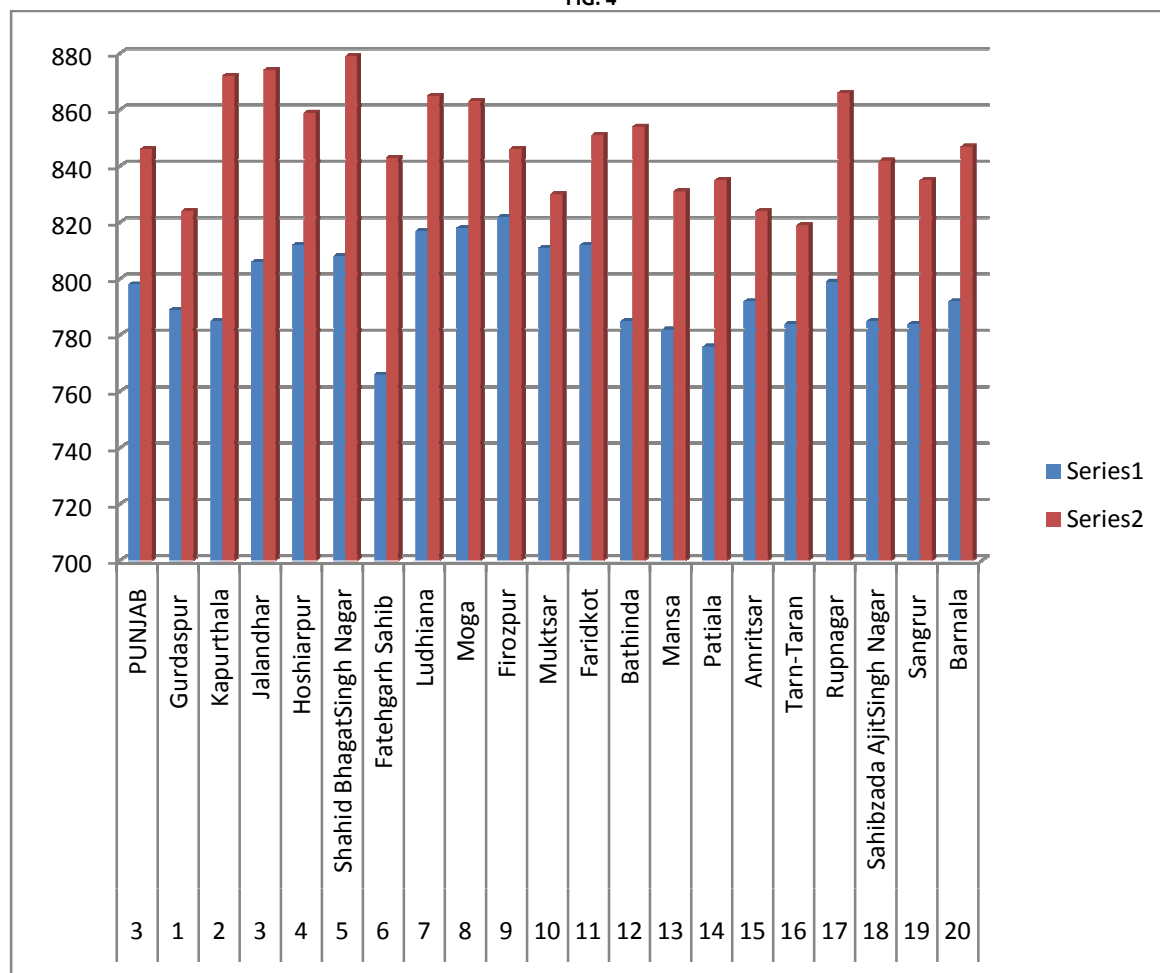


TABLE 6: CASE REGISTERED IN 2011

Dowry Deaths	Dowry Cases	Female Foeticide	Rape376 IPC	Molestation394 IPC
304-B IPC	498-A IPC			
104	669	14	393	249

Source Punjab state commission for women 2011

CONCLUDING REMARKS

Individuals, e.g., male and female are considered two biological categories of population. However, the third category such as eunuchs or inter sexed persons may not fit in either male or female category. But third sex category in the census is ruled out on the ground that male and female are expected to fulfill various roles like father or mother, husband or wife essentially linked to the institution of marriage and family (Bhagat 2005). In Indian Census, eunuchs are counted as males (RG 1991). However, most of the persons belonging to third sex category present themselves in feminine appearance and wish to be regarded as women. In the west, there is a practice of assimilating the inter sexed persons into the female sex due to the advancement of medical science (Lal 1999). Thus the inclusion of eunuchs in male category in Indian census may be partially responsible for the male-female ratio in favour of the male. However, it is observed that the male-female ratio is marginally improved during the last decade in favour of female.

Neglect of female child especially in age-groups, 0-4 & 5-9 has been increased over the years. Social customs especially son preference and differential treatment for male babies in terms of food, medical treatment may be responsible for widening the gap in spite of several measures to prevent discrimination towards female babies. High male-female ratio at birth is prevalent mainly due to female foeticide in spite of the Governmental enforcement of Pre Natal Diagnostic Technique (Regulation and Prevention of Misuse) Act (PNDT) in 1994. The government has amended this PNDT act in 2003 to remove its loopholes. Several studies in India confirmed female foeticide (George and Dahiya 1998, Premi 2001, Agnihotri 2002, Unisa et al 2003, Ghatak 2006).

Infant mortality rate among females is marginally higher in comparison with males supporting the neglect of female babies over the years and is associated with old age preference of son. The most important item of social development is the literacy. Here male-female literacy gap is declining over the years but the gap is still very wide in spite of the several drives by the Government to educate its people such as through Total Literacy Campaign (TLC), Continued Education Programme (CEP), Non-Formal Education, etc. apart from formal schooling of children to achieve education for all as early as possible. Special efforts are needed to educate women folks especially in rural areas.

The important indicator of development of females is the work force participation of females in economic activities. Male-female work force participation ratio is always in favour of male over the years and is more in urban areas than in rural areas. Work, in general, is defined as the engagement in any economically productive activity including physical or mental in nature.

Students, housewives, pensioners, renters, sick and unemployed persons are considered as non-workers. Women are generally engaged in household activities such as bearing and rearing of children and in the production of goods and services for self household consumption. Therefore, women's work at home remains unrecognized unless it produces something for sale. Therefore, the work participation for female is a myth rather than reality. In recent census, women considered as worker who make significant contribution in the agricultural operations like sowing, harvesting, transplantation, tending cattle and even cooking and delivering food to the farm during the agriculture operation. Therefore, work force participation rate in agricultural and related works has been increased. Even through Punjab claims to be most prosperous state of India and several measures have been initiated through legislation and formation of various action groups but the progress is very slow in the area of health, education and work participation especially for vulnerable groups.

In sum, along with efforts at removing cultural and social obstacles through public awareness, enhancing economic development and improving women's capabilities as well as their access to economic opportunity appear to be the key to enhancing progress toward gender equality, and ultimately to inclusive growth.

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ESTIMATION OF POPULATION MEAN USING RANKED SET SAMPLING

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ABSTRACT

In the present study, a modified ratio cum product type estimate for estimating the population mean in rank set sampling has been suggested. The bias and MSE (mean squared error) of all the discussed estimators are obtained. Comparison of the proposed estimator with the Samawi and Muttalak (1996) estimator is carried out. By comparison, the condition which make the proposed more efficient than the other estimators are found.

KEYWORDS

Auxiliary Variable, Study Variable, Simple Random Sampling, Rank Set Sampling, Ratio Estimators.

MATHEMATICS SUBJECT CLASSIFICATION (2000)

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1. INTRODUCTION

In surveys, for estimating population parameters like the mean, total or ratio, product and regression, sample surveys experts sometimes use auxiliary information to improve precision of the estimates. When both the variables i.e. study as well as auxiliary variables are positively correlated, ratio estimators are frequently employed to estimate the population mean of a random variable 'Y'. Let 'Y' and 'X', respectively, are study variable and the auxiliary variable. In simple random sampling (SRS), the usual SRS-ratio estimator of, based on a simple random sample of size is denoted by

$$t_{SRS} = t_R \mu_X \quad \text{with} \quad t_R = \frac{\bar{Y}_{SRS}}{\bar{X}_{SRS}} \quad (1)$$

where \bar{Y}_{SRS} and \bar{X}_{SRS} are the means of single random samples of measurements of 'Y' and 'X', respectively. It is assumed that X_i 's are positive and μ_X is known. The SRS-ratio estimator t_{SRS} is known to be biased with

$$E[t_{SRS}] = \mu_Y + \frac{b_1}{n} + O\left[\frac{1}{n^2}\right]$$

and a suitable choice of b_1 using a first order Taylor series expansion, the approximated mean square error(MSE) and the bias of the SRS-ratio estimator are given by

$$MSE[t_{SRS}] \cong \frac{\mu_Y^2}{n} [C_V^2 + C_X^2 - 2C_{XY}] \quad (2)$$

$$\text{and } MSE[t_{SRS}] \cong \frac{\mu_Y}{n} [C_X^2 - C_{YX}] \quad (3)$$

where $C_X = \frac{\sigma_Y}{\sigma_X}$; $C_Y = \frac{\sigma_X}{\sigma_Y}$ and $C_{YX} = \rho C_Y C_X$

with $\rho = \text{Corr}(X, Y)$, respectively.

Ranked set sampling (RSS) was first proposed by McIntire (1952). He used this model for estimating the mean of pasture yields. This design appeared as a useful technique for improving the accuracy of the estimation of means. This fact was affirmed by McIntire but a mathematical prove of it was settled by Takahashi-Wakimoto (1968). In many situations the statistician deals with the need of combining some control and the implementation of some flexibility with the use of a random based sample. This is a common problem in the study of environmental and medical studies. In these cases the researcher generally has abundant and accurate information on the population units. It is related with the variable of interest Y and to rank the units using this information is cheap. The RSS procedure is based on the selection of m independent samples, not necessarily of the same size, by using simple random sampling (SRS). The sampled units are ranked and the selection of the units evaluated takes into account the order of them in the combined m samples. The proposal of McIntire (1952) was to use a prediction of Y. After some experiences with its application the lack of a coherent statistical theory appeared as an interesting theme of study to theoretical statisticians. An important role was played by Halls-Dell (1966) who established that RSS was more efficient than SRS for estimating the population mean from a large study of sampling forage yields. The interest for RSS in applications is reflected not only in the initial papers but in the orientation of a series of papers to practice. See for

example Chen (1999), Demir-Singh (2000), Kour et al. (1997) and Hall-Dell (1996) for examples. The interest in the development of a new statistical theory using RSS can be illustrated by the contributions of Abu-Dayyeh and Muttalak (1996), Al-Saleh and Al-Khadari (2000), Barabasi and El-Shamawi (2001), Bouza (2002b) and Chen (2001 a, 2001b), {see Bouza et al. (2005)}.

Let $(X_{11}, Y_{11}), (X_{12}, Y_{12}) \dots (X_{1n}, Y_{1n}), (X_{21}, Y_{21}) \dots (X_{2n}, Y_{2n}), \dots (X_{n1}, Y_{n1}) \dots (X_{nn}, Y_{nn})$ be independent bivariate random vector all with same cumulative distribution function and $(X_{[i1]}, Y_{[i1]}) \dots (X_{[in]}, Y_{[in]})$ be the order statistics of $X_{[i1]}, X_{[i2]} \dots X_{[in]}$ and $Y_{[i1]}, Y_{[i2]} \dots Y_{[in]}$.

Let $(X_{1[1]}, Y_{1[1]}), (X_{2[2]}, Y_{2[2]}) \dots (X_{n[n]}, Y_{n[n]})$ denote the rank set sample where $(X_{[i]}, Y_{[i]})$ be the i^{th} order statistics in the i^{th} sample for auxiliary variable 'X' and study variable 'Y', respectively. However, by Samawi and Muttalak (1996), as well as Kadilar et al (2009), the supplementary information can also be used at the estimator stage by using ratio estimators. To this end, Samawi and Muttak (1996) proposed a ratio based estimator for estimating the population mean μ_Y based on a ranked set sample as follow

$$t_R^* = r_{RSS} \mu_X; \text{ with } r_{RSS} = \frac{\bar{Y}_{RSS}}{\bar{X}_{RSS}} \quad (4)$$

where $\bar{Y}_{RSS} = \frac{1}{mk} \sum_{i=1}^m \sum_{j=1}^k Y_{[ij]}$ and $\bar{X}_{RSS} = \frac{1}{mk} \sum_{i=1}^m \sum_{j=1}^k X_{[ij]}$ respectively.

The approximated bias and MSE of t_R^* as follows

$$\begin{aligned} Bias(t_R^*) &\cong \frac{\mu_Y}{n} [(C_X^2 - C_{XY}) - (W_X^2 - W_{XY})] + O\left(\frac{1}{n^2}\right) \\ &= Bias(t_{RSS}) - \frac{\mu_Y}{n} (W_X^2 - W_{XY}) \end{aligned} \quad (5)$$

$$\begin{aligned} MSE(t_R^*) &\cong \frac{\mu_Y^2}{n} [C_X^2 + C_Y^2 - 2C_{YX}] - \frac{1}{nk} \sum_{j=1}^k \{R\tau_{X[j]} - \tau_{Y[j]}\}^2 \\ &= MSE(t_{RSS}) - \frac{1}{nk} \sum_{j=1}^k \{R\tau_{X[j]} - \tau_{Y[j]}\}^2 \end{aligned} \quad (6)$$

where $\tau_{X[j]} = \mu_{X[j]} - \mu_X$ with $\mu_{X[j]} = E[X_{(j)}]$, $\tau_{Y[j]}$ and $\mu_{Y[j]}$ are defined similarly, and $W_X^2 = \frac{1}{k\mu_X^2} \sum_{j=1}^k \tau_{X(j)}^2$, $W_{XY} = \frac{1}{k\mu_X\mu_Y} \sum_{j=1}^k \tau_{X[j]} \tau_{Y[j]}$.

2. THE PROPOSED ESTIMATOR

In the section, we suggest a modified ratio cum product type estimator for estimating population mean of the study variable based on a ranked set sample as follows

$$t_{RSS}^* = \bar{Y}_{RSS} \left[\alpha \frac{\mu_X}{\bar{X}_{RSS}} + (1 - \alpha) \frac{\bar{X}_{RSS}}{\mu_X} \right] \quad (7)$$

where α is any suitably chosen constant.

For $\alpha = 1$; the proposed estimator reduces to the ratio type estimator by Samawi Muttak (1996) as

$$t_R^* = \frac{\bar{Y}_{RSS}}{\bar{X}_{RSS}} \mu_X \quad \text{defined at (4)}$$

For $\alpha = 0$; the proposed estimator reduces to the product type estimator as

$$t_R^* = \frac{\bar{Y}_{RSS}}{\mu_X} \bar{X}_{RSS} \quad (8)$$

The bias and MSE of (8) is as follow:-

$$Bias(t_P^*) \cong \frac{\mu_Y}{n} [(C_X^2 + C_{XY}) - (W_X^2 + W_{XY})] + O\left(\frac{1}{n^2}\right) \quad (9)$$

$$MSE(t_P^*) \cong \frac{\mu_Y^2}{n} [C_X^2 + C_Y^2 + 2C_{YX}] - \frac{1}{nk} \sum_{j=1}^k \{\tau_{Y[j]} + R\tau_{X[j]}\}^2 \quad (10)$$

The bias and MSE of the product estimator t_{RSS}^* to the first degree of approximation respectively as follows:-

$$Bias(t_{RSS}^*) \cong \frac{\mu_Y}{n} \{[C_X^2 + (1 - 2\alpha)C_{XY}] - [W_X^2 + (1 - 2\alpha)W_{XY}]\} + O\left(\frac{1}{n^2}\right) \quad (11)$$

$$MSE(t_{RSS}^*) \cong \frac{\mu_Y^2}{n} \{C_Y^2 + (1 - 2\alpha)(1 - 2\alpha + 2K_{YX})C_X^2\} - \frac{1}{nk} \sum_{j=1}^k \{\tau_{Y[j]} + R(1 - 2\alpha)\tau_{X[j]}\}^2 \quad (12)$$

which is minimum, when

$$\alpha = \frac{1}{2} \left[1 - \frac{C_{YX} - W_{XY}}{C_X^2 - W_X^2} \right] = \alpha_{10}(\text{say})$$

Thus the resulting minimum mean squared error of t_{RSS}^* is given by

$$MSE(t_{RSS}^*) \cong \frac{\mu_Y^2}{n} [C_Y^2 + A_0(2K_{YX} - A_0)C_X^2] - \frac{1}{nk} \sum_{j=1}^k \{\tau_{Y[j]} + RA_0\tau_{X[j]}\}^2 \quad (13)$$

where $A_0 = \left[\frac{C_{YX} - W_{XY}}{C_X^2 - W_X^2} \right]$.

3. EFFICIENCY COMPARISONS

In this section, we compare $\min MSE(t_{RSS}^*)$ with $MSE(t_R^*)$ using equation (13) and (6), as follows

$$MSE(t_R^*) - \min MSE(t_{RSS}^*) > 0$$

$$\text{If } K_{YX} > \frac{1+A_X^2}{2(1+A_X)} \text{ and } > \frac{2\tau_{Y[j]}}{R\tau_{X[j]}(1+A_X)}. \quad (14)$$

When the condition (14) holds, the proposed estimator at its optimum condition is more efficient than rank set ratio estimator by Samawi and Muttalak (1996).

4. CONCLUSION

In estimating the population parameters like mean, total or ratio, product and regression, sample survey experts sometimes use auxiliary information to improve efficiency of the estimates. The method of ranked set sampling (RSS) is a cost efficient alternative to simple random sampling (SRS) for those situations where measurements are difficult or expensive to obtain but (judgement) ranking of units according to the variable of interest is relatively easy and cheap. In this paper, we have suggested a modified ratio cum product type estimator for estimating population mean of the study variable based on a ranked set sample. By comparing the proposed estimator with the ranked set ratio estimator, we showed that the proposed estimator at its optimum condition is more efficient one. So, it is recommended to use the proposed estimator in further research in this field.

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A GOAL PROGRAMMING FORMULATION IN NUTRIENT MANAGEMENT OF FERTILIZERS USED FOR RUBBER PLANTATION IN TRIPURA

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ABSTRACT

Natural rubber is the dominant cash crop of Tripura. Proper nitrogen, phosphorus and potassium applications to the soil are necessary to increase the production of latex and improve the Socio-economic position of the planters. Application of nutrients to the soil is commonly done by using fertilizers. In this paper, a goal programming model is formulated for nutrient management by determining the optimum fertilizer combination for rubber plantation in Tripura.

KEYWORDS

Linear goal programming, fertilizer combination, priority level, optimization.

INTRODUCTION

Most of the soil in the North Eastern region are highly degenerated due to shifting cultivation and heavy nutrient removed by thatch grass. In general, available phosphorus and potassium levels are low but the available magnesium is high. Based on this, a separate Fertilizer recommendation with slightly higher levels of N (nitrogen), P (phosphorus) and K (potassium) was formulated for the main field in the North Eastern region where the state Tripura belongs. Healthy rubber tree growth requires continuous supply of all essential nutrients from soil. Under the agro-climatic conditions, rubber plants after planting takes about seven years to attain tappareability in most cases. The fertilizer requirements of rubber during the period of immaturity depend to a great extent on the cultivation practices, such as mulching the plant bases during the initial years and the establishment and maintenance of leguminous ground covers in the field. These cultivation practices will result in the improvement of the soil conditions and availability of plant nutrients, particularly nitrogen. The general fertilizer recommendation for rubber is based on the results of the fertilizer experiments conducted by the Rubber Research Institute of India on rubber of different age groups.

It is clear that planning rubber trees has widespread benefits. Rubber based agro-forestry involves a complex and diverse cropping system that combines the growing of rubber and other agricultural crops in the area in a sustainable manner. The rubber tree *Hevea-Braziliensis* was first introduced as a crop for plantation agriculture many years ago from the wilderness of the amazon jungles.

Application of N-P-K higher than the required level are likely to cause diverse effects on plants and result in a substantial decrease in their yields. Hence, for sustainable production of latex, it is necessary to produce optimum fertilizer combination for nutrient application to the soil. By doing so, damage to the soil's health is minimized. This results in increased production of latex and as a result, improves the economic position of the planters. There may be several objectives in nutrient management and thereby optimum fertilizer combination problems. Basic objective is achievement of nutrient requirements and minimization of cost.

The goal programming (GP) technique in solving agro-forestry management problems involving multiple objectives has become a widely used approach in Operation Research studies (Romero, 1986). The increasing popularity of GP and usefulness for decision-making policies has been aimed at optimizing agricultural land and other natural resources. GP technique can be used to address the problem of determining an optimum-cropping pattern by considering several goals in agricultural planning and management. Wheeler and Russell (1977) used a GP model to analyze the plantation of a farm in the United Kingdom. Ghosh (1993, 1995) presented a model for the allocation of land under cultivation for production of crops in different seasons in a year. Ghosh, Sharma and Mattison (2005) used a model for nutrient management for rice production. Also several studies have been used in natural resources planning (Romero, 1986), livestock ration formulation (Rehman and Romero, 1984, 1987), sugar beet fertilizer combination problems (Minguez, 1988).

In this paper, a priority based linear goal programming technique has been used to obtain the nutrient requirement for rubber plantation by determining the optimum fertilizer combination.

MODEL FORMULATION

The general priority based GP model as defined by Ignizio, 1976 can be stated as follows:

Find $X(x_1, x_2, \dots, x_N)$ so as to

Minimize $P_1(w_{11}^- d_{11}^- + w_{11}^+ d_{11}^+)$,

Minimize $P_2(w_{12}^- d_{12}^- + w_{12}^+ d_{12}^+)$,

.

.

.

Minimize $P_j(w_{ij}^- d_{ij}^- + w_{ij}^+ d_{ij}^+)$,

.

.

.

Minimize $P_i(w_{ij}^- d_{ij}^- + w_{ij}^+ d_{ij}^+)$, $i = 1, 2, \dots, m$,

Subject to

$F_i(X) + d_i^- - d_i^+ = b_i$, $i = 1, 2, \dots, m$,

and

$$w_{ij}^-, w_{ij}^+, d_{ij}^-, d_{ij}^+, d_i^-, d_i^+, X \geq 0,$$

for $i = 1, 2, \dots, m; j = 1, 2, \dots, J$,

where $f_i(X)$, $i = 1, 2, \dots, m$, is the i th function (linear) of decision vector X , b_i is the aspiration level of the i th goal, P_j ($j = 1, 2, \dots, J; J \leq m$) is the j th priority factor assigned to the set of goals that are grouped together in the problem formulation, d_i^-, d_i^+ are the under and over-deviational variables corresponding to the i th goal, w_{ij}^- and w_{ij}^+ are the numerical weights associated with the under and over-deviational variables d_{ij}^- and d_{ij}^+ at the priority level P_j . Here, d_{ij}^- and d_{ij}^+ are renamed for the actual deviational variables d_i^- and d_i^+ , respectively.

To formulate the model for the problem, the model variables, constants and coefficients are defined as follows.

Decision variables:

x_{in} = Amount of fertilizers ($n = 1, 2, \dots, N$) in the mixture and $i = 1, 2, \dots, 7$ (year)

Coefficients and constants:

C_{in} = unit cost for fertilizers x_{in} ($n = 1, 2, \dots, N$) in the mixture and $i = 1, 2, \dots, 7$ (year)

$A_{in}^{(q)}$ = unit amount of nutrient, q ($q = 1, 2, \dots, Q$) in fertilizer x_{in}

$L_i^{(q)}$ = Minimum limit of nutrient, q ($q = 1, 2, \dots, Q$)

$U_i^{(q)}$ = Maximum limit of nutrient, q ($q = 1, 2, \dots, Q$)

T_i = Total cost of fertilizer

Goal constraints:

(1) Total cost:

To avoid any types of unwanted expenditure, there should be an estimated fertilizer cost (T_i) for a year. The goal equation can be presented as

$$\sum_{n=1}^N C_{in} x_{in} + d_{i1}^- - d_{i1}^+ = T_i, \quad i = 1, 2, \dots, 7$$

(2) Minimum limit of nutrient:

To ensure a good yield from rubber plant, there should be, at least, a minimum amount of nutrient in the fertilizer combination. The goal equation can be presented as

$$\sum_{n=1}^N A_{in}^{(q)} x_{in} + d_{i(q+1)}^- - d_{i(q+1)}^+ = L_i^{(q)}, \quad i = 1, 2, \dots, 7 \text{ and } q = 1, 2, \dots, Q$$

(3) Maximum limit of nutrient:

To avoid any excess application of nutrient in the fertilizer combination, there should be a maximum limit for each nutrient in the combination. The goal equation can be presented as

$$\sum_{n=1}^N A_{in}^{(q)} x_{in} + d_{i(Q+q+1)}^- - d_{i(Q+q+1)}^+ = U_i^{(q)}, \quad i = 1, 2, \dots, 7 \text{ and } q = 1, 2, \dots, Q$$

Application:

Our fertilizer combination plan for rubber plant is for the North-Eastern state Tripura, India. Basically, four types of fertilizers are applied in soil. The fertilizers are Urea, Ammonium Phosphate (AP), Rock Phosphate (RP) and Muriate of Potash (MOP).

TABLE 1: DATA DEFINITION

Variable Year(i)	Urea	Ammonium Phosphate(AP)	Rock Phosphate(RP)	Muriate of Potash(MOP)
1	X_{11}	X_{12}	X_{13}	X_{14}
2	X_{21}	X_{22}	X_{23}	X_{24}
3	X_{31}	X_{32}	X_{33}	X_{34}
4	X_{41}	X_{42}	X_{43}	X_{44}
5	X_{51}	X_{52}	X_{53}	X_{54}
6	X_{61}	X_{62}	X_{63}	X_{64}
7	X_{71}	X_{72}	X_{73}	X_{74}

Goal constraints

Total cost:

$$\sum_{n=1}^4 C_{in} x_{in} + d_{i1}^- - d_{i1}^+ = T_i, \quad i = 1, 2, \dots, 7$$

$$\text{i.e. } C_{11}X_{11} + C_{12}X_{12} + C_{13}X_{13} + C_{14}X_{14} + d_{11}^- - d_{11}^+ = T_1$$

$$C_{21}X_{21} + C_{22}X_{22} + C_{23}X_{23} + C_{24}X_{24} + d_{21}^- - d_{21}^+ = T_2$$

.

.

$$C_{71}X_{71} + C_{72}X_{72} + C_{73}X_{73} + C_{74}X_{74} + d_{71}^- - d_{71}^+ = T_7$$

Minimum limit of nutrients:

$$\sum_{n=1}^4 A_{in}^{(\text{nit})} x_{in} + d_{i2}^- - d_{i2}^+ = L_i^{(\text{nit})}, \quad i = 1, 2, \dots, 7. \text{ (Nitrogen)}$$

$$\sum_{n=1}^4 A_{in}^{(\text{pho})} x_{in} + d_{i3}^- - d_{i3}^+ = L_i^{(\text{pho})}, \quad i = 1, 2, \dots, 7. \text{ (Phosphorus)}$$

$$\sum_{n=1}^4 A_{in}^{(\text{pot})} x_{in} + d_{i4}^- - d_{i4}^+ = L_i^{(\text{pot})}, \quad i = 1, 2, \dots, 7. \text{ (Potassium)}$$

Maximum limit of nutrients:

$$\sum_{n=1}^4 A_{in}^{(\text{nit})} x_{in} + d_{i5}^- - d_{i5}^+ = U_i^{(\text{nit})}, \quad i = 1, 2, \dots, 7. \text{ (Nitrogen)}$$

4

$$\sum_{n=1}^4 A_{in}^{(pho)} x_{in} + d_{16}^{-} - d_{16}^{+} = L_i^{(pho)}, i = 1, 2, \dots, 7. \text{ (Phosphorus)}$$

n=1

4

$$\sum_{n=1}^4 A_{in}^{(pot)} x_{in} + d_{17}^{-} - d_{17}^{+} = L_i^{(pot)}, i = 1, 2, \dots, 7. \text{ (Potassium)}$$

n=1

Priority level:

As per the decision-making environment, priority level of the problem can be defined as follows:

P₁: Minimize ($d_{12}^{-} + d_{13}^{-} + d_{14}^{-}$)

P₂: Minimize ($d_{11}^{+} + d_{15}^{+} + d_{16}^{+} + d_{17}^{+}$)

Therefore achievement function is

Minimize $Z = P_1(d_{12}^{-} + d_{13}^{-} + d_{14}^{-}) + P_2(d_{11}^{+} + d_{15}^{+} + d_{16}^{+} + d_{17}^{+})$

SOLUTION OF THE FORMULATED MODEL

In this paper, we have formulated the model for the period of seven years when matured rubber tree will produce latex. On the basis of available previous data, the developed model can be tested. Solution may be achieved by manual calculation. But manual calculation is time consuming process and not so easy. So the use of software like LINGO, Excel-Solver will be more easy.

CONCLUSION

In this paper, the methodology (Goal Programming) for optimum fertilizer combination is an alternative to the traditional optimization technique based linear Programming. It may be useful for agro-forestry planners who can guide the planters for fertilizer combinations. In this paper, we attempt to deal with the nutrient management problem using Goal Programming technique. Our study can be applied to other sectors also having the similar environmental constraints. For different climatic conditions, some practical aspects may be included in the model.

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A STUDY ON THE FACTORS INFLUENCING INDIVIDUAL INVESTOR BEHAVIOR IN IT SECTOR**SINDU KOPPA****LECTURER****JSS CENTRE FOR MANAGEMENT STUDIES****SRI JAYACHAMARAJENDRA COLLEGE OF ENGINEERING
MYSORE****SHALINI .P****STUDENT****JSS CENTRE FOR MANAGEMENT STUDIES****SRI JAYACHAMARAJENDRA COLLEGE OF ENGINEERING
MYSORE****ABSTRACT**

This study investigated factors influencing on individual investors behaviour in IT sectors and the most predominant and least factors that influence the individual investor to invest in IT sector. The study evidenced showing to understand how investors make their investment decisions in IT stocks. The study methodologically may be nested as a quantitative exploratory research wherein cross-sectional design with survey method using face to face personal interview with structured questionnaire was utilized to understand the proposed relationship. The study revealed that four factors that seem to be influencing the investor behaviour. They are Classical wealth maximisation, Firm Status, Neutral information and Commitment and recommendation. According to the respondents One factor was found the most influencing factor, where it was more than 50% of i.e. reputation of the it firm. Two factors were found the least influencing factors, where less than 20% of total respondents consider these factors as the least affecting factors on their behaviour. The least influencing factor was by order of importance: expected losses in other local investments, minimizing risk, expected losses in international financial markets, , family member opinions and gut feeling on the economy. The study mainly centred to understand the behaviour of investors while purchasing IT stocks. and therefore is limited to investors who are aware and competent to understand financial news and information.

KEYWORDS

Investor Behaviour, Stocks, IT.

1.0 INTRODUCTION

Research in behavioural finance is relatively new. Within behavioural finance it is assumed that information structure and the characteristics of market participants systematically influence individuals' investment decisions as well as market outcomes. According to behavioural finance, investor market behaviour derives from psychological principles of decision making, to explain why people buy or sell the stocks.

Behavioural finance focuses upon how investors interpret and act on information to make investment decisions. In addition, the behavioural finance places an emphasis upon investor behaviour leading to various market anomalies and in recent theoretical research suggests that psychological biases affect individual investors, causing them to make non-optimal decisions. While much behaviour have been identified in a rising stock price environment henceforth a *bull market*, could these behaviours be exhibited in a declining price environment, i.e., a *bear market*.

Behavioural finance is defined by Shefrin (1999)¹ as "a rapidly growing area that deals with the influence of Psychology on the behaviour of financial practitioners". Behavioural finance research is developing rapidly and now beginning to answer such questions as (see Taffler² 2002):

- Why, when all the evidence shows investors cannot beat the market on any systematic basis, they still resolutely do?
- How can we explain the stock market "bubbles"?
- Why is the volume of trading in financial markets so excessive and why is the stock market so volatile?
- Why do investment analysts have so much difficulty in identifying under-and overvalued stocks?
- Why do stock prices appear to under-react to bad news?

A better understanding of behavioural processes and outcomes is important for financial planners because an understanding of how investors generally respond to market movements should help investment advisors in devising appropriate asset allocation strategies for their clients.

This study aims at exploring the individual investor's behaviour investing in IT sector. The study is important for individual investor, IT companies listed, Market and Government. For investors as decision makers, the most influencing factor/ factors on their investment decision is crucial because this would affect their future financial plans. For companies, identifying the most influencing factors on their investors' behaviour would affect their future policies and strategies. Finally, for government, identifying the most influencing factors on investors' behaviour would affect the required legislations and the additional procedures needed in order to satisfy investors' desires and also to give more support to market efficiency.

Trading volume of the Market is highly fluctuating. Fluctuations in trading volume indicate somehow the abnormal behaviour of the investor, which needs to be studied and this is the motivation behind the current study.

1.1 OBJECTIVE OF THE STUDY:

- To study the factors influencing individual investors behaviour in IT sectors".
- To know the most predominant factor that influences the individual investor to invest in IT sector.

2.0 LITERATURE REVIEW**2.1 LITERATURE REVIEW**

In this study a comprehensive literature review about behavioural finance in general is beyond the scope of the paper. Instead, the results of some studies about individual investor behaviour will be highlighted in the base paper more attention had been given to institutional investors. It should be noted here in this study that a substantial amount of attention has been given to the individual investor behaviour.

i. **Kadiyala and Rau (2004)**³ investigated investor reaction to corporate event announcements. They concluded that investors appear to under react to prior information as well as to information conveyed by the event, leading to the different patterns: return continuations and return reveals, both documented in long-horizon return. They found no support for the overreaction hypothesis.

ii. **Merikas et.al.,(2003)**⁴ adopted a modified questionnaire to analyze factors influencing Greek investor behaviour on the Athens Stock Exchange. The results indicate that individual's base their stock purchase decisions on economic criteria combined with diverse other variables. They do not rely on a single integrated approach, but rather on many categories of factors. The results also revealed that there is a certain degree of correlation between the factors that behavioural

finance theory and previous empirical evidence identify as the influencing factors for the average equity investor, and the individual behaviour of active investors in the Athens Stock Exchange (ASE) influencing by the overall trends prevailing at the time of the survey in the ASE.

iii. **Malmendier and Shanthikumar (2003)**⁵ tried to answer the question: Are small investor naïve? They found that large investors generate abnormal volumes of buyer-initiated trades after a positive recommendation only if the analyst is unaffiliated. Small traders exert abnormal buy pressure after all positive recommendations, including those of affiliated analysts. Hodge(2003) analyzed investors' perceptions of earnings quality, auditor independence, and the usefulness of audited financial information. He concluded that lower perceptions of earnings quality are associated with greater reliance on a firm's audited financial statements and fundamental analysis of those statements when making investment decisions.

iv. **Krishnan and Booker (2002)**⁶ analyzed the factors influencing the decisions of investor who use analysts' recommendations to arrive at a short-term decision to hold or to sell a stock. The results indicate that a strong form of the analyst summary recommendation report, i.e., one with additional information supporting the analysts' position further, reduces the disposition error for gains and also reduces the disposition error for losses

v. **Nagy and Obenberger (1994)**⁷ examined factors influencing investor behaviour. They developed a questionnaire includes (34) questions. Their findings suggested that classical wealth – maximization criteria are important to investors, even though investors employ diverse criteria when choosing stocks. Contemporary concerns such as local or international operations, environmental track record and the firm's ethical posture appear to be given only cursory consideration. The recommendations of brokerage house, individual stock brokers, family members and co-workers go largely unheeded. Many individual investors discount the benefits of valuation models when evaluating stocks.

vi. **Epstein (1994)**⁸ examined the demand for social information by individual investors. The results indicate the usefulness of annual reports to corporate shareholders. The results also indicate a strong demand for information about product safety and quality, and about the company's environmental activities. Furthermore, a majority of the shareholders surveyed also want the company to report on corporate ethics, employee relations and community involvement.

vii. **De Bondt et al.,(1985)**⁹ published a paper about behavioural finance in which they asked the following question: " Does the stock market overreact?", the article gave evidence to support the hypothesis that cognitive bias (investor overreaction to a long series of bad news could produce predictable mispricing of stocks traded on the NYSE.

The main findings of the above studies can be summarized as follows:

1. There is no support for the overreaction hypothesis.
2. Investor over-reaction to a long series of bad news could produce predictable mispricing of stocks
3. Classical wealth – maximization criteria are important to investors.
4. The recommendations of brokerage house, individual stock brokers, family members and co-workers go largely unheeded
5. A strong demand for information about product safety and quality, and about the company's environmental activities

3.0 RESEARCH METHODOLOGY

3.1 METHODOLOGY

Considering the dearth of studies in the a foresaid area in the Indian context, the study methodologically may be nested as an quantitative exploratory research wherein cross-sectional design with survey method using face to face personal interview with structured questionnaire was utilized to understand the proposed relationship.

Primary Data was collected through Survey method through questionnaire. The questionnaire consisted of 32 questions related to different factors that could affect individual investors decision in IT sector . Respondents were asked to indicate their degree of agreement with each of the items on five-point Likertscale . Respondents were asked to mark appropriate number on the scale from 1(strongly disagree) to 5 (strongly agree) which indicate to what extent their investment decisions are affected by factors.

The pilot study was conducted with sample of 60 investors and the actual sample size of 140 was statistically determined using the formulae. The Questionnaire was administered to 140 investors using convenient sampling method.

Factor Analysis was done to know the most influencing factors which affected investment decisions in IT. Kurtosis and skewness checks the reliability. Frequency distribution was conducted for every question to know which are predominant factors and least factors that influence individual investors in IT sector.

3.2 VARIABLES

The variables considered in the study are as follows:

1. Self-Image/Firm-Image Coincidence

- Religious reasons
- Feelings for a firm's products and services
- Reputation of the firm's shareholders
- "Get rich quick"
- Firm status in industry
- Perceived ethics of firm
- Gut feeling on the economy
- Reputation of the firm
- Increase of the firm's involvement in solving community problems

2. Accounting Information

- Stock Marketability
- Expected corporate earnings
- Condition of financial statements
- Dividends paid
- Affordable share price
- Expected Dividends
- Past performance of the firm's stock

3. Neutral Information

- Government holdings
- Information obtained from the internet
- Fluctuation/developments in the stock index
- Coverage in the press
- Statements from government officials
- Current economic indicators
- Recent price movement in a firm's stock

4. Advocate Recommendation

- Broker recommendation
- Family member opinions
- Friend or co-worker recommendations
- Opinions of the firm's majority stockholders

5. Personal Financial Needs

- Attractiveness of non-stock investment
- Diversification needs
- Ease of obtaining borrowed funds
- Minimizing risk
- Expected Losses in international financial markets
- Expected Losses in other local investment

4.0 ANALYSIS AND INTERPRETATION**4.1 ANALYSIS**

The data has been collected as per the requirement of the study. The data is analyzed only based on primary sources by giving questionnaire to individual IT investors. In order to analyze the factors that influence behaviour of IT investors while investing in shares and to analyse which are the predominant factors that influence investor's behaviour.

4.1.1 DESCRIPTIVE ANALYSIS

The data collected was subjected to preliminary descriptive analysis to adjourn the normality assumptions. The descriptive statistics are shown in table-1 through table-5, and the statistics of each measurement item reveals that none of the skewness statistic exceeds 3 points and kurtosis 10 points. Therefore by generally accepted criteria the data meets the assumptions of normality.

Descriptive Statistics for Firm Image			
Variables	Mean	Skewness	Kurtosis
Religious reasons	3.5643	-0.743	-0.34
Feelings for a firm's products and services	2.9286	0.261	-1.171
Reputation of the firm's shareholders	3.2143	-0.784	0.071
Get rich quick	3.1	-0.297	-0.712
Firm status in industry	2.8357	0.271	-0.967
Perceived ethics of firm	3.2071	-0.481	-0.78
Gut feeling on the economy	3.45	-0.778	-0.337
Reputation of the firm	3.1571	-0.456	-0.643
Increase of the firm's involvement in solving community problems	2.2857	0.642	-0.966
Descriptive statistics for Accounting Information			
Stock Marketability	3.4214	-0.556	-0.97
Expected Corporate Earnings	3.4714	-0.648	-0.376
Condition of financial statements	3.3071	-0.066	-0.44
Dividends paid	3.3857	-0.361	-0.754
Affordable share price	3.3714	-0.405	-0.945
Expected Dividends	3.8429	-1.307	2.119
Past Performance of the firm's stock	3.6929	-0.843	0.165
Descriptive statistics for Neutral Information			
government holdings	2.9643	0.025	-1.112
information obtained from internet	3.4857	-0.392	-0.707
fluctuation in the stock market	3.2714	-0.527	-0.263
coverage in press	3.5143	-0.345	-0.767
statements from government	3.4857	-0.6	-0.62
current economic indicators	3.4643	-0.87	0.093
Descriptive statistics for Personal Financial Needs			
attractiveness of non stock investment	3.15	-0.358	-0.8
diversification needs	3.4643	-0.629	-0.088
ease of obtaining borrowing funds	2.7786	0.049	-0.899
expected losses in other local investments	2.9786	0.043	-0.775
minimising risk	3.1214	-0.006	-1.084
expected losses in international financial markets	3.2214	0.097	-1.416
Descriptive statistics for Advocate Recommendation			
broker recommendation	2.75	-0.017	-1.097
family or friend recommendation	3.2357	-0.24	-0.811
opinion's of the firm's majority stockholders	3.3071	-0.306	-0.792

4.1.2 FACTOR ANALYSIS

The data collected were subjected to factor analytic procedure using principal component method of extraction and varimax rotation for uncovering the underlying dimensions. KMO statistic was obtained to measure sampling adequacy and Bartlett's test of sphericity for establishing the significance of factor analytic process.

The results of the factor analysis and KMO statistic of 0.535 is above the norm 0.50, Bartlett test of Sphericity is significant of .0000 at 55 degrees of freedom and explains 63.55 percentage of variance with 4 factor solution.

The measurement items that loaded together were subjected to interpretation based on the meaning of the statement of measurement, the four factors that seem to influence investor decision are

1. Classical wealth maximization.
2. Firm status.
3. Neutral information.
4. Commitment and recommendation.

This means that for investor, these four factors are the major reasons influence his investment decision.

5.0 CONCLUSION

This study identified the factors influencing individual investor's behaviour in IT sector. The study was conducted using a modified questionnaire. The questionnaire included thirty two items that belongs to five categories, namely self-image/ firm-image coincidence; accounting information; neutral information; advocate recommendation; and personal financial needs.

One factor was found the most influencing factor, where it was more than 50% of total respondents consider these factor as the most affecting factors on their behaviour based on frequency distribution i.e. **REPUTATION OF THE IT FIRM**. The most influencing factor was by order of importance: reputation of the IT firm, Reputation of IT firms shareholders, Perceived ethics of the firm, Get rich quick.

Two factors were found the least influencing factors, where less than 20% of total respondents consider these factors as the least affecting factors on their behaviour. The least influencing factor was by order of importance: expected losses in other local investments, minimizing risk, expected losses in international financial markets, family member opinions and gut feeling on the economy. As there did not appear to be a single set of variables investors used consistently to make stock purchase decisions, we employed factor analysis to determine whether there are underlying constructs that represent a synthesis of investor concerns like ,

1. Classical wealth maximisation
2. Firm status
3. Neutral information.

Clearly The manager of IT companies listed require to give more attention to most influence factors in order to satisfy the desires of their investors and also to attract more investors to deal with their stocks. A better understanding of behavioural processes and outcomes of individual investors is important for financial planners because an understanding of how investors generally respond to market movements should help investment advisors in devising appropriate asset allocation strategies for their clients. For investors as decision makers, the most influencing factor/ factors on their investment decision is crucial because this would affect their future financial plans. For companies, identifying the most influencing factors on their investors' behaviour would affect their future policies and strategies and also would help in generation of revenue of the company.

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ANNEXURE

QUESTIONNAIRE: STUDY ON FACTORS INFLUENCING INDIVIDUAL INVESTOR BEHAVIOR IN IT STOCKS DEMOGRAPHIC PROFILE

NAME:

Please place a TICK "✓" box you feel appropriate for your feedback

1. Gender:

☐ Male ☐ Female

2. Age

☐ 18-25 ☐ 26-35 ☐ 36-45 ☐ above 45

3. Marital status

☐ Single ☐ Married

4. Highest education completed:

☐ High School ☐ Diploma ☐ Degree ☐ Masters ☐ Professional Qualifications

5. Occupational Level:

- ☐ Non-professional (eg Cashier, Clerk, Electrician, Casual worker)
☐ Professional (eg, Accountant, Doctor, Lawyer, Lecturer/professor)
☐ Others

6. Employment Sector:

☐ Public ☐ Private

7. Share investment experience

☐ 0-2 years ☐ 3-5years ☐ 6-10years ☐ more than 10years

8. On average, how many IT companies' shares do you hold in your share account?

☐ 1-2 companies ☐ 3-5 companies
☐ 6-10 companies ☐ More than 10 companies

PLEASE TICK [v] ONE ANSWER TO EACH STATEMENT BASED ON THE FOLLOWING 5-POINT LIKERT SCALE

Sl. No	FIRM IMAGE	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	FIRM IMAGE					
1	The Reputation of the IT firm influences me to invest in IT stocks.	1	2	3	4	5
2	'Get rich quick' motto influences my decision to invest in IT stocks.	1	2	3	4	5
3	Perceived Ethics of the IT firm influences me to invest in IT stocks.	1	2	3	4	5
4	The Loyalty towards an IT firm's products and services influence me to buy IT Stocks.	1	2	3	4	5
5	Increase of IT Firm's social responsibility [solving community problems] influence me to invest in IT stocks.	1	2	3	4	5
6	Reputation of the IT firms shareholders influence my decision to invest towards IT stocks.	1	2	3	4	5
7	Reliability on the economy of the nation will influence my decision to invest in IT stocks.	1	2	3	4	5
8	The creation of organised financial Markets influence my decision to invest in IT stocks.	1	2	3	4	5
9	Religious reasons influence me to invest in IT stocks.(religion of investor or firm)	1	2	3	4	5
10	Firm status in industry influences me to invest in IT stock.	1	2	3	4	5
	ACCOUNTING INFORMATION					
11	The Stock marketability (ABILITY TO SELL AND BUY) influences my decision to invest in IT stock.	1	2	3	4	5
12	Expected earnings/profit of the IT firm influences my decision to invest in IT stock.	1	2	3	4	5
13	Dividends paid (annually/half yearly/quarterly....) by IT firm 'influence me to invest in IT stock.	1	2	3	4	5
14	The share price Affordable by me influence investment in IT stock.	1	2	3	4	5
15	I consider Past performance of the IT firm's stock when investing in IT stocks.	1	2	3	4	5
16	I will see Condition of financial statement (sales revenue, acc. receivables, acc. payable, expenses etc.) before investing in IT stocks.	1	2	3	4	5
17	Expected dividends of IT firm motivate me to invest in IT stock.	1	2	3	4	5
	NEUTRAL INFORMATION					
18	Government holdings (as a security) in IT firms influence me to invest in IT stock.	1	2	3	4	5
19	Information obtained from the internet (IT firm's website) will influence me to invest in IT stock.	1	2	3	4	5
20	Fluctuation/developments in the stock index influence me to invest in IT stock.	1	2	3	4	5
21	Information covered in the press relate to the IT FIRM influence me to invest in IT stock.	1	2	3	4	5
22	I consider Current economic indicators opinion to invest in IT stocks.	1	2	3	4	5
23	Recent price movement (variation) in a IT firm's stock influence me to invest in IT stocks.	1	2	3	4	5
	ADVOCATE RECOMMENDATION					
24	I take Brokers recommendation to invest in IT stocks.	1	2	3	4	5
25	Family members, friends, colleagues opinion influence me to invest in IT stocks.	1	2	3	4	5
26	Opinions of the firm's majority and existing shareholders helps me to take decision on investment in IT stocks.	1	2	3	4	5
	PERSONAL FINANCIAL NEEDS					
27	Attractiveness of non stock investment (mutual funds, bonds, real estate) will these influence my investment decision in IT stocks.	1	2	3	4	5
28	Need for diversification influences me to invest in IT stocks.	1	2	3	4	5
29	Ease of obtaining borrowed funds influences me to invest in IT stocks.	1	2	3	4	5
30	Provision for Minimizing risk involved 'influences my decision in investing in IT stocks.	1	2	3	4	5
31	Expected losses in international financial market influence my decision in investing in IT Stocks.	1	2	3	4	5
32	Expected losses in other local investments influence my decision in investing in IT stocks.	1	2	3	4	5

RELIGION, LAW & THE ROLE OF STATE

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ABSTRACT

The interrelationship of religion and law has always been a complex and considerably a matter of dispute. As an admitted fact, the origin of religion is time immemorial and it's also a common observance and a proved fact that every religion has specific and exclusive legal provisions. In fact, initially, the society was administered by religious beliefs, not by legal provisions. With the passage of time, efforts were made to segregate law from religion because it was found difficult to administer multi-religious society through any particular religion. Though, the basic tenets of every religion is less or more similar but many aspects of religions differ and herefrom the dispute aroused. It is the common belief of religious persons that religion has been revealed by any super natural power i.e. God. But, there is no dispute regarding the fact that law has been evolved by human rationale and experience. Now, with the emergence of State as a political governing body, the question of reconciliation among the various religions inter se and between religion and law became acute because the State came into existence as a common political guardian of its subjects. So, it had to either protect the interests of its all subjects irrespective of their race, caste, creed, language or religion or to discard the identity of multi-religious society by declaring it as a specific religious - State and the third path whereby the State may provide special preference to any particular religious group but also recognize the religious-freedom of other Community. In this paper, the effort has been made to study the interrelationship of religion and law and instant, how different political States are harmonizing the interests of multi-religious society.

KEYWORDS

Concept of Dharma, Concept of Law, Role of State.

INTRODUCTION

In the ancient legal system of every society, religion and law has been synonymously termed because the law essentially constituted a part of the religion. Every political society has its religious origin, even of Communists society because before the emergence of the Communism, people were free to have belief in religion of their choice. The eternity of religion may be upheld when it is seen that now even in China, North Korea and Vietnam there is not complete ban on profession of any religion. But the relationship between religion and law has been famously complex. Religious values constitute central elements of societal values that shape the rules, principles institutions governing society. Institutional policies affect those underlying societal values by reinforcing and entrenching societal beliefs or seeking to change them. Scholars recognize that the multiple interactions between religion and law are so embedded in particular cultures that broad generalizations have limited utility.⁷ The impact of religious norms has been varying considerably with time and place as well as subject matter, politics and economics.⁸ It is said that Indian jurisprudence is as old as humanity itself, there is no founder of it other than the creator itself.⁹ Law proper has been a part and parcel of ancient Sanatan Dharma. Sanatan Dharma¹⁰ means one that is ancient and everlasting. Thus, Sanatan Dharma means an ancient Dharma that was, is, and will last till eternity. It is the soul of all religions and therefore, it is ever present and never ending. Law being a part of Dharma there was no disharmony and discord between laws and Dharma and both constituted a single integrated whole.¹¹

OBJECT

The object of pursuing the research for the instant topic is, firstly, to weigh the relevancy and importance of Religion in different Political Legal Systems and secondly, to be aware about the freedoms of religion of people in the present Global era where the entire world is alike a village and anyone can within legal limitations access and live in any corner of world. In such a situation, it's not possible for any society to keep reserve it's any part for any specific or particular group of people.

CONCEPT OF DHARMA

Literal meaning of the term Dharma is that 'which sustains or upholds.' According to Sanatan scripture, Dharma stands for "religious rights, fixed principles of rules of conduct and the whole body of religious duties."¹² Dharma is a larger domain of which religious, moral, social and legal duties are several elements. Dharma has been taken to be an elusive term which has no exact equivalent in any other language. The religion and law are only two facets of Dharma. In widest sense, Dharma suggests all pervading rules or order that upholds the universe. Fundamental principles underlying Dharma is uniformity or regularity of order which is universally accepted. It may, therefore, include statutory law, law of nature, law of society, law of creation, law of gravitation etc.¹³ According to Manusmriti, "Conduct is the basis of Dharma and it is not what you think

⁷. Barzilai, Gad: Law and Religion, (ed.2007), p.556.

⁸. Ibid.

⁹. Para jape, N.V. : Jurisprudence & Legal Theory, (5th ed.) 2008, P.86, Para-4

¹⁰. Para jape, N.V. : Jurisprudence & Legal Theory, (5th ed.) 2008, P.86, footnote 3.

¹¹. Para jape, N.V. : Jurisprudence & Legal Theory, (5th ed.) 2008, P.86, Para -4

¹². Parajape, N.V. : Jurisprudence & Legal Theory, (5th ed.) 2008, P.87, para-1st

¹³. Ibid.

but what you do, constitutes your Dharma. Non-Violence is the essence of Dharma.¹⁴ As per Islam also, from religious sense Islam means 'submission to the will of God' and from secular sense Islam means 'Peace'¹⁵ i.e. Non-Violence. From the common man point of view the term Dharma may be said to include three things: (i) Religion (ii) Duty and (iii) Inseparable quality of a thing or order.

In the first sense, Dharma has been treated as 'religion.' In strict sense of the word, 'religion' may be said to be obedience to the law of God.¹⁶ According to Mahatma Gandhi, "God and His law are synonymous terms and, therefore, God signifies an unchanging living law. No one has really found him but prophets have by their devotion and *sadhna* given to mankind a faint glimpse of the eternal law."¹⁷

In the second sense, Dharma stands for duty. For instance, Raj dharma connotes the duty of 'Ruler, Grahastha dharma signifies the duty of family-man, and Matri Dharma Signifies the duty of a mother and so on. Similarly, there may be the duty of a doctor, Judge, lawyer, priest, teacher, leader etc.¹⁸

In third sense, Dharma connotes essential characteristic features of a thing or an object. For instance, the essential characteristic (Dharma) of Agni i.e. fire is to burn anything and everything without discrimination. Similarly, the dharma of water is to quench fire. This is unalterable and immutable.¹⁹

According to Dr. Kane, the concept of Dharma passed through several transitions over the year and in the modern context it signifies privileges, duties and obligations of a man, his standard of conduct as a member of the society.²⁰

CONCEPT OF LAW

Mayne observed; "Indian law has the oldest pedigree of any known system of Jurisprudence, and even now it shows no signs of decrepitude. At this day it governs races of men, extending from Kashmir to Capecomorin, who agree in nothing else except their submission to it."²¹ Sir Francis MacNaughton wrote that the merit of having been the founders of their own jurisprudence cannot be denied to the ancient Indian Jurists.²²

According to Upanishadic Interpretation of law, function of law is to ensure social security of men and the existing social institutions by avoiding conflicts and confrontation between individuals. The form of laws is to be determined by its effectiveness and rationality. It is a device, which keeps everyone within his limits in his relations with other members of the society.²³

As per Briharanyak Upanishad, "Law is a Chatra of Chatras, therefore, there is nothing higher than the law. Thenceforth even a weak man rules a stranger with the help of the law, as with the help of the King. This law is what is called the truth truth and law, both are the same."²⁴

Naykapanished highlighted the importance of law and called it 'King of kings' and that nothing is mightier than law. Similar views were expressed by Aristotle, the great Greek philosopher of his time who said, "law is a form of order and therefore, a good law means a good order." Cicero also pointed out that "no power should be above law." Thus, it would be seen that supremacy of law has been upheld in India from the oldest times because of its divine origin.²⁵

From the view point of application of a particular branch of Law upon persons, laws may be either territorial or personal. A territorial law is that branch of law which is applied in a particular territory and is applicable upon persons of all communities living in that territory. For example, Indian Penal Code, Indian Contract Act etc are territorial laws of India. On the other hand, a Personal Law is that branch of civil law which applies upon the persons of a particular religious community. For instance, Mohammedan Law applies upon the Muslims while the Hindu Law applies upon the Hindus. In India at Present some of the main provisions of Hindu Law have been codified, such as Hindu Succession Act, 1956, Hindu Marriage Act, 1955, Hindu Adoption and maintenance Act, 1956, etc. In India, Parsis and Christians are also governed by separate Acts, i.e. The Parsi Marriage and Divorce Act, 1936, Indian Christians Marriage Act, 1872 and Indian Succession Act, 1925.²⁶

ROLE OF STATE

State is a political institution which stands as the supreme guardian of all its citizens and ultimate law makes for its entire territory. The history of human civilization reveals that man as social being tended to live in larger groups under a common authority for the purpose of regulating their interests *inter se* as also for the adjustment of relations between States and similar other groups. The main factors which contributed to the evolution of the State include sociability of man, kinship, religion and industry. The war also led to the growth of a social organizational form of larger group called the State for the sake of protection and self preservation of its people.²⁷

Brierly, "A State is an institution, that is to say, it is a system of relations which men establish among themselves as a means of securing certain objects, of which the most fundamental is a system of orders within which their activities can be carried on".²⁸

Thus, the State is an institution formed by people of a particular area for the governance of themselves. Thus, the State has to protect the rights and interests of all its citizen. But, the case become complex when population is divided on several grounds. For instance, population may be associated with different class of politics, religion, caste, creed, sect etc.

In such a situation, it depends upon the law makers that whether they intend to protect the rights and interests of all its citizens or only of majority class of people, whether they intend to give any preferential rights, freedoms and privileges to any particular class of people over another or whether they intend to be indifferent from the caste, creed, sects, religion of its citizens and intends to make a common law for all its citizens.

On this basis, the organization of States may be divided mainly in 4 types:

1. Secular States,
2. Religious States,
3. Religious-cum-Republic States,
4. Communist States.

SECULAR STATES

Secular States are those States wherein the state neither concern with the propagation of religion nor with the suppression of religion. Secularism means the State shall not have any project in the name of religion but as a common and supreme guardian of it's all citizen, it must protect the

¹⁴ . Manuswriti, Chap. I, verse. 108

¹⁵ .Ahmad,Akil: Mohammedan Law, (21st ed.) 2004,p. 3 ,para-3

¹⁶ . Parajape, N.V. : Jurisprudence & Legal Theory, (5th ed.) 2008, P.87, Para- 4-5

¹⁷ . Quoted from 'Sanatan Dharma & Law' by Justice K. B. Panda (1977) P. 23.

¹⁸ . Parajape, N.V. : Jurisprudence & Legal Theory, (5th ed.) 2008, P.87,

¹⁹ .Ibid.

²⁰ . Dr. Kane. P. V.: History of Dharmasastras, Vol. I, (2nd Ed.) P.3.

²¹ . Mayne: Hindu Law and Usage Preface (1st ed.) P-1.

²² Sen, P.N: General Principles of Hindu Jurisprudence, P.374]

²³ . Radhabinod Paul: The History of Hindu Law (1958) P 194

²⁴ . Upanishad 1 chap. -4, Verses 4.

²⁵ . Parajape, N.V. : Jurisprudence & Legal Theory, (5th ed.) 2008, p 91, Para- 6

²⁶ . Ahmad,Akil: Mohammedan Law, (21st ed.) 2004, p.1, Para-1

²⁷ . Parajape, N.V. : Jurisprudence & Legal Theory, (5th ed.) 2008, 117.

²⁸ . Brierly: Law of Nations (4th ed.), P.111.

rights, freedoms and all interests of its citizens irrespective of their caste, creeds, race, sects or religion. Such a Secular State protects even the religious freedoms of all its citizen and also protect the places of worship of its citizen.

A secular State does not interfere with the religious belief of all its citizen or allows interference by one group of citizen to another group. USA and India is an ideal example of a secular State.

Its generally referred that the theme of Secularism was firstly adopted by the Constitution of USA but here a great fact of truth must be considered that Secularism may be new for West and It may have been firstly introduced by American Constitution but for Eastern part of World, Secularism has been a way of life. That's why, in the Sub-Continent of India, people practicing with other belief, did not face any problem on account of religion. Here, Message of The Emperor Ashoka, who ruled Combined India more than 2300 years ago, may be taken for the proof of this fact, when he says that, "Its both wrong to praise one's own religion or criticize other's. Each one should respect the other's religion. If one praises one's own religion while criticizing another's, one is actually doing greater harm to one's own religion. Therefore, one should try to understand the main ideas of another's religion, and respect it."²⁹

SECULAR PROVISIONS IN INDIAN CONSTITUTION

Preamble of Indian Constitution Proclaims that *inter alia*, the people of India, having solemnly resolved to constitute India Into a Secular Democratic Republic and to secure to all its citizens liberty of thought, expression, belief, faith and worship.....

Part III, Articles 25 to 28 of Indian Constitution solely deals with right to freedom of religion of all Indian citizens.

SECULAR PROVISION IN USA CONSTITUTION

In the original text of the Constitution of USA, 1787 there was nothing in the name of fundamental rights but by the first ten amendments made in 1789, some fundamental rights were incorporated which is famously known as Bill of Rights.

The first amendment which reads *inter alia* that Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof, or is popularly known as Free Exercise Clause.³⁰

RELIGIOUS STATE

Religious states are those states where the state, by its supreme law, declares any particular religion as its National Religion. In such a case, the state is ruled by the tenets and commands of particular religion. In another words, the State declares itself to be governed by *the so-called* God made laws and not by manmade laws. Therefore, the job of Religious State is not only to maintain the law and order but also to supervise whether religious principles are being properly followed and respected by its people or not and further such State holds religious festivals and ceremonies as National festival. The other people not belonging to the National Religion, are also governed by the religious law of the State. News relating to Egypt is relevant here. On 23 of March, 2009 CNN reported that two couples have been jailed in Egypt for allegedly attempting to smuggle children out of the country with fake paperwork. The couples say that they were arranging to adopt the children, although adoption is illegal in Egypt. The couples and the families of the children were all Christians in a Muslim-dominant country, and they feel that they are being unfairly targeted. Critics argue that strict laws of the Egypt which allow fostering among family members but not adoption, forced couples to go "underground" when seeking to adopt.³¹

Another example of the Religious State is the Constitution of the Republic of Maldives, 2008 which is a sovereign, independent, democratic Republic based on the principles of Islam (Art. 2). According to Article 10 (a) of Maldives Constitution, Islam shall be one of the basis of all the laws. Maldives has an Islamic religious legal system. Furthermore, the Constitution guarantees the right to freedom of expression in a manner that is not contrary to any tenet of Islam (Art. 27).³²

The 1997 Constitution of the Maldives designates Islam as the official State Religion. The Government interprets this provision to impose a requirement that citizens be Muslims. Freedom of religion is restricted significantly. The law prohibits the practice by Maldivian citizens of any religion other than Islam. The president is the "supreme authority to propagate the tenets of Islam." Government regulations are based on Islamic Law (Shari'a). The Government maintained and funded most of the mosques. Non-Muslim foreigners are allowed to practice their religion only privately. Visitors must also refrain from encouraging local citizens to practice any religion other than Islam.³³

RELIGIOUS CUM REPUBLIC STATE

Religious cum Democratic States are those States where State is governed by any particular religious principles but other religious groups are also given freedom to profess any religion of their choice. In such a State, though the State propagate for the national Religion and provides fund for the propagation of any particular religion but it does not mean that other religious group cannot profess and propagate for the religion of their choice, though they cannot claim fund for the same from the Government. The Constitution of The Republic of Afghanistan and Iran is of such nature.

Article (I) of the Constitution of Afghanistan declares that Afghanistan shall be an Islamic Republic, independent, unitary and indivisible State. Article (II) the sacred religion of Islam is the religion of the Islamic Republic of Afghanistan. Followers of other faiths shall be free within the bounds of law in the exercise and performance of their religious rituals. Article (III) no law shall contravene the tenets and provisions of the holy religion of Islam in Afghanistan.³⁴

Preamble of the Islamic Republic of Iran declares that the "central axis" of the theocracy shall be Quran and Hadith. Article 1 states that the form of Government in Iran is that of an Islamic Republic. Article 4 says that Islamic Principle is immutable and the Council of Guardians ensure that all articles of the Constitution as well other laws are based on Islamic criteria. CHAPTER III, Article 23 of the Iranian constitution holds that "the investigation of individuals' beliefs is forbidden, and no one may be molested or taken to task simply for holding a certain belief."³⁵

COMMUNIST STATE

A communist state also called working class State, is a State with a form of government characterized by single party rule or dominant party rule of a communist party and a professed allegiance to a Leninist or Marxist Leninist communist ideology as the guiding principle of the state. According to this principle public ownership of all or most means of production by the Communist party-run State is necessary for the possibility to further the interest of the working class. According to Marxist Leninists, the State is a tool in the hands of the ruling class. There are five Communist States in practice at present namely China, Laos, Cuba, Vietnam and North Korea.

Religion is the opium of the people" is one of the most frequently paraphrased statements of Karl Marx. It was translated from the German original, "Die Religion

²⁹ .Our Pasts- I, Text Book in History for Class VI, NCERT, (1st ed.) 2006.

³⁰ . <http://www.wikipedia.org/> visited on 02-04-2012

³¹ . <http://islam.about.com/b/2009/03/23/adoption-in-islam-2.htm> visited on 02-04-2012

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³³ . http://en.wikipedia.org/wiki/Freedom_of_religion_in_the_Maldives visited on 02-04-12

³⁴ . http://www.diplomatie.gouv.fr/fr/IMG/pdf/The_Constitution_of_the_Islamic_Republic_of_Afghanistan.pdf visited on 02-04-12

³⁵ . http://en.wikipedia.org/wiki/Constitution_of_the_Islamic_Republic_of_Iran visited on 02-04-12

... ist das Opium des Volkes" and is often referred to as "religion is the opiate of the masses." The quotation originates from the introduction of his 1843 work *Contribution to Critique of Hegel's Philosophy of Right* which was subsequently released one year later in Marx's own journal *Deutsch-Französische Jahrbücher*.³⁶

The founder and primary theorist of Marxism, had an ambivalent attitude to religion, viewing it primarily as "the opium of the people" that had been used by the ruling classes to give the working classes false hope for millennia, while at the same time recognizing it as a form of protest by the working classes against their poor economic conditions.

In the Marxist-Leninist interpretation of Marxist theory, developed primarily by Russian revolutionary Vladimir Lenin, religion is seen as negative to human development, and socialist states that follow a Marxist-Leninist variant are atheistic and explicitly antireligious. Due to this, a number of avowedly Marxist governments in the twentieth century, such as the Soviet Union and the People's Republic of China, implemented rules introducing State atheism.³⁷

In practice, now there is not complete ban on religion in any Communist State. For instance, The Constitution of the Socialist Republic of Vietnam formally allows religious freedom; however, government restrictions remain on organized activities of many religious groups. The government maintains a prominent role overseeing officially recognized religions. Religious groups encounter the greatest restrictions when they are perceived by the government as a challenge to its rule or to the authority of the Communist party. In 2007, Vietnam News reported that Viet Nam has six religions recognized by the State (Buddhism, Catholicism, Protestantism, Islam, Cao Dai, and Hoa Hao), but that the Baha'i Community of Viet Nam had been awarded a "certificate of operation" from the Government's Committee for Religious Affairs. In 2007, the Committee for Religious Affairs was reported to have granted operation registration certificates to three new religions and a religious sect in addition to six existing religions. Every citizen is declared free to follow no one, or more religions, practice religion without violating the law, be treated equally regardless of religious belief, and to be protected from being violated in their religious freedom, but is prohibited from using religion to violate the law.

In fact, there are some limitations in religious practice in Vietnam. Foreign missionaries are not legally allowed to proselytize or perform religious activities. No other religions than the aforementioned eight are allowed. Preachers and religious associations are prohibited to use religion to propagate ideologies that are opposed to the government. Many Vietnamese preachers who fled for America and other countries say that they were suppressed by the Communist government for no or unreasonable reasons; however, preachers and religious associations who abide by the law working in Vietnam today are aided and honored by the government.³⁸

CONCLUSION

The object of Dharma, Religion or any other such social, legal or political institution is the betterment of human being. Religion, law or any such ideology is just a means to achieve the end. It is said that nothing is perfect in this world, so how can a system may be perfect made by human being. It's not the legal or religious system that makes a person right but its right and virtuous person who makes the system proper and ordered.

There is no personal religion, legal system of animals; nevertheless they are living in their natural way. It's we, the human being, who has evolved and developed so many Religions, Laws, Orders, Social norms and political Institutions, notwithstanding not capable to live together peacefully. Therefore, we are submitting that if there is any religion, social or legal principles which are tend to injure the interest of human being, we ought to discard it. No religious value, social norms or legal provision may be above the Religion of Humanity. Bare Humanity is such a religion which is Universal, nothing else.

³⁶ . http://en.wikipedia.org/wiki/Constitution_of_the_Islamic_Republic_of_Iran visited on 03-04-12

³⁷ . http://en.wikipedia.org/wiki/Marxism_and_religion visited on 04-04-12.

³⁸ Ibid.

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Thanking you profoundly

Academically yours

Sd/-

Co-ordinator

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