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## EFFECTIVENESS OF PAY-FOR-PERFORMANCE AND FIXED-PAY PRACTICES: AN ASSESSMENT OF PAY SATISFACTION, COMMITMENT AND TURNOVER INTENTION

**PRINCY THOMAS**  
**RESEARCH ASSOCIATE**  
**INDIAN INSTITUTE OF MANAGEMENT**  
**BANGALORE**

**DR. G. NAGALINGAPPA**  
**DIRECTOR**  
**SCHOOL OF MANAGEMENT STUDIES**  
**B. N. M INSTITUTE OF TECHNOLOGY**  
**BANGALORE**

### ABSTRACT

Over the past few years, there has been a growing trend of pay-for-performance practices which consists of two components; 1) fixed pay and 2) Pay for Performance (PFP). This concept of performance enhancer triggered the sense of competitiveness both for business as well as better talents. Organizations started implementing pay-for-performance practices (fixed pay + performance based pay) to attract and retain best talents and it reduced the practice of traditional pay practices (fixed salary), where salary and hikes are based on seniority. This paradigm shift and growing interest of organizations in implementing pay-for-performance practices raises a question, whether pay-for-performance is an effective strategy to retain employees. To assess the effectiveness, we studied the significance difference between fixed pay practices and PFP practices based on pay satisfaction, commitment and turnover intention of employees. For the study, we have collected data from 113 employees from manufacturing sector, education sector, transportation sector IT and ITES sector and studied whether there is any significant difference between fixed pay practices and performance based pay practices on various dimensions of pay satisfaction (Pay level satisfaction, Benefit satisfaction, Pay raise satisfaction and Pay structure and Administration satisfaction), overall pay satisfaction, commitment and turnover intention. Result shows that employees' attitude is same irrespective of traditional pay practice (fixed salary/ fixed-pay practice) or pay-for-performance practices. That shows there is no significant difference between employees' perception on pay satisfaction, commitment and turnover intention between these two types of pay practices.

### KEYWORDS

commitment, fixed pay practices, pay satisfaction, performance based pay practices and turnover intention.

### INTRODUCTION

Pay-for-performance is a compensation practice in which remuneration is systematically tied to a measurable output (Jensen & Murphy, 1990; Cadsby, Song and Tapon, 2007). In a performance based pay practice, the pay consists of two components: a) the fixed component and b) the variable component (pay for performance). Initially variable pay was a concept for the top employees, later it became a practice in the lower level also. The fixed variable ratio also changes based on the job description and hierarchy. Top management has a high variable pay compared to lower level.

Variable pay plans refer to payments that are used on objective or quantitative assessments of individual, group, or company performance and are not added to the base salary (Konard & Deckop, 2001). According to Madhan (2010) the fixed component consists of a non contingent reward which is not tied to performance and it is predictable. The variable component is a performance contingent reward given based on a specified quality of performance of employees (Goktan, 2011). The increase in the usage of variable pay practices shows that employers are giving more importance to performance based pay. Variable pay schemes are typically motivated by the incentive effect they exert on the employees by linking pay to performance. Research shows that good performing employees prefer a system which recognizes performance.

Organization can choose between paying employees the same amount on a predictable basis or providing a substantial portion of income on a variable basis (Gomez Mejia & Balkin, 1992). Beer and Cannon (2004) explained the pay system in Hewlett Packard consists of merit pay based on ratings by superior and performance ranking of employees. They also have a profit sharing system for all employees that pay out the same percent of salary, regardless of the level.

In a fixed-pay system, an individual's pay is originally determined at the time of recruitment and continues to increase with an annual pay raise given for each year of service (Kwon et al., 2008). In fixed-pay system, hikes and promotions will be based on seniority and experience; therefore high performers always have a problem with this type of pay practices and they will be more concerned with the fairness of the system. Adam's (1963) equity theory also support these issues associated with pay practices. If inequity persists in an organization, employees may change their output, quit and seek other places to work, change comparison, change perceptions of others, compare self to different person, decrease level of effort, change perceptions of self or produce more quantity with less quality (David E. Terpstra, and Honoree., 2005). Therefore maintaining equity is an important consideration for HR Managers.

Now most of the IT sector employees are paid based on their performance level. A part of their salary is fixed and other is performance based pay. Most of the recent studies also support this argument. Report on salary surveys conducted by Hay Group consulting firm in US and around the world shows that the proportion of variable pay component in the salary structure is increasing<sup>1</sup>. The usage of variable pay plans is found to be high in technological firms than in traditional firms (Ballkin and Mejia, 1997; Milkovich et al., 1991).

Pay-for-Performance compensates an individual's achievement as compared to the accepted objectives. The logic behind pay for performance is that a part of the salary of employees is paid based on their performance. In this plan of compensation, pay will vary with some measures of individual (merit), team or organizational performance. It is a process that benefits in two way i.e., individual benefits from enhanced rewards and organizations benefit from the cumulative boost in the performance (summers, 2004). Ken Abosch (2010), a compensation consulting practice leader at Hewitt associates said "Base pay is no longer the vehicle for pay for performance". He also added "every 1 percent a company takes away from base pay spending leads to 2.5 percent to 5 percent available for variable pay. Companies also benefited by the late release of payment (once in 3 months/6 months/12 months) because it increases the cash holding position for a specified period of 3/6/12 months without paying any interest. The Variable pay programs allow employees to feel that they have more control over their bonuses. Skill based pay which focuses on the breadth of the skills an individual possesses; gain sharing involves rewards shared by involved group members for group level improvements in cost savings, productivity and quality. Employee ownership is a form of stock ownership plans in compensation strategy (Richards (2006).

Lots of research raised doubts about the success of performance based incentives and its effectiveness. Michael Beer and Mark D. Cannon (2004) explored the reason for the decision to abandon in 12 of 13 Pay for performance practices at Hewlett Peckkad in the mid 1990s. The present study focuses on the impact of

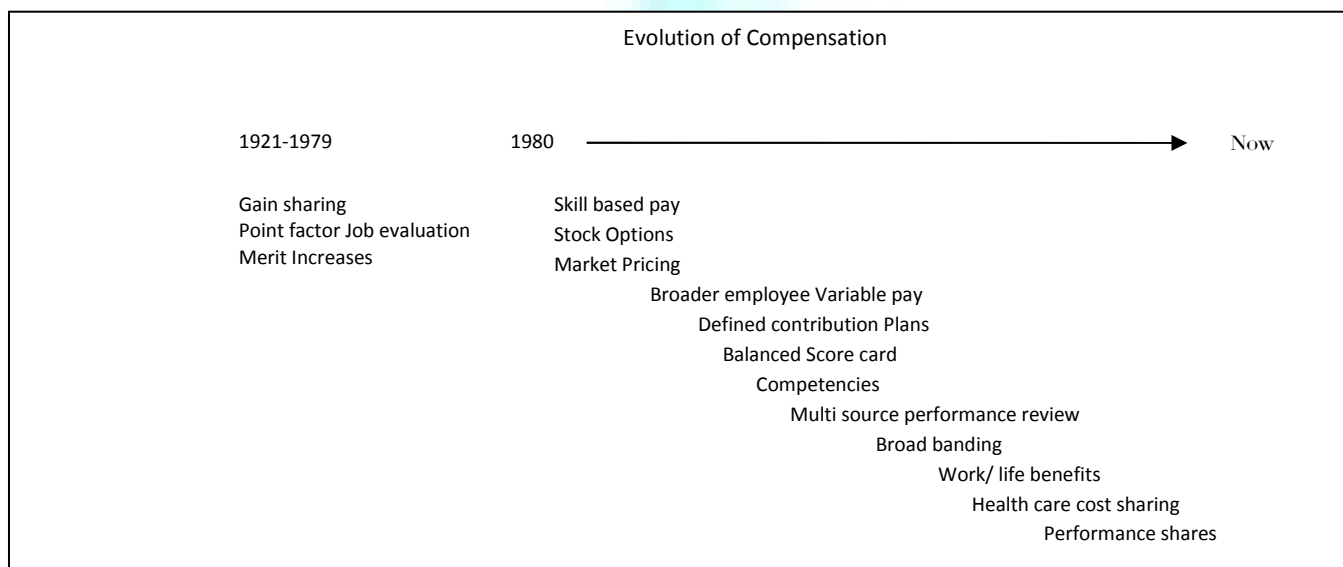
<sup>1</sup> <http://www.haygroup.com>, December, 2010.

assessing the perception of employees on various outcomes (pay satisfaction, commitment and turnover intention) and analyze whether implementing pay for performance is actually successful in terms of improving these outcomes. We also studied how different dimensions of pay satisfaction, commitment and turnover intention vary with fixed pay practices and variable pay (Performance based pay) practices. IT companies are increasingly opting for the variable pay system to bring discipline in terms of rewarding a performer and penalizing a non-performer. Thus this system focuses on the performance of employees and their retention. The study is significant in the present scenario, as most Indian companies started implementing performance based pay. TCS (Tata consultancy Services, India's largest software exporter consider company's performance in compensation decision making. According to them until the revenue growth has not met international targets, employees can't expect the big wage increase (Pay Hensen, 2005).

## REVIEW OF LITERATURE

### COMPENSATION TRENDS

There is a paradigm shift to incentive based programs that rewards employees based on their performance from a traditional standardized compensation program, which consist of cash and bonus as a part of the compensation system. Table 1 shows the trends and changes in compensation over a period of time. A latest trend in compensation practices is to give pay based on individual, group and organizational performance. Businesses today are altering the ways in which employees receive rewards by decreasing the use of traditional pay-for-performance plans such as merit pay and implementing more creative forms of pay that are based on group rather than individual performance (Long, 1989; Ost, 1990). Companies which are focused more on group performance implement team incentives, gain sharing, and profit sharing (Lawler et al. 1989). Research shows that organizations that link skill development with continued employment, and rewards with performance are able to manage changes more effectively than other organizations (Lawler, Mohnrman and Ledford 1998).



Source: Zingheim and Schuster (2005)

The compensation policy associated with 3P (Pay for Position, Pay for Person and Pay for Performance) is an innovative concept that has relevance in payment decision which can be achieved through the variable pay structure.

### DIMENSIONS OF PAY SATISFACTION

According to Lawler (1971), pay satisfaction is defined as the congruence between what individuals perceive they are paid and the perception of the amount they should be paid. Dyer and Theriault (1976) explained pay satisfaction as a function of perceived equitable pay and perceived adequacy of pay system administration. According to Weiner (1980) equitable pay is the discrepancy between the perceptions of how much pay one feels should receive and how much pay one does receive.

Pay satisfaction is considered as a critical element of overall satisfaction and is a major consideration for most of the researchers. Pay satisfaction is an antecedent of individual performance, absenteeism, job satisfaction, commitment, turnover intention and turnover (Bordia and Blau, 2003; Tang, 1995). Therefore researchers give more preference to pay satisfaction of employees.

In the initial research pay satisfaction was identified as a part of job satisfaction and considered as one of the variable associated with job satisfaction. Later researchers identified the importance of pay satisfaction and started considering it as a separate construct and in 1985 Heneman and Schwab proposed a model for pay satisfaction which consists of four dimensions of pay which includes Pay level satisfaction, Benefit satisfaction, Pay raise satisfaction and Pay structure and administration satisfaction. Even though there were some disagreement with the four dimensional model (one dimension of pay satisfaction by Orpen, 1987, Three dimensional model by Carraher, 1991), there were more agreement with the four dimensional model. Most of the researchers used confirmatory analysis to check the validity of the pay satisfaction questionnaire and found it as a good instrument to assess pay satisfaction (Balkin & Gomez-Mejia., 2002; Brown., 2001; Graham & Welbourne., 1999, Judge and Welbourne.,1994; Mulvey et. al., 2001). Therefore we have taken four dimensional model of pay satisfaction to compare the effectiveness of fixed pay practices and performance based pay practices.

### OVERALL PAY SATISFACTION ON PAY-FOR-PERFORMANCE PRACTICE AND FIXED-PAY PRACTICE

An organization with performance based pay practices has an incentive system which helps to retain those employees who are most valuable with higher performance levels. A well managed performance based pay can reduce employee turnover (Boxall & Steenevaeld, 1999). But, fairness in the process is an important dimension affecting employees' actions and reactions (Masterson, et al., 2000).

In pay-for-performance practices a part of the salary of employees will be paid based on the performance of employees, while in a fixed-pay practice employees will be paid the full amount agreed irrespective of their performance. There are differences in an individual's preference for these practices. Risk takers who are productive are more likely to select pay-for-performance as compared to fixed-pay systems (Cadsby et al., 2006). A comparison with high and low performers on pay preference shows that, high performers prefer pay-for-performance practice where as low performers prefers fixed-pay practices.

Equity is a major issue in pay for performance practices. The perception of inequity in pay creates a negative impact on employee attitudes such as pay satisfaction, commitment, and turnover intention. Studies show that pay-for-performance has a positive effect on productivity than a fixed-pay system (Cadsy, Song and Tapon, 2007). PFP also increases the amount of effort employees put for work and therefore the earnings (Lazear 2000; Paarsch and Shearer 2000).

According to Lawler (1971), pay satisfaction is defined as the congruence between what individuals perceive they are paid and the perception of the amount they should be paid. Pay satisfaction is an important factor which influences the performance of an employee towards the organization. Tekleab et al., (2005) found direct relationship between pay satisfaction and turnover intention and pay dissatisfaction is considered as one of the major reason for intention to quit. Studies show that pay dissatisfaction leads to turnover intention (Currell et al., 2005; Greenberg, 1990; Miceli and Mulvey, 2000, Vandenberghe and Tremblay, 2008). Pay dissatisfaction also leads to absenteeism, lack of commitment and increased turnover. According to Green and Heywood (2007) "Performance pay



schemes may increase worker satisfaction with pay while reducing their satisfaction with other dimensions of the job, such as effort, risk or perceived fairness". A performance based pay help to retain high performing employees. Takleab et al.,(2005) found direct relationship between pay satisfaction and turnover intention and pay dissatisfaction is considered as one of the major reason for intention to quit.

Therefore we can hypothesize that

#### HYPOTHESES

Hypothesis 1a: Pay level satisfaction is likely to be higher for employees who are under performance-based-pay than fixed-pay practices.

Hypothesis 1b: Benefit satisfaction is likely to be higher for employees who are under performance-based-pay than fixed-pay practices.

Hypothesis 1c: Pay raise satisfaction is likely to be higher for employees who are under performance-based-pay than fixed-pay practices.

Hypothesis 1d: Pay Structure and administration satisfaction is likely to be higher for employees who are under performance-based-pay than fixed-pay practices.

Hypothesis 1e: Over all pay satisfaction is likely to be higher for employees who are under performance-based-pay than fixed-pay practices.

#### ORGANIZATIONAL COMMITMENT AND TURNOVER INTENTION

Organizational commitment is the dedication/loyalty of an employee towards the organization (Bateman and Stressor, 1984). There are three types of commitment: affective, normative and continuance commitment (Meyer and Allen, 1997). Affective commitment means the emotional attachment or involvement of employees towards the organization. Normative commitment expresses the feeling of obligation to continue employment. It also shows the willingness of an employee to remain with an organization which arises from a sense of moral obligation (Wiener, 1982). Continuance commitment is the awareness of cost with employees leaving the organization. The current study considers the affective commitment to demonstrate the link between compensation systems and organizational commitment. Loyalty and commitment is found to be the advantages of seniority based pay (fixed-pay) system (Kwon et al., 2008). Therefore we hypothesize,

#### HYPOTHESIS

Hypothesis 2: Employees are likely to be more committed to the organization under fixed-pay practices than performance-based-pay practices.

#### TURNOVER INTENTION IN FIXED-PAY AND PERFORMANCE BASED PAY

One of the critical challenges an HR Manager faces is employee attrition. Pay dissatisfaction is found as one of the major reasons for employee attrition (Hom and Griffeth, 1995). Therefore researchers consider pay and its extent of satisfaction as an antecedent for turnover intention. Turnover intention is a good predictor of turnover (Cotton, Tuttle and Gerhart, 1990) and it expresses the intention of an employee to stay or leave an organization. Researchers consider, turnover intention is the conscious and deliberate wilfulness of an employee to leave the organization (Tett et al., 1993). This intention prompts employees to look forward for a new job or opportunities especially when the employees are not satisfied with the pay. As mentioned earlier, the difference in perception of employees towards both these pay practices may cause a chance of difference in commitment and turnover intentions within these practices. Zenger (1992) found higher ability engineers prefer to migrate from large firms with weak links between pay and performance to small organizations with high pay-performance relationship. Therefore in this study we hypothesize that

#### HYPOTHESIS

Hypothesis 3: Turnover intention is high for employees who are under performance-based-pay than fixed- pay practices.

#### RESEARCH METHODOLOGY

Sample: Employees of different industries were taken for the study. The primary data was collected through structured questionnaire. The unit of analysis was white collar employees of different industries such as manufacturing sector, education sector, transportation sector IT and ITES sector. The sample consists of employees who have only fixed-pay practices or performance-based-pay practices (fixed+ variable pay) for testing the hypothesis.

#### MEASURES

Pay satisfaction: The four dimensions of the pay satisfaction scale used by Heneman and Schwab (1985) is considered a parsimonious measure of pay satisfaction (Timothy et al., 1984). For the study, Pay Satisfaction Questionnaire (PSQ) of Heneman and Schwab (1985) was used for assessing overall pay satisfaction of employees. The questionnaire composed of a five item scale ranging from 'strongly disagree' to 'strongly agree' measuring satisfaction with pay level (four items- e.g. my current pay level), satisfaction with benefits (four items), satisfaction with pay raise (four items), and satisfaction with pay structure and administration (6 items). The Cronbach's alpha value for pay level satisfaction was found to be 0.90, benefit satisfaction was 0.88, pay raise satisfaction was 0.77 and pay structure and administrations was 0.77.

Organizational Commitment: Organizational commitment was measured using a three item scale (e.g. I would be very happy to spend the rest of my career with my present organization (Mowday et al., 1979), I think I would be guilty if I left my current organization now, I feel myself to be a part of this company), and Cronbach's alpha value was found to be 0.867.

Turnover intention: The turnover intentions were measured using a two item scale (e.g., 'I am actively looking for another job; I am seriously thinking about quitting the job). The chronbach alpha was found to be 0.907.

#### ANALYSIS, RESULTS & DISCUSSION

The questionnaire was given to 200 employees and we received 113 responses. The response rate was 56.5%. Out of the 113 respondents 52.2% of the employees belong to the age group 20-29 years and 42.5% belong to the age group 30-39 years and the rest were above 39 years. The male to female ratio was 60: 40. 57.5% of the employees were married and others were single. 76% of the respondents had an overall work experience of less than 9 years and the rest had an experience between 9 to 20 years. Out of the total respondents 50% of the employees left the previous organizations and joined the present company within a year.

For the study, we used descriptive statistics and t-test. The sum of the four dimensional models of pay satisfaction questionnaire was taken for assessing the overall satisfaction of employees on pay satisfaction. Initially we analyzed Heneman & Schwab's multidimensional pay satisfaction model and individually assessed the impact of different dimensions of pay satisfaction. We analyzed and checked the reliability of different dimensions of pay satisfaction using Cronbach's alpha test and found that all the four dimensions have high reliability (Refer Research Methodology). A p-value  $\leq 0.05$  considered to be statistically significant at 95% confidence level.

TABLE 2: AVERAGE SATISFACTION LEVEL OF DIFFERENT PAY DIMENSIONS IN FIXED AND PERFORMANCE BASED PAY PRACTICES

	FV	N	Mean	Mean Difference	Std. Deviation	T	Sig. (2-tailed)
PLS	F	50	3.205	-.02119	0.9073	-0.118	0.906
	P	63	3.226		0.9824		
BS	F	50	2.97	.0747	0.868	-0.423	0.673
	P	63	3.04		0.979		
PRS	F	50	3.025	.0345	0.7393	-0.226	0.822
	P	63	3.060		0.8563		
PSAS	F	50	3.0	.072	0.7870	-0.721	0.473
	P	63	3.1668		0.8180		

Data source: Survey

PLS- Pay level satisfaction, BS- Benefit Satisfaction, PRS- Pay Raise Satisfaction, PSA-Pay Structure/ Administration Satisfaction (Four-factor Model), F- Fixed-pay Practice, P- Performance based pay, N- sample size.

The mean value of the sample (Table 2) shows that employees are neither satisfied nor dissatisfied with their pay. But the mean value is slightly higher for pay level satisfaction than all other dimensions of pay the next higher mean value is found to be for pay structure and administration satisfaction. The mean value for commitment (2.89) shows that on an average the commitment of employee is less. The turnover intention is found to be medium. This may be because most of them are relatively new to the present organization.

t-test shows that there is no significant difference in the satisfaction level of employees on different dimensions of pay satisfaction for both fixed-pay and performance based practices. The result on pay level satisfaction (t- value is -.118, & p-value is 0.906), benefit satisfaction (t- value is -0.423, & p-value is 0.63), pay raise satisfaction (t- value is -0.226 & p-value is 0.822), pay structure and administration satisfaction (t- value is -0.721, & p-value is 0.473) support the null hypothesis 1a, 1b, 1c and 1d.

Even though there is no significant difference between the two practices, from the mean value it is clear that all dimensions of pay satisfaction is slightly higher for pay-for-performance practices than fixed salary system.

**TABLE 3: t- TEST ON PAY SATISFACTION, COMMITMENT AND TURNOVER INTENTION IN FIXED-PAY PRACTICE AND PERFORMANCE BASED PAY**

	FV	N	Mean	Mean Difference	Std. Deviation	t	Sig.
OPS	F	50	3.06	.0399	.3677	0.530	0.597
	P	63	2.996		0.420		
COMM	F	50	3.11	-.010	0.953	-0.05	0.96
	P	63	3.12		0.922		
TO	F	50	3.18	.331	1.146	1.47	0.14
	P	63	2.85		1.214		

Data source: Field Survey

OPS-Overall pay-satisfaction, COMM- Commitment, TOI- Turnover Intention, F- Fixed-pay practices, P-Performance based pay practices

Table 3 support the null hypothesis (1e) that there is no significant difference between overall pay satisfaction of employees in fixed-pay practices and performance based pay practices. In the same way t test shows that there is no significance difference between commitments between these two pay practices (supports null hypothesis 2). The results also support the null hypothesis (3) that there is no significant difference between these two pay practices in turnover intentions.

From the mean it is clear that turnover intention is high in fixed-pay practices than pay for performance based practices. But there is not much difference in the overall satisfaction and commitment of employees in these two pay practices. The more variation in performance based pay can be because of the presence of high performers and low performers in the organization. Research show that high performers are more satisfied with performance based pay than low performers. The fairness issue also can be a reason for the high variation in the satisfaction level of employees in the performance based pay. Adams equity theory explains the inequity and its impact on employees.

## LIMITATION AND FUTURE RESEARCH DIRECTION

As far as the limitations are concerned, the study could have been more relevant if it had focused beyond turnover intention. Further research can be done to check the impact of these two types of pay practices on real turnover to establish the relationship. Furthermore, the study could have been more relevant if the sample selected was top level employees especially CXO group and the Sales persons, where performance based pay is very clear. Inclusion of demographic factors and years of experience in the study will be more effective. It could have been more relevant, during the sample selection, if more attention should have been given to organizations which focus on different types of performance based pay practices like individual pay for performance, group based pay for performance and organizations based pay for performance. Researchers can focus their future study on changes in the attitude of employees based on the proportion of individual pay, group pay and organizational pay.

In the present study we didn't focus on the impact of demographic factors such as age and gender and years of experience have an effect on the attitude. Further researchers can focus on these above mentioned factors to study the comparison.

## CONCLUSION

The result shows that there is no significant difference between fixed pay practices and performance based pay practices on different dimensions of pay satisfaction, commitment and turnover intention. The mean values show that there is a slightly higher value for different pay satisfaction dimensions for those who get performance based pay but it is not significant. The standard deviation shows more variation for employees who have performance based pay than fixed-pay practices.

The mean value shows that the employees are neither satisfied nor dissatisfied with their pay. But satisfaction level is little higher for pay level than all other dimensions of pay. From the result it is clear that there is no significant impact on the use of pay-for-performance practices on pay satisfaction, commitment and turnover intention over fixed practices. Even though most companies prefer pay- for- performance practices they are unsure of the fact if this type of pay would have any long term impact on employee satisfaction, commitment and turnover intention.

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## ROLE OF CORPORATE GOVERNANCE ON PERFORMANCE OF PRIVATE COMMERCIAL BANKS IN BANGLADESH: AN ECONOMETRIC ANALYSIS

**DR. MD NAZRUL ISLAM**

**PROFESSOR**

**DEPARTMENT OF BUSINESS ADMINISTRATION**

**SHAHJALAL UNIVERSITY OF SCIENCE & TECHNOLOGY**

**SYLHET**

**MOHAMMAD MASUD ALAM**

**ASST. PROFESSOR**

**DEPARTMENT OF ECONOMICS**

**SHAHJALAL UNIVERSITY OF SCIENCE & TECHNOLOGY**

**SYLHET**

**MOHAMMAD ASHRAFUL FERDOUS CHOWDHURY**

**ASST. PROFESSOR**

**DEPARTMENT OF BUSINESS ADMINISTRATION**

**SHAHJALAL UNIVERSITY OF SCIENCE & TECHNOLOGY**

**SYLHET**

### ABSTRACT

*The paper seeks to examine the relationship between corporate governance (CG) mechanisms and firm's performance using 29 Private Commercial Banks (PCBs) listed in Dhaka Stock Exchange Ltd. for the period 2010. Corporate Governance Compliance Index (CGCI) has been developed using the code of Bangladesh Bank (BB) and Securities and Exchange Commission (SEC) to measure the compliance of CG mechanisms. The company size, ownership structure, company's age, board size and return on assets have been compared with CG mechanisms. Ordinary Least Square (OLS) method used for estimation and the multiple regression method used for analysis the data. The study found that there is a positive significant relationship between ROA, company size, board size and CGCI while the study found less significant impact of ownership structure on CG practices.*

### KEYWORDS

Corporate Governance, Firm's performance, Corporate Governance, mechanism.

### INTRODUCTION

It is widely believed that good corporate governance (CG) is an imperative factor in improving the performance of financial and non-financial firm. But the relationship between corporate governance and the firm's performance (FP) differs in the both cases due to the distinctive corporate governance structures in the organizations resulting from the dissimilar social, economic and regulatory conditions in Bangladesh. Therefore it is an imperative to understand which factors affect the value of a firm for academic investigations, financial and management practices and public regulation of markets and corporations. The existing literature on how good corporate governance contributes to improving the firm's performances in Bangladesh is not well developed and has serious precincts. No single research thus far, has undertaken a comprehensive study on the relationship between the level of corporate governance sophistication of the commercial banks and its contribution to the bank's performance. In order to overcome the limitations of the existing literature, this study develops *separate various models* for the CG and FP relationships for listed commercial banks in Bangladesh.

CG means leading and doing the whole thing of a company with the best feasible approach. It articulates the rights and responsibilities of the stakeholders of the corporation and spells out the rules and regulations of making decision on corporate affairs in such a way where all stakeholders are treated equally and become satisfied from their position. Organization of Economic Cooperation and Development (OECD, 1999) provides a more articulation of corporate governance as the system by which business corporations are directed and controlled. The best CG practice can only ensure the best inter-relationship and sharing of power and interests.

Bangladesh has lagged behind its neighbors and the global economy in corporate governance (Gillibrand, 2004). Ahmed and Yusuf (2005) identified poor bankruptcy laws, less demand from international investors, limited or no disclosure regarding related party transactions, weak regulatory system, lack of shareholder active participations are the constraints of corporate Governance in Bangladesh. The contribution of banking sector to GDP (Gross Domestic Product) is 1.25 pc (percent) during the last ten years on average and more than 90 percent of service sector (Bangladesh Bank, 2011). In 1982, the privatization was started in banking sector and the denationalization of nationalized commercial banks was launched from that period. The pace of denationalization and privatization quivers the importance of CG in banking sector to protect the rights and claims of stockholders. The operational efficiency of the banking sector in Bangladesh has continued to be depressed though the expansion has been increased (Sayeed, 2002; Raquib, 1999). With the increase of failures of corporations due to poor corporate governance the issue comes to front and many organizations marked the guidelines to protect the right of various stakeholders and to reduce the conflict among them. The most of them are different acts and laws. The legal aspects of CG in Bangladesh are: (i) Securities and Exchange Ordinance 1969; (ii) Bangladesh Bank order 1972; (iii) Bank Company Act 1991; (iv) Financial Institutions Act 1993; (v) Securities and Exchange Commission Act 1993; (vi) Company Act 1994; (vii) Bankruptcy Act 1997; (viii) Bangladesh Bank Circulars; (ix) Financial Institutions Regulations 1994; (x) Any rules and regulations promulgated by the concerned authorities and bodies. The Security and Exchange Commission (SEC) promulgated CG guidelines for the banks for governing the corporate properly (SEC, 2006). Bangladesh Bank (BB) promulgated CG guidelines in banking sector for an efficient CG in Bangladesh (Bangladesh Bank, 2003).

The present study aims to find out the relationship between the degree of compliance of CG mechanism (rules and conditions of disseminated by Security Exchange Commission (SEC) of Bangladesh and Bangladesh Bank) and the selected variables related to firm's performance and the ownership structure. The relationship between the degree of compliance of corporate governance mechanism promulgated by the two controlling authorities and the bank's performance will be investigated by using several econometric techniques. The study will also examine which factors (s) significantly influence the compliance of the corporate governance mechanism and whether there is any relationship between corporate governance mechanism and the variables. This study is a contribution to the ongoing debate on the examination of the relationship that exists between corporate governance mechanisms and firm performance. The rest of the paper is organized as follows: Section 2 discusses on the literature review, where both theoretical and empirical studies on previous works are looked



into. It also incorporates the corporate governance mechanism practicing in Bangladesh. In section 3, the methodology of this study is discussed followed by empirical results and discussions are made, while section 4 concludes the study.

## 2. REVIEW OF LITERATURE

There are numerous factors and variables that comprise yardsticks by which corporate governance can be measured in an organization. CG is typically perceived by academic literature as dealing with “problems that result from the separation of ownership and control.” (Fernando, 2009). While balance between economic and social goals and a balance between individual and communal goals incorporating both efficiency gain and accountability are the spotlights of CG examined by Cadbury A.(1992). Distribution of rights and responsibilities among different participants in the corporation are the focus of CG of Organization of Economic Cooperation and Development (OECD, 2001). Siddiqui (2010) examined the nature of CG suitable for an emerging economy like Bangladesh and pointed in favor of the Anglo-American shareholder model of CG. Performance impact of corporate governance mechanism examined by Farooque et al (2007), Gugler & Yurtoglu(2008), Imam and Malik (2007), Kostyuk A.(2011), Renato G. et al (2010), Pham et al(2011) where they examined influences of the firm size, leadership and composition of board directors together with external shareholders to enhance the firm's efficiency. Banik and Chowdhury(2008) investigated CG of bank and financial institutions and argued that the existing practice of CG in Banks and financial institutions in Bangladesh is mostly in the line of international best practice. Bhuiya and Biswas (2007) and Deepty & Ahmed (2011) have developed the corporate governance disclosure index (CGDI) and found that there is significant difference of CGDI among various sectors of the corporations and the financial sector practices better CGDI than the non financial sector. Caprio & Levine (2002), Bhasin (1997) examined effective implementation of rules and regulations of CG, Das & Saibal(2004) examined the issue corporate governance in the Indian banking system. There are also several study examined the extent of CG on firm's performance and firm's structure. Imperative of CG practices on firm's investment decisions studied by McKinsey (2002), relationship between CG and firm's performance examined by Gompers et al (2003) examined the impact of ownership structure on performance, Hart and Moore (1990) studied firm's structure of capital and ownership and Ben Emukufia et al (2010) examined the supervisory laxity on firm's performance.

## 3. METHODOLOGY

The data used for this study were derived from the audited financial statements of the Private Commercial Banks (PCBs) listed in the Dhaka Stock Exchange (DSE). The sample of the firms were selected using the combination of non- probability sampling technique (firms with the required information were initially selected) and stratified random technique (firms were then selected based on their sector-wise classification). A total of 29 banks were finally used as sample for the period of 2010. The Ordinary Least Squares (OLS) method is used for estimation and the multiple regression method has been used for analysis the data. The study employed three Corporate Governance Compliance Indices (CGCI), such as the Security and Exchange Commission's conditions as per notification dated the 20th February, 2006, no SEC/CMRRCD/2006-158/Admin/02-08 compliance index, Bangladesh Bank's conditions as per BRPD Circular No. 16, dated 24 July, 2003 compliance index. The third one is the total weight of the first and second index. Then, third index called CG mechanism regresses on the selected variables of the banks through the econometric analysis. In estimating the empirical relationship between performance and corporate governance, most empirical studies have estimated a variant of the following model:

$$y_{it} = x_{it}\beta + z_{it}\gamma + \eta_i + \varepsilon_{it}, \quad i = 1, \dots, N, t = 1, \dots, T \quad (1)$$

Where,  $y_{it}$  is some measure of firm performance (e.g. return on assets, stock returns),  $x_{it}$  contains the governance variables of interest,  $z_{it}$  contains a set of observable control variables and  $\eta_i$  is a firm-specific effect (usually assumed to be fixed) that captures unobservable heterogeneity across firms. Several key governance variables have utilized to examine the firm performance, where board size used by Yermack (1996), Agrawal and Knoeber (1996) includes management shareholding and board structure; Himmelberg et al (1999) employed management ownership, board size and composition used by Bhagat and Black (2002) and Gompers et al (2003) used an index of shareholder protection. Both simple OLS (when  $T = 1$ ) and pooled OLS (when  $T > 1$ ), ignore unobserved heterogeneity by assuming that neither the governance variables nor the control variables are correlated with unobserved firm characteristics,

i.e.,  $E(X'_{it}\eta_i) = 0$  and  $E(Z'_{it}\eta_i) = 0$ . We assume that this assumption is likely to hold when estimating the relationship between performance and governance. Aside from unobserved heterogeneity, OLS estimation of (1) relies on the assumption that neither the governance variables ( $X_{it}$ ) nor the control

variables ( $Z_{it}$ ) are correlated with the error term,  $\varepsilon_{it}$ , i.e.,  $E(X'_{it}\varepsilon_{it}) = 0$  and  $E(Z'_{it}\varepsilon_{it}) = 0$ . With these assumptions the study attempt to examine the overall and incremental impact of corporate attributes on CGCI.

We start with a simple presentation of the model defined as:

$$Y_i = f(X_i, \beta) + \varepsilon_i \quad (1)$$

$Y_i$  is a vector of corporate governance compliance index,  $f(X_i, \beta)$  is deterministic part of the observed variables.  $X_i$  is a vector of  $N$  inputs of corporate attributes related to CGCI,  $\varepsilon_i$  is a residual component. The  $\varepsilon_i$ s are non-negative random variables assumed to be distributed as  $NID(0, \sigma^2)$  with truncation at zero.

In the first equation, we regress CGCI on company's size(csize) measured by each company's capital in Bangladeshi Taka (BDT) in lac (1 million = 10 lac), return on asset (roa), percentage of ownership of domestic sponsors (owspnd), percentage of ownership of government (owgov), percentage of ownership of institutions (owinst), percentage of foreign ownership (owfor), percentage of public ownership (owpub), total year of company's production period (yrprd) and company's board size (brdsiz). The description of model variables is given in Table-2:

TABLE-2: VARIABLE DESCRIPTION

Variable in the model	Variable	Measurement
CGCI	Corporate Governance Compliance Index	$CGCI = \frac{\text{Total Score of the Individual Company}}{\text{Maximum Possible Score Obtainable by Company}} \times 100$
Csize	Company size	Measured by the total assets of the company
RoA	Return on assets	Measured by expressing net profit as a proportion of total assets
Owspnd	ownership of domestic Sponsor	Measured by the percentage of shares owned by domestic sponsors
Owgov	ownership of government	Measured by the percentage of shares owned by government
Owinst	ownership of institution	Measured by the percentage of shares owned by institution
Owfor	foreign ownership	Measured by the percentage of shares owned by foreign sponsor or institution
Owpub	ownership of public	Measured by the percentage of shares owned by public
Yrprd	Time period	Total year of company's time period
boardsiz	Board Size	Measured by taking the total number of members of the board of directors of a firm



Table- 3 shows the descriptive statistics of all variables. Based on the International Standards of Accounting and Reporting session of the United Nation's secretariat, here we have employed the CGCI to examine the level of corporate governance disclosures of the sampled banks listed in the Dhaka Stock Exchange (DSE). To investigate the significant corporate attributes influencing CGCI of selected banks, several regression models has been conducted.

TABLE-3: DESCRIPTIVE STATISTICS

Variable	Observation	Minimum	Maximum	Mean	Std. Deviation
CGCI	29	65.85	97.57	81.97	7.06
Csize	29	1.8642e+005	4.6796e+007	2.5713e+006	8.6856e+006
Roa	29	-7.28	5.28	2.06	2.14
Owspnd	29	0	61.3	38.47	18.21
Owgov	29	0	32.75	1.34	6.20
Owinst	29	0	48.65	15.22	11.67
Owfor	29	0	25.68	1.81	6.25
Owpub	29	9.79	96.81	43.86	20.50
Yrprd	29	11	30	19.07	7.06
Boardsiz	29	6	27	15.60	5.03

For 29 observations of all variables, company size, percentage of ownership of domestic sponsors ,percentage of ownership of institutions and percentage of ownership of public have comparatively higher standard deviation and all other variables have significant standard deviation. The estimated models for CGCI are given below:

$$(2).....CGCI = \beta_1 owspnd + \beta_2 ownsti + \beta_3 pub + \epsilon_1$$

$$(3).....\ln CGCI = \beta_1 owspnd + \beta_2 owgov + \beta_3 ownsti + \beta_4 owfor + \beta_5 pub + \epsilon_2$$

$$(4).....\ln CGCI = \beta_1 \ln csize + \beta_2 \ln roa + \beta_3 \ln boardsiz + \epsilon_3$$

$$(5).....CGCI = \beta_1 \ln csize + \beta_2 \ln roa + \beta_3 \ln yrprd + \epsilon_4$$

$$(6).....\ln CGCI = \beta_1 \ln csize + \beta_2 \ln roa + \beta_3 \ln yrprd + \beta_4 \ln boardsiz + \epsilon_5$$

As the above models show, the underlying corporate governance theory dictates that the intercept term be absent from the model, where it is postulated that the CGCI is proportional to all measures of governance namely return on asset, board size, ownership and company size etc. So we performed regression

through the origin technique where  $\sum \hat{\epsilon}_i$  need not be zero. Here equation 2 is a simple linear model, equation 3 is a log linear model and both equation 4 and 6 are known as log-log model where as equation 5 is a lin-log model. The results obtained from the estimation of equations above are given in the following tables. It is important to mention that except equation 6, each equation was estimated two times. Finally we excluded all insignificant variables and considered only variables appropriate with our a priori information and theory of corporate governance. In our first regression model, we included all explanatory variables and found only three significant variables with their appropriate sign.

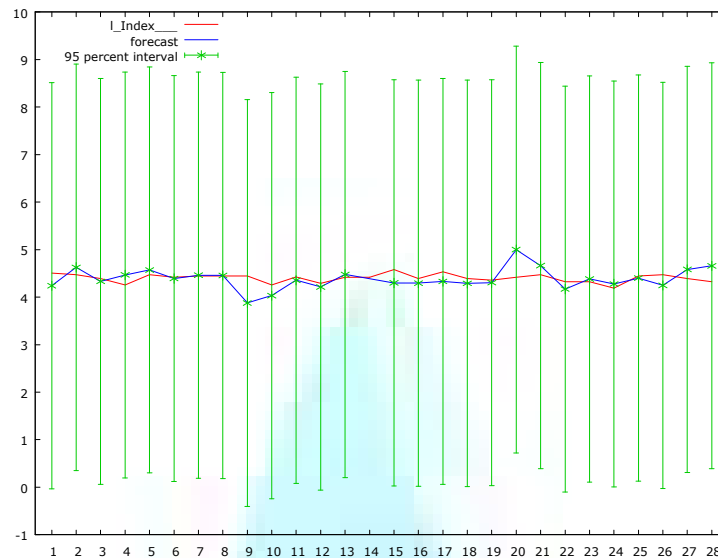
TABLE-4: REGRESSION RESULTS

Model	Dependent Variable	Explanatory Variable	Coefficient	t-value	p-value	R <sup>2</sup> and F
M1	CGCI	Owspnd	0.77	10.24	<0.00001	R <sup>2</sup> =0.99 F(9,19)=407
		owinst	0.55	3.29	0.0037	
		owpub	0.76	6.26	<0.00001	
M2	ln_CGCI	Owspnd	0.04	22.60	<0.00001	R <sup>2</sup> =0.99 F(9,19)=1885
		owgov	0.03	4.62	0.00019	
		owinst	0.03	8.48	<0.00001	
		owfor	0.03	3.80	0.00120	
		owpub	0.04	13.42	<0.00001	
M3	ln_CGCI	ln_csize	0.21	6.06	<0.00001	R <sup>2</sup> =0.99 F(4,23)=2419
		ln_roa	0.29	2.63	0.0148	
		ln_boardsiz	0.29	2.36	0.0270	
M4	CGCI	ln_csize	0.26	7.98	<0.00001	R <sup>2</sup> =0.99 F(3,24)=2707
		ln_roa	0.37	3.31	0.0029	
		ln_yrprd	0.15	1.04	0.306	
M5	ln_CGCI	ln_csize	0.21	6.06	<0.00001	R <sup>2</sup> =0.99 F(4,23)=2419
		ln_roa	0.29	2.63	0.01	
		ln_yrprd	0.12	0.90	0.37	
		ln_boardsiz	0.29	2.36	0.02	

Note: variables are significant at 5% level of significance

So, for M1, we have regressed CGCI on three variables, namely ownership of domestic sponsor, ownership of institution and ownership of public. All explanatory variables are positively related with CGCI and result is consistent with the theoretical expectation with value of R<sup>2</sup> and F statistic. Coefficient of domestic sponsor base owner is 0.77, institutional owner is 0.55 and for public ownership the value is 0.76. So for 1 % increase of sponsor ownership CGCI increases by 77%. In model 3 and 5, we employed log-log model, so the coefficient  $\beta$ 's measure the elasticity of CGCI with respect to explanatory variables. Both models show insignificant contribution of board size and period of firm's operation to CGCI. Where as in model 2, which is log-lin model assumes that the elasticity coefficient between CGCI and explanatory variables,  $\beta$ 's, remains the same. As we know it is not usual in the theoretical aspect so we have used model 3 and 5 to examine the determinants of CGCI. The regression result shows that the elasticity of CGCI with respect to company size is about 0.21 for both models, suggesting that if company size goes up by 1 percent (1 million BDT), on average, the CGCI goes up by about 0.21 percent and based on p values, all model supports significant contribution of company size to CGCI. Thus, CGCI is very much responsive (in-elastic) to the change in company size, as measuring in total company assets in Bangladesh Taka. For other two variables, namely return on asset and board size, we have found same elasticity value of 0.29. So for 1 percent change in company's return on assets or company's board size indicating identical impact on CGCI. In model 4, we have significant elasticity value of CGCI with respect to company's return on asset, estimated elasticity value is 0.37, suggesting that if company's return on asset is goes up by 1 percent, on average, the CGCI goes up about by about 0.37 percent, indicating greater impact on CGCI. For all models, we have examined the normality tests for  $\epsilon_i$  which shows fairly normal distribution for all of these models. In model 5, CGCI is expresses in the functional form of log-log, where estimated  $\beta$  and t value for  $\ln\_csize$ ,  $\ln\_roa$  and

ln\_boardsiz shows moderate effect on CGCI. In order to make a forecast on the CGCI, here in the following graph we have plotted the forecasting pattern using 95% confidence intervals at  $t(23, 0.025) = 2.069$ , where forecasted values of ln\_index are not too much divergent from the actual values.



For the overall significance of the model, analysis of variance technique is very convenient here. Under the assumption that  $\epsilon_i \sim (0, \sigma^2)$ ,

$$E \frac{\sum u_i^2}{n-3} = E(\hat{\sigma}^2) = \sigma^2$$

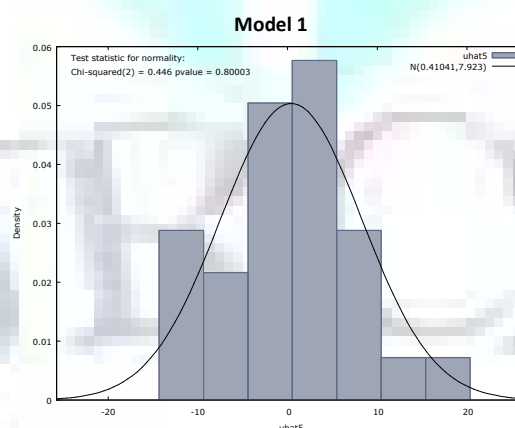
$$\frac{E(\hat{\beta}_2 \sum y_i x_{2i} + \hat{\beta}_3 \sum y_i x_{3i})}{2} = \sigma^2$$

with additional assumption that  $H_0 : \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$  and  $H_a : \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq 0$ , where

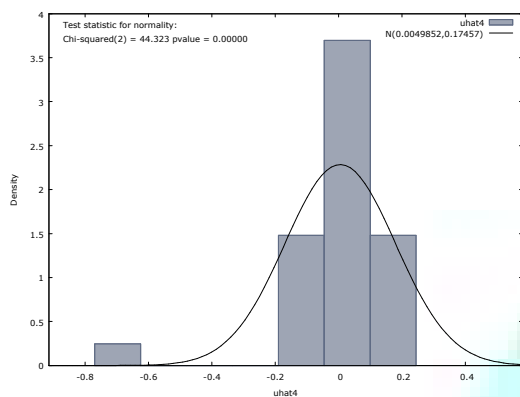
Therefore, if the null hypothesis is worth to reject, both above equation may not give identical estimate of true  $\sigma^2$ . In this context as we have significant relationship between CGCI and ln\_csize, ln\_roa, ln\_yrprd and ln\_boardsiz, the sole source of variation in Y is due to explained variation (regression in table ) by all explanatory variables, as it is  $R^2 = 99\%$ , where as variation in Y is due to the random forces represented by residual is very trivial. Therefore, the F value provides a test of the null hypothesis that the true slope coefficients are simultaneously zero. Here we have found that computed F (2419) value exceeds the critical F value from F table at 5 % level of significance, we can reject null hypothesis. Alternatively p value of the observed F is sufficiently low (0.00001) and F value is sufficiently large  $F(4, 23) = 2419$ , leading to rejection of the null hypothesis that together ln\_csize, ln\_roa, ln\_yrprd and ln\_boardsiz have significant

effect, although not strong, on CGCI. Above estimation and result are based on the assumption that the error term  $\epsilon_i$  follows the normal distribution. Although

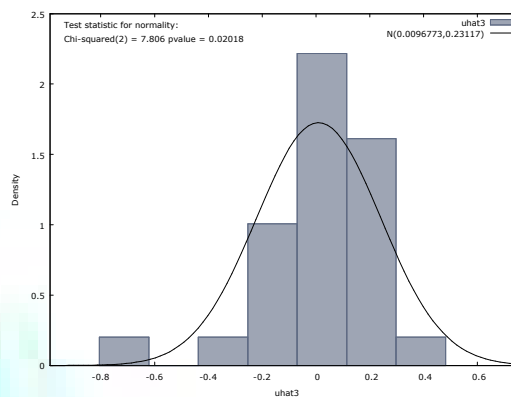
we cannot directly observe  $\epsilon$ , but we can observe their proxy  $\epsilon$ ,  $\hat{\epsilon}$  that is, the residuals. For all of our regression results, the histogram of the residuals are shown in the following figure:



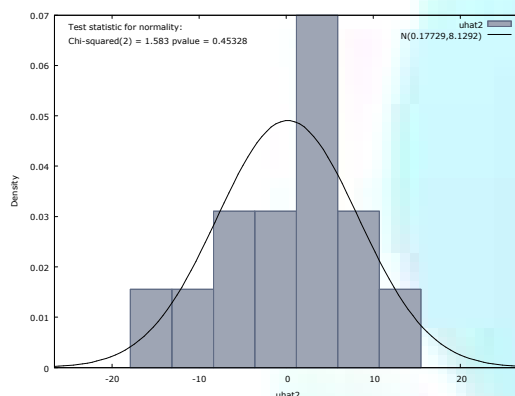
MODEL 2



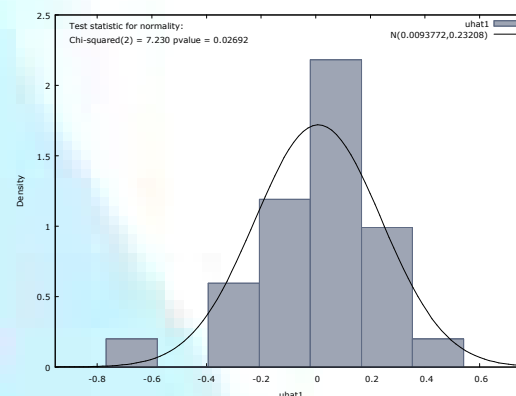
MODEL 3



MODEL 4



MODEL 5



From histograms, it seems that the residuals are normally distributed. We also performed two other test to examine normality assumption of  $\varepsilon_i$ , both the Doornik-Hansen test (142.484, with p-value 1.14815e-031) and Jarque-Bera test (456.73, with p-value 6.64101e-100) shows that the error term follows the normal distribution. It is important to say, both Doornik-Hansen test and Jarque-Bera test is large –sample test and our sample of 29 observations is not necessarily enough for both tests.

#### 4. CONCLUSION

This study examined the relationship between firm performance and corporate governance mechanisms (board size, company size, time period of firm's operation and ownership structure) for the year 2010 of 29 PCBs listed in the Dhaka Stock Exchange in Bangladesh. Multiple regression method used to analyze the data and OLS method applied for estimation of the data. The analysis and discussion revealed that : (i) There is a strong positive and significant relationship between ROA, board size and CGCI. (ii) Although first model shows a positive and significant (at 10% level) relationship between public ownership and CGCI, but log linear and double log model reveals less significant contribution on CGCI. The study also revealed in favor of growing CG practices in banking sector in Bangladesh measured by CGCI. It requires a significant role of the board size, firm's size and management and their relationships with others in the corporate structure. There is an urgent need to make strong regulatory measures that might promote CGCI disclosure, corporate environmental disclosure, disclosure of symmetric information to shareholders reform in the existing CG law and rules as the study showed moderate contribution of all determinants on CGCI. The limitations of sample size, endogeneity issue between CG and firm performance should be considered to make the recommendations. Regarding future line of research, efforts should be put at increasing the sample size and the corporate governance variables, particularly the inclusion of ownership concentration. It requires examining the relationship between firm's performance and other variables of CG when leverage is introduced will make the outcome of the research to be more robust. Apart from it, the econometric literature also indicates a sample selection bias may occur in favor of a big bank.

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# IDENTIFYING OPPORTUNITIES, CHALLENGES AND INFRASTRUCTURE REQUIREMENTS FOR ESTABLISHING SECONDARY MARKETS IN ETHIOPIA

**KANNAN SIMHAKUTTY ASURI**  
**ASST. PROFESSOR**  
**COLLEGE OF BUSINESS & ECONOMICS**  
**DILLA UNIVERSITY**  
**ETHIOPIA**

**LETENAH EJIGU**  
**LECTURER**  
**COLLEGE OF BUSINESS & ECONOMICS**  
**BAHIR DAR UNIVERSITY**  
**ETHIOPIA**

## ABSTRACT

*Witnessing growing primary market for equity and debt securities, Ethiopia is in dire need for secondary markets. The purpose of this study is to assess the opportunities, challenges and infrastructure requirements for the establishment of secondary market in Ethiopia. Being an exploratory qualitative study, data collection was done from interviews with higher officials of different stakeholders' organizations, and from secondary sources like official websites of financial institutions and published reports. The result of the research shows that Ethiopia should pave the way for securities markets development in the medium term as their benefits exceed costs and the country has many opportunities that can facilitate the development of such markets with a few challenges. The study also indicates the institutions and infrastructures needed for the development of organized and vibrant security market in Ethiopia, and suggests the formation of a high-level committee comprising representatives of major stakeholders. Such committee is recommended to share experiences from developed, emerging and least developed countries in order to establish an apex regulatory authority and develop comprehensive legislations on companies and securities.*

## KEYWORDS

Secondary Market, Ethiopia, Opportunities and Challenges, Infrastructure Requirements.

## INTRODUCTION

**F**inancial Markets channel savings to those individuals and institutions that need more funds for spending than that are provided by their current incomes. The financial system consists of many players like financial institutions, financial markets, regulators, market participants and others having stake on it. Money and Capital Markets operating within the financial system make possible the exchange of current income for future income and the transformation of savings into investment which result in increased production, employment, income, and living standards. (Rose, 2001) The size of the world stock market was estimated at about \$36.6 trillion at the beginning of October 2008. (seekingalpha.com). The total world derivatives market has been estimated at about \$791 trillion face or nominal value, 11 times the size of the entire world economy (BIS, 2008).

The largest stock market in the United States, by market capitalization, is the New York Stock Exchange (NYSE). In Canada, the largest stock market is the Toronto Stock Exchange. Major European examples of stock exchanges include the Amsterdam Stock Exchange, London Stock Exchange, Paris Bourse, and the Deutsche Börse (Frankfurt Stock Exchange). In Africa, examples include Nigerian Stock Exchange, Johannesburg Stock Exchange (JSE) Limited, etc. Asian examples include the Singapore Exchange, the Tokyo Stock Exchange, the Hong Kong Stock Exchange, the Shanghai Stock Exchange, and the Bombay Stock Exchange. In Latin America, there are such exchanges as the BM&F Bovespa and the BMV.

With the exception of South Africa, African stock markets are extremely small by world standards. Together, the fifteen markets apart from South Africa accounted for only 0.2 per cent of world stock market capitalization at the end of 2003, and 2.0 per cent of emerging market capitalization. In contrast, South Africa - which accounts for 80 per cent of African stock market capitalization - is quite large by world standards. With a capitalization of US \$267 billion at the end of 2003, South Africa was then the fifth largest emerging market (after China, Taiwan, South Korea and India), and the 18<sup>th</sup> largest equity market in the world. All African markets (including South Africa) tend to lack liquidity, however, and therefore when ranked by turnover rather than market capitalization their relative position is diminished. Five of the African markets are included in the S&P Global Emerging Market Index (S&P/IFCG) (South Africa, Egypt, Morocco, Nigeria, and Zimbabwe) although, apart from South Africa, they have very small weights in the S&P index. (Jefferis & Smith, 2005)

Ethiopia, with a population of about 81 million, is the second most populous country in Sub-Saharan Africa (SSA). One of the world's oldest civilizations, Ethiopia is also one of the world's poorest countries. At USD of 350 per year, Ethiopia's per capita income is much lower than the SSA average of USD 1,077 in the financial year 2009 (World Bank, 2011). In Ethiopia, two components of money market, viz., treasury bills market and inter-bank loan market are operating on a limited scale. On the capital market side, the primary market does exist but in rudimentary form and there is no secondary market.

## STATEMENT OF THE PROBLEM

In traditional economic theory the inputs used in a production process to create value are land, labor, capital and entrepreneurship. Capital (finance), although one of the critical input, was not given much attention by economists in the past. However, now the trend is changing and finance is given the necessary attention among researchers as a basic input for accelerating economic growth of countries. Many least developed countries (LDCs) including Ethiopia face huge challenges in access to finance to the many economic actors. Lack of finance was one of the reasons for lower economic growth of these countries in the past. Such countries have bank dominated financial system whereby access to finance for firms, government and households is limited by banks capacity to mobilize savings and their conservative lending policies. Hence the various market participants' needs for quality financial service are not satisfied by the existing bank-dominated financial system. This calls for capital market development that can satisfy their needs with financial products tailored to their needs.

When it comes to the Ethiopian context, the country has rudimentary primary market and no secondary capital market. The Daily Monitor (cited in allafrica.com) reported that the Managing Director of New York Stockbroker Auerbach Grayson and Company said Ethiopia - the continent's second most populated and one of the biggest import markets - could boost the current high economic growth, if capital market started soon. Grayson further stated: "Ethiopia would be the most attractive investment destination in Africa, if it had a stock market and one could invest in Ethiopian businesses as cheaply as people are now investing through private transactions. Letting the private sector develop the capital market would lead to more transparency and more capital allocated to fuel Ethiopia's rapid growth." The Capital Newspaper reported (under the caption: Ethiopia's Struggle for a Capital Market) the following news item:

*For more than fifty years Ethiopia has been trying to have its own capital market and in June 2011 the Addis Ababa Chamber of Commerce and Sectoral Association (AACSA) held a workshop to help make this dream a reality. In what seems to be a fresh attempt to use its Private Sector Development (PSD) Hub to*



bring the issue to the public's attention, capital market consultants such as Ruediger Ruecker, from Sweden, spoke in June 2011 at the Intercontinental Hotel. Ruecker said that in order to create a capital market there needs to be an institutional, legal and policy framework. (edited by researchers for brevity)

In its "Africa Market Entry Intelligence: Ethiopia Market Entry Brief", the Africa Group (which offers ground market intelligence and a unique perspective on investing and doing business across the African Continent) identified the following "Growth Hurdles" in Ethiopia:

- Access to capital remains the largest single limiting factor for Ethiopian industry. Banks only lend on collateralized based loans, and many Small and Medium Enterprises (SMEs) lack sufficient collateral to secure the type of credit they need.
- Capital markets in Ethiopia are at a nascent stage and lacking in strong legal and institutional framework. The treasury bills market is the only actively functioning market.

There had been a few studies focusing on the development of securities markets in Ethiopia in the last 15 years with Ruecker and Shiferaw (2011) being the most recent study. These studies recommended the careful development of securities markets in Ethiopia. Based on the recommendations, many actors such as the Addis Ababa Chamber of Commerce and Sectoral Association (AACCSA) tried to procure the government's permission for security market development. Yet such efforts did not succeed. Thus, the development of organized and vibrant secondary markets in Ethiopia is still to be realized.

## OBJECTIVES OF THE STUDY

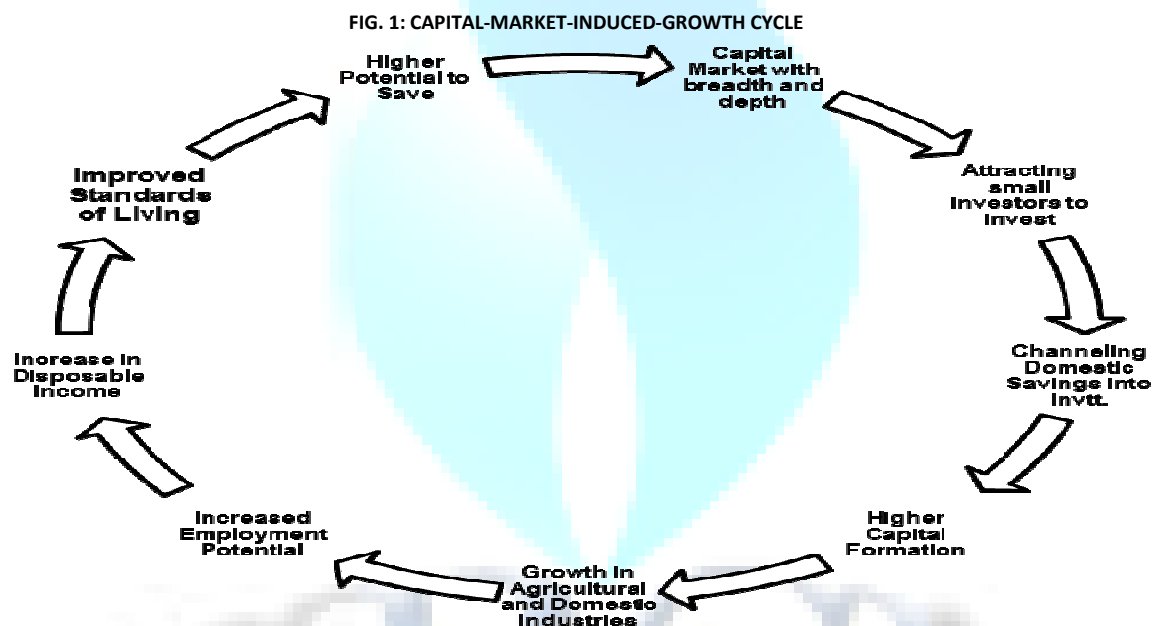
The major objective of the study is to assess the possibility of developing secondary markets in Ethiopia. The secondary objectives framed for this study are: (i) To explain the available opportunities and challenges observed in establishing secondary markets in Ethiopia; and (ii) To envisage the institutional and infrastructural requirements for the establishment of secondary markets.

## METHODOLOGY

To achieve the above-mentioned objectives, the researchers gathered information from both primary and secondary sources. The primary data were gathered from interviews made with officials of different stakeholders' organizations who were directly and indirectly involved in the promotion of capital market in Ethiopia, viz., the National Bank of Ethiopia, the Public and Private Sector Commercial Banks, Development Bank of Ethiopia, Ethiopian Investment Agency, and Ministry of Finance and Economics Development. Secondary sources of information were taken from Annual Reports and Quarterly Bulletins of NBE, NBE-Directives, Annual Reports of DBE, Commercial Banks, and Insurance Companies, books on Financial Institutions and Markets by reputed authors, Journal articles on security market development in Ethiopia and other countries and other websites listed in references.

## CAPITAL MARKETS AND ECONOMIC GROWTH

It is an accepted view among researchers that there is a close relationship between capital markets and economic growth. Researchers such as Bencivenga et al. (1996), Levine (1991), and Obstfeld (1994) argued that stock markets provide services that boost economic growth and contribute to the achievement of these goals.



A capital market with greater breadth and depth will be able to attract domestic savings. Small investors would be wooed to pool their savings and invest in capital market instruments as they provide greater returns particularly in the long run. The domestic savings mobilized in turn will be channelized into investment, paving the way for greater and quicker capital formation.

Higher capital formation in industrial sector will enhance the capacity to produce capital and consumption goods. This will gradually reduce the import burden of the country. Import substitution has multiple effects on the economy, such as enhancement of employment potential, enthusing agricultural and domestic production, reducing balance of payments deficit, improving the productivity of agricultural and industrial sector and their contribution to the GDP of the country, and the like.

Higher GDP in turn will improve the individual disposable income, enhance the standards of living, and increase the saving potential. The increased saving potential will be met with higher opportunities to invest in capital market instruments, and that is how the "Capital-Market-Induced-Growth-Cycle" will operate. (Kannan, 2011)

## OPPORTUNITIES IN ESTABLISHING SECONDARY MARKETS IN ETHIOPIA

The current realities of the Ethiopian economy have many favorable conditions (opportunities) that can pave the way for security market development. This includes *Ethiopian-specific advantages, favorable macro-economic and social conditions, increased interest of foreign investors, the Growth and Transformation Plan (GTP), financial sector development, enhanced saving and investment potential, increased private sector participation, and high enthusiasm among stakeholders.*

### ETHIOPIA-SPECIFIC ADVANTAGES

Ethiopia has some unique country-specific advantages that ease the development of secondary markets. This includes (i) the country's history of independence that can have the potential to protect it from contagion effect of global turmoil; (ii) considerable unexploited resources such as fertile land, gold, platinum,

tantalum, soda ash, potash and natural gas; and (iii) over 80 million people (second most populous in Africa) thus providing one of the largest potential markets in Africa.

#### **FAVOURABLY EMERGING MACRO-ECONOMIC AND SOCIAL CONDITIONS**

The country is registering double digit GDP growth rates in the recent years, inflation although was high is now showing declining trend, unemployment rates are declining due to huge government projects and private sector development, foreign exchange reserves are increasing due to increasing export earnings and high remittance inflow. Besides the economic growth the human development is increasing consistently. Owing to government's commitment, access to education and its quality are showing a discernable progress.

#### **INCREASED INTEREST OF FOREIGN INVESTORS**

The current high enthusiasm among foreign investors in Ethiopia is a great opportunity to open up the security markets. With the opening of such markets the number of companies issuing shares and get listed in stock exchange will increase. This in turn will make the market vibrant, active and liquid and will further attract more foreign investors.

#### **GROWTH AND TRANSFORMATION PLAN**

The Ethiopian government drafted a new 5 year (2010-2014) Growth and Transformation Plan (GTP) that strives to change the country's economic structure in more fundamental way from agrarian based to modern industrial based economy. Implementation of GTP requires huge financial resources. As one of the ways of augmenting internal resources, saving mobilization is given much emphasis in the plan. The GTP triggers the development of security markets that are known to mobilize small household savings.

#### **FINANCIAL SECTOR DEVELOPMENT**

The banking sector is growing phenomenally. Both public and private banks open new branches in a phased manner. New market players like microfinance institutions catering to the urban poor and rural areas are also increasing the access to finance. Banking sector development is instrumental to security market development and this is considered as excellent opportunity to develop such markets.

#### **ENHANCED SAVING AND INVESTMENT POTENTIAL**

As a result of continued economic growth over the past years, the people's capacity to save is increasing and this can be considered as good opportunity to attract many investors to security markets. The financial institutions like the pension fund, insurance companies, and credit unions, are with large sums of money and if they are allowed to invest in secondary market, such investment would boost the demand for securities.

#### **INCREASED PRIVATE PARTICIPATION**

The level of private sector development is increasing continuously owing to improved business environment conditions. As a result, many companies are issuing shares to the public and this can be seen as nice opportunity to begin organized security markets.

#### **HIGH ENTHUSIASM AMONG STAKEHOLDERS**

Stakeholders such as the business community, the government, the academia, and society at large are enthusiastic about the possibility of developing security markets in this country. Many conferences, workshop and symposia were and are organized on such issues. Such high enthusiasm indicates that the time is appropriate for developing secondary markets.

### **CHALLENGES IN ESTABLISHING SECONDARY MARKETS IN ETHIOPIA**

Though it is highly laudable, the launch of security market is not without challenges. Some of the major challenges include: *Low Quality and Quantity of Financial Services, Paucity in Communication Network, Policy Measures Impetus, Gaps in Accounting, Auditing and Legal Infrastructure, Low level of saving and financial literacy, Inadequacies in skilled manpower, and Forms of Business Organizations.*

#### **QUALITY AND QUANTITY OF FINANCIAL SERVICES**

Banking system in Ethiopia is still in infant stage due to limited products range, poor outreach and weak inter-bank markets. The major financial products of the banking systems are saving and loan products. There are no many varieties even with such basic products. The use of check as a payment system is restricted only for current accounts. There is no full-fledged check-clearing facility across the country. While coming to the outreach at the end of First Quarter of 2010/11, Ethiopia had 712 bank branches all over the country, out of which 275 were in Addis Ababa. This means the bank branch to population ratio is 112,000 which is one of the poorest in this continent. Similarly there were only 209 branches of 13 insurance companies making one insurance branch to serve nearly 383,000 people.

#### **PAUCITY IN COMMUNICATION NETWORK**

Ethio-Telecom is the sole authority providing telecommunication services in the country. No other private players are currently operating in this field. For fast and smooth service, banks need highly developed communication network. Private Banks in particular feel that one of the impediments for the expansion of their branch network is the inadequate communication network across the country.

#### **POLICY MEASURES IMPETUS**

The policy related challenges includes lack of tax incentives for security market participants such as investors, firms and intermediaries which otherwise can be used to promote such markets, lack of awareness and willingness among the policy makers to push for such markets, prohibition of foreigners to participate in the financial sector of the country and low level of market orientation in the economy.

#### **GAPS IN ACCOUNTING, AUDITING AND LEGAL INFRASTRUCTURE**

Accounting and auditing standards in Ethiopia are not of a high and international acceptable quality. Share companies are not required to include audited financial statements. As there is no public offering and listing, there are no requirements regarding publicly available annual reports and their preparation and presentation in accordance with a comprehensive body of accounting standards. (Ruecker and Shiferaw, 2011).

Even without reporting requirement, there is general unwillingness among Ethiopian businessmen to provide financial information of any nature to the needy. As a result, the data compiled for private businesses do not reflect the true picture in most situations. Such data shortages and inaccuracies significantly affect researches made in accounting and finance areas and lead to errors policy making. Unlike other countries, information is not made available on the websites too, except for public and government undertakings. Often in many cases, the information provided is too outdated to be useful for any meaningful conclusion.

Laws and institutions governing corporations, securities and investors are insufficient according to international best practices and standards. The 1960 Commercial Code of Ethiopia is not up to date and has many grey areas. The registration of patents and trademarks are non-existent. The judiciary is poorly staffed and inexperienced in commercial cases. (Ruecker and Shiferaw, 2011)

#### **LOW LEVEL OF SAVING AND FINANCIAL LITERACY**

There is low saving rate in the country due to poor saving culture and weak saving capacity (a result of low per capita income). As the financial literacy of those participating in security markets seems to be poor, there is a strong and immediate demand to support financial literacy as soon as possible. (Ruecker and Shiferaw, 2011)

#### **LIMITED FORMS OF BUSINESS ORGANIZATIONS**

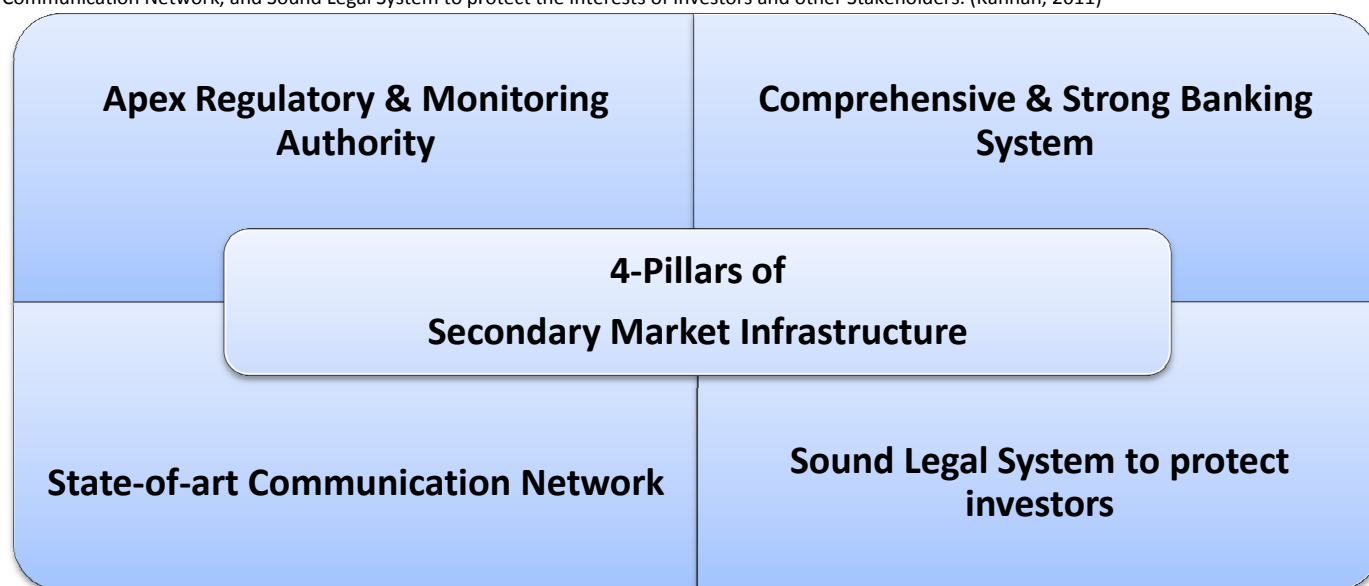
Most business organization forms in the country are sole-proprietorship or private limited companies rather than share companies. This is partly attributed to the owners need to maintain tight control over the firm and the perception by many companies that the risks associated with additional disclosure are not adequately compensated by additional returns. Since banks do not require public disclosure like the stock market does, many firms would prefer to remain privately-held and source their capital from banks. These firms cannot be expected to use the services of stock market. The government should encourage privately owned companies to go public through tax and other motivational measures.

### **INFRASTRUCTURE REQUIREMENTS FOR ESTABLISHING SECONDARY MARKETS IN ETHIOPIA**

To address the issue of developing organized secondary markets in Ethiopia, the following are identified as the requirements:

**4-PILLAR MODEL**

The development of secondary markets requires institutional building and infrastructure development. This is described in the 4-pillar-model shown in figure 2 below. The top two pillars of the 4-pillar-model focus on Institutional Building aspects for the effective functioning of capital market: Apex Authority, and Comprehensive and sound Banking System. The bottom two pillars focus on the Infrastructure needed for efficient operations of a capital market: State-of-art Communication Network, and Sound Legal System to protect the Interests of Investors and other Stakeholders. (Kannan, 2011)

**INSTITUTIONAL BUILDING**

**PILLAR-1:** An Apex Authority to Regulate and Monitor the Capital Market Operations (similar to Securities and Exchange Commission (SEC) of USA, and Securities and Exchange Board of India (SEBI)).

**PILLAR-2:** A comprehensive and strong Banking System that offers wide products breadth and depth, high outreach and a developed money markets instruments. The bank branches to population served ratio must be minimized, by encouraging more branches to be opened by Banks. Private Banks must be encouraged to widen their network. Incentives and tax concessions may be awarded to those branches which function in rural areas and promote rural savings. Efforts are now taken by the National Bank of Ethiopia to strengthen the financial system. Vide directive No.SBB/50/2011, the NBE insisted the banks in having a minimum paid-up capital of 500 million birr, which has thrown new challenges to a sizeable of existing and upcoming private banks. Such banks are given a five-year period within which they are to enhance their resources and mobilize their capital. Similar measures are necessary on the insurance sector too, which is currently functioning with a comparatively much lower capital base (as low as 4 million Birr capital).

When looking at the money markets of Ethiopia, only few instruments are traded. This includes the Treasury Bills (28-days, 91-days, and 181-days maturities), Inter-Bank Loan market (which do not find much favor in most of the quarters reported), and Corporate Loan market (which has the bonds issued by 3 public enterprises, and a few Regional Governments). Obviously this underpins the need for widening the breadth and enhancing the width of the financial markets in Ethiopia.

Microfinance institutions catering the need of poor households in urban and rural areas should be strengthened. High level of financial inclusion in the rural and poor urban sector helps to mobilize small household saving and channel to productive investments.

Presently there is only one Development Bank in Ethiopia (the Development Bank of Ethiopia) with a capital base of around 2 billion, and a branch network of 32. Though named a 'Development' Bank, its function is a hybrid of commercial and development banking. An analysis of its annual reports reveals around 60% and 30% of loan disbursements were made to agricultural and domestic businesses respectively, the share of industrial sector was in the range of 10%. This point to the need for improving credit to the industrial sector that is currently contributes to 11 percent of the GDP and a focus of GTP.

By establishing additional Industrial and Development Banks in the models of Industrial Finance Corporation of India (IFCI), Industrial Development Bank of India (IDBI), and Industrial Credit and Investment Corporation of India (ICICI), the Ethiopian Industry will be infused with more blood and will yield multiple benefits such as increase in domestic production, enhancement of employment opportunities, improvement in balance of payments, and higher contribution to the GDP. Moreover, such a move would enable the commercial banking sector to concentrate on their core and profitable ventures, viz., domestic trade and services and international trade.

Creating Mutual Fund Institutions should be considered. Mutual Funds are financial intermediaries which acquire funds by selling shares to many individuals and use the proceeds to purchase diversified portfolio of stocks and bonds. Mutual funds allow shareholders to pool their resources so that they can take advantage of lower transaction costs when buying large blocks of stock or bonds. In addition, mutual funds allow shareholders to hold more diversified portfolios than they otherwise would. (Mishkin & Eakins, 2006) Mutual Funds will enable the pooling of mobilized resources from low income people, and will make them indirectly participate in capital market activities, with practically no in-depth expertise and minimal risk.

**INFRASTRUCTURAL DEVELOPMENTS**

**PILLAR-3:** State-of-art Communication Network which would facilitate good networking within the banking system and ensure free flow of communication among investors to lead the goal of efficient market operations.

This is one of the urgent and greatest necessities. Better and more reliable communication network is needed for expansion of banking and insurance network, as well as for stock trading activities.

**PILLAR-4:** Sound Legal System to protect Investors' interests as well as the interests of the other major stakeholders in Capital Market, viz., the Government, the Corporations and intermediaries.

Once the small investors are motivated to enter into capital markets, there is a greater need to strengthen the legal system to protect their interests. Strict laws in line with the advanced countries are to be made to prohibit insider trading, short selling and other unfair practices. Financial Regulation is a dynamic and challenging issue with which even advanced countries are facing perennial problems. Care should be taken to study the financial regulations prevailing in various countries, and to develop the one that suits the Ethiopian System.

To make the trading easy and versatile, a number of investment dealers and brokers are to be licensed and motivated to run their operations. Monitoring their financial strength and transparency of operations is mandatory to protect the investors from the unscrupulous activities of stock brokers.

**POLICY INFRASTRUCTURE**

Policy framework has to be strengthened in order to attain macro-economic stability, development of accounting and audit standards, and enhancing higher institutions' participation.

**MACRO-ECONOMIC STABILITY**

One of the major pre-requisites for secondary markets development is macro-economic stability. This can be ensured by means of: (i) easing out inflation rates to acceptable levels, (ii) ensuring economic growth through appropriate monetary and fiscal policies, and (iii) stabilizing exchange rates.

**ADAPTATIONS IN THE TAX SYSTEM AND POLICY MEASURES**

The tax system must be suitably adapted to induce market participants to save and invest. Earners must be encouraged to save sizeable portion of their income for which exemptions from tax levy may be granted. In order to attract small saving, innovative products should be floated after appropriate research. Campaigns should be undertaken at the national level.

**DEVELOPING STANDARDS FOR ACCOUNTING AND ALLIED PROFESSIONS**

The accounting, auditing and finance profession in Ethiopia must be strengthened. Akin to University Qualifications at the National Level, clear guidelines for the minimum eligibility for practice should be established. Code of Professional Practice must be developed in order to ensure ethical behavior among the professionals. Strict adherence to the Code should be insisted upon.

**PARTICIPATION OF HIGHER EDUCATIONAL INSTITUTIONS**

Higher Educational Institutions must be encouraged to develop programs that address the needs of corporate. They must also be directed to design and deliver training programs to cater the needs of the surrounding business community. Efforts must be taken to enhance the financial awareness among investing public. Active research in development of young and upcoming financial sector should be encouraged. Encouragement must be given to those Universities who try to collaborate with foreign Universities in know-how enhancement.

**CONCLUSION**

Establishing Secondary markets in a country is not a task that can be achieved over-night. It requires careful planning and long-term orientation. By drawing information from primary and secondary sources, this study points out the various issues to be considered for the development of secondary markets. Further the study weighs the benefits and costs of these markets to the economy as a whole and to market participants, and assesses Ethiopian-specific opportunities and challenges. It lays out institutions and infrastructures needed for security market development. Considering (i) current growth in the number of share companies, (ii) need for infusing higher capital to various economic sectors, and (iii) increased capacity to save due to higher economic growth, the researchers conclude that the policymakers must seriously consider the launching of secondary markets in Ethiopia.

**RECOMMENDATIONS**

Developing secondary markets in Ethiopia is fully dependent on the detailed plan that needs to be made in the future. *A high level committee, consisting of representatives of all stakeholders, such as the Ministries, the National Bank, the public and private sector financial institutions, renowned academicians, reputed industrialists, representatives of public bodies and private sector, is to be formed to study the feasibility of secondary markets in Ethiopia and to draw a long-term plan (of around 3 to 5 years) to establish the same.* It is recommended that the high-level committee, *inter alia* proclaimed tasks, carry out:

- Studying the Ethiopian Commodity Exchange (ECX) experience in depth as to the way in which the plans had been drawn prior to, during and post-launch of its operations, and the organized manner in which the activities are presently carried out;
- Sharing of experiences from developed, emerging and least developed countries.

Finally, it is to be borne in mind that the launching of organized secondary markets must be preceded by: (i) instituting a proper authority to regulate and monitor the security market operations, and (ii) proclaiming well-drafted companies legislation that would streamline the operations of share companies as well, and securities legislation to organize the dealings in securities of all forms in the country.

**SIGNIFICANCE OF THE STUDY**

The study is significant for it initiates serious thinking in policymakers towards organizing primary market operations and establishing secondary market in Ethiopia; it induces the academic and professional community to conduct further researches on various aspects of this issue; and it could serve as a reference material in institutions of higher learning in Ethiopia and rest of the world.

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**A NOVEL BANKRUPTCY PREDICTION MODEL BASED ON SUPPORT VECTOR DATA DESCRIPTION METHOD****ALIREZA DEHVARI****LECTURER****DEPARTMENT OF ACCOUNTING****SARAVAN BRANCH****ISLAMIC AZAD UNIVERSITY****SARAVAN****FEZEH ZAHEDI FARD****RESEARCH SCHOLAR****YOUNG RESEARCHERS CLUB****MASHHAD BRANCH****ISLAMIC AZAD UNIVERSITY****MASHHAD****MAHDI SALEHI****ASST. PROFESSOR****DEPARTMENT OF ACCOUNTING****FERDOWSI UNIVERSITY****MASHHAD****ABSTRACT**

*In today's world, investment security is one of the leading concerns of economic environment and bankruptcy is one of the major problems which associated with. In this paper, we provide a novel bankruptcy prediction model for one year before its outbreak. By background literature review, 42 variables were selected as the variables proposed. Then, using stepwise discriminate analysis, optimal variables were selected for entry into the model. These variables in order of importance are: total liabilities to total assets, retained earnings to total assets, operating income to sales and net income to total assets. Having selected the final variables, by using 10-fold cross-validation technique, the model was built by using Support Vector Data Description (SVDD) algorithm. Empirical tests show that the SVDD model that is a one-classed classifier reached 100% and 95.81% accuracy rates for training and hold-out data.*

**KEYWORDS**

Bankruptcy prediction; Feature selection; Financial ratios; Support Vector Data Description (SVDD); Tehran Stock Exchange.

**INTRODUCTION**

In today's world, investment security is one of the leading concerns of the economic environment, rapid advances in technology and widespread environmental change, has affected economies. Thus, financial decisions making are more strategic than before and always associated with risk and uncertainty. Increasing knowledge of financial users contributes them in financial decisions-making. Hence, one way to help investors is providing good models and predictors of company's prospects and today's these models having focused the attention of investors and creditors lot. Generally bankruptcy prediction is a commercial classification and carrying out such research requires a sample of two groups of bankrupt and non-bankrupt (e.g.: Chaudhuri and De, 2011; Chen, 2011; Andrés, Landajo and Lorca, 2012; Brezigar-Masten and Masten, 2012; Olson, Delen and Meng, 2012). In general, two main factors influencing the bankruptcy prediction (Lin, Liang and Chen, 2011):

- 1) Financial features: Using different variables may end up in different results of prediction. For this reason, in this study accompanied with a review of previous literature, various variables as proposed variables are presented.
  - 2) The classifier used in building model: In addition to statistical techniques, in recent years, data mining techniques in the areas of finance, including bankruptcy prediction has been applied. New algorithms such as Support Vector Machine (SVM) (Chen, 2011; Chaudhuri and De, 2011; Tsai and Cheng, 2012), Particle swarm optimization (PSO) (Chen and et.al, 2011; Chen, 2011), Neural networks (Mokhtab Rafiei, Manzari and Bostanian, 2011; Olson, Delen and Meng, 2012; Xiao, Yang, Pang and Dang, 2012) are used. This research also examines a novel algorithm to predict bankruptcy.
- Also several studies show that other factors affect the bankruptcy phenomenon. Special features of the industry and government regulations can also be effective for financial distress. The results also indicated that recent established companies compared to record companies and small firms compared to large firms are more vulnerable (Dun and Bradstreet Corporation, 1980).

The aim of this study consists of two parts: finding a subset of variables that can efficiently perform its role in classification and providing a model to predict bankruptcy. The results of this study can be used by managers (they want to know which one of financial items is more important to avoid being bankrupt or on the verge of bankruptcy), investors (for decision-making on keeping or selling stock), creditors and banks (for giving credit and loans), auditors (to evaluate the assumption of going concern) and investigators (to select the optimal variables in predicting bankruptcy)

**LITERATURE REVIEW**

Today, numerous studies have been conducted to predict bankruptcy using different techniques and methods. Generally these techniques are divided into three categories:

- 1) Statistical techniques: these techniques are the most common and popular techniques to predict bankruptcy. In these models, the standard classical modeling approach is used and focuses on the signs of financial distress. Statistical models are divided into two groups: univariate and multivariate that the multivariate models are the most frequent. Multivariate techniques can be pointed to these methods: discriminant analysis, linear probability model, logit, probit models, Cumulative Sums, Partial Adjustment Processes, Recursive Partitioning Algorithm, Case-Based Reasoning. At the first statistical studies, Beaver (1966) evaluated potential financial ratios to predict financial distress using univariate analysis that most of ratios of cash flows were used. In this study, financial distress is defined as the firm's inability to perform its financial obligations. Thirty financial ratios that he thought the best indicator of a company's financial health are selected. Afterwards Altman (1968) proposed z-score model using multivariate discriminant analysis. In 1993, he revised his model and this time used four



financial ratios in his model. In 1980 Ohlson used the developed logit model. His sample consisted of 105 bankrupt and 205 non-bankrupt firms between 1970 and 1976. Other research has also been conducted in this area by using statistical methods (e. g.: Zmijewski, 1984; Gentry et al., 1985)

2) Artificial Intelligence techniques: these techniques are non-parametric that based on knowledge, intelligence and wisdom of human. In fact, it is a system that learns and their problem solving performance improves due to past experiences. These days, due to the high performance and the lack of restrictive assumptions of statistical methods are very useful for researchers. In the areas of bankruptcy, these are mainly focus on signs of distress and are multivariate typically. In recent years, researchers have used these techniques to predict bankruptcy (e. g.: Gestel, Baesens and Martens, 2010; Andrés, Landajo and Lorca, 2012; Chaudhuri and De, 2011; Tsai and Cheng, 2012; Sun, He and Li, 2011; Shetty, Pakkala and Mallikarjunappa, 2012; Ashoori and Mohammadi, 2011; Sun and Li, 2011)

3) Theoretical models: Unlike statistical and artificial intelligence models that rely on business distress symptoms, theoretical models seek for "quality reasons" of business distress. These models are multivariable and model statistical technique commonly used to support the theoretical issues. The examples of this theory are: JP Morgan's credit metrics Model, gambler bankruptcy theory, credit risk theories.

## PREDICTION MODEL

### ONE-CLASSED CLASSIFIERS AND DATA DESCRIPTION IN A SPECIFIC SCOPE

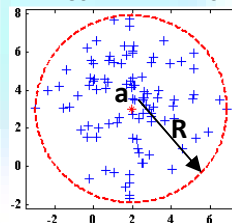
Nowadays, researchers pay a particular attention to data description as an important issue in machine learning and data mining. To describe and calculate data precisely is the main operation of this classifier, called target. This classifier offers a great application to figure out whether the new data belong to target or outlier data. Of course, it's crystal clear, to obtain more efficient multi class classifiers can come true by combining a series of one-class models.

In addition to above mentioned features, lack of necessity to employ the samples of other classes is another helpful feature of such classifiers in a learning process. In other words to reach an acceptable decision-making and assessment of belonging data-set to a class, system needs only a limited number of data. Thus, one-classed classifiers are of frequent application in data-mining such as: outlier samples recognition and designing efficient multi-class classifiers.

### SUPPORT VECTOR DATA DESCRIPTION

A novel way of data description was presented by Tax and Duin (2004) which steamed from support vector machines. In this method, a range and boundary is specified by center  $a$  and radius  $R > 0$ . In fact, a spherical range is shaped around the target.

FIGURE 1: TARGET DATA ARE DESIGNATED AND ILLUSTRATED BY A SPHERE AND A SET OF CENTER A AND RADIUS R



In this algorithm, minimizing the sphere volume is the main effort. For this reason, the arithmetic function of error which was introduced is in this way, but we must consider minimizing as a mandatory constrain.

$$F(R, a) = R^2, \quad (1)$$

$$s. t \quad \|x_i - a\|^2 \leq R^2, \forall i \quad (2)$$

Regarding this possibility that, there are outliers data of training set, therefore, the distance between a (center) to  $x_i$  does not have to be less than  $R^2$ . But on the other hand, larger distances need to be fined. So, at this point, a slack variable is introduced and the issue of minimizing turns into following model:

$$F(R, a) = R^2 + C \sum_i \xi_i, \quad (3)$$

But given the chance that, all of data would be in sphere.

$$\|x_i - a\|^2 \leq R^2 + \xi_i, \quad \forall i. \quad (4)$$

$\xi_i$  is the slack variable that allows us to consider some of samples outside the model. The parameter  $C$  also controls the proportion between the errors and description. At this point; the constraint (4) can be used accompanied by Lagrange coefficient and the function (3). In this case, we obtain the following function whit Lagrange coefficient such as  $\gamma_i \geq 0$  and  $\alpha_i \geq 0$ .

$$L(R, a, \alpha_i, \gamma_i, \xi_i) = R^2 + C \sum_i \xi_i - \sum_i \alpha_i \{R^2 + \xi_i - (\|x_i\|^2 - 2a \cdot x_i + \|a\|^2)\} - \sum_i \gamma_i \xi_i. \quad (5)$$

In function  $L$  is in possession of 2 models: Whit regard to  $R, a, \xi_i$  needs to get minimized and 2: Whit regard to  $\alpha_i$  and  $\gamma_i$  needs to be maximized. These following constraints are obtained if we put partial derivatives equal zero.

$$\frac{\partial L}{\partial R} = 0: \quad \sum_i \alpha_i = 1, \quad (6)$$

$$\frac{\partial L}{\partial a} = 0: \quad a = \frac{\sum_i \alpha_i x_i}{\sum_i \alpha_i} = \sum_i \alpha_i x_i, \quad (7)$$

$$\frac{\partial L}{\partial \xi_i} = 0: \quad C - \alpha_i - \gamma_i = 0. \quad (8)$$

The following result is obtained if the above-mentioned function would be substituted in the function  $L$ :

$$L = \sum_i \alpha_i (x_i \cdot x_i) - \sum_{i,j} \alpha_i \alpha_j (x_i \cdot x_j), \quad (9)$$

$$s. t \quad 0 \leq \alpha_i \leq C, \quad \sum_i \alpha_i = 1. \quad (10)$$

It is a common practice to minimize this function accompanied by pointed constrain which is called and known none-linear programming. In case that  $x_k$  would be a sample located on boundary, the  $R$  is calculated by the following formula:

$$R^2 = (x_k \cdot x_k) - 2 \sum_i \alpha_i (x_i \cdot x_k) + \sum_{i,j} \alpha_i \alpha_j (x_i \cdot x_j) \quad (11)$$

Moreover, in order to provide a test data such as  $Z$ , we must calculate its distance from the center. The  $Z$  data is accepted only if the distance would be equal or less than  $R$ .

$$\|z - a\|^2 = (z \cdot z) - 2 \sum_i \alpha_i (z \cdot x_i) + \sum_{i,j} \alpha_i \alpha_j (x_i \cdot x_j) \leq R^2 \quad (12)$$

In all presented formulas,  $x_i$  are in form of interior-multiplication which is allowed to be replaced by a Kernel-function so as to reach more flexible methods. For this reason, let's imagine that each function turns into another, there we can reach to such a Lagrange arithmetic formula:

$$L = \sum_i \alpha_i (\varphi(x_i) \cdot \varphi(x_i)) - \sum_{i,j} \alpha_i \alpha_j (\varphi(x_i) \cdot \varphi(x_j)) \quad (13)$$

And since the Kernel function is defined in following way:

$$K(x_i, x_j) = \phi(x_i) \cdot \phi(x_j) \quad (14)$$

By a simple substitute, a new is obtained in the below form:

$$L = \sum_i \alpha_i K(x_i, x_i) - \sum_{i,j} \alpha_i \alpha_j K(x_i, x_j) \quad (15)$$

So we can rewrite the (11) and (12) in scope of Kernel:

$$R^2 = (x_k, x_k) - 2 \sum_i \alpha_i K(x_i, x_k) + \sum_{i,j} \alpha_i \alpha_j K(x_i, x_j) \quad (16)$$

$$\|z - a\|^2 = (z, z) - 2 \sum_i \alpha_i K(z, x_i) + \sum_{i,j} \alpha_i \alpha_j K(x_i, x_j) \leq R^2 \quad (17)$$

Now, using various kernel functions is possible. Regarding the conducted experiments, we can reach more acceptable results by employing the model of Gaussian kernel. Gaussian kernel is defined in following way:

$$K(x, y) = \exp \left( -\frac{\|x - y\|^2}{S^2} \right) \quad (18)$$

By replacing the Gaussian kernel in the function (15) and regarding that  $K(x, x) = 1$ , we can simplify the function in this form:

$$L = - \sum_{i,j} \alpha_i \alpha_j \exp \left( -\frac{\|x - y\|^2}{S^2} \right) \quad (19)$$

So, by using this technique known as kernel trick we can reach more precise results concerning Support Vector Data Description without any extra calculation. It goes without saying that, to determine a proper amount for parameters  $S$  is an affective factor in final result (Tax and Duin, 2004).

### DATA COLLECTION AND VARIABLE SELECTION

The data set of this study was obtained from Tehran Stock Exchange (TSE). Bankrupt companies were initially selected for data collection. Between 2002 and 2012, 73 manufacturing companies went bankrupt under paragraph 141 of Iran Trade Law. 73 companies selected as well as non-bankrupt companies. For variables selection studies were investigated between 2001 and 2012 and finally 42 variables were selected as proposed variables (see table 1). Therefore dependent variable is the economic and financial status of company (bankrupt or non-bankrupt) and independent variables are financial ratios based on size, coverage, solvency, profitability, efficiency and liquidity. Then in the next step was to select the optimal parameters by Stepwise Discriminant Analysis (SDA). It is clear from table 2 that the final selected variables have significant differences between the bankrupt and non-bankrupt firms. These variables in order of importance are: Total liabilities to total assets ( $x_9$ ), Retained earnings to total assets ( $x_{31}$ ), Operational income to sales ( $x_{36}$ ) and Net income to total assets ( $x_{34}$ ).

TABLE 1: SELECTED VARIABLES FOR BANKRUPTCY PREDICTION

No.	Variable name	Mentioned by
X1	EBIT/TA	Grice & Dugan(2001), Brabazon & Keenan(2004), Lin et al.(2011), Sun & Li(2011)
X2	LTD/SE	Etemadi et al.(2009), Min & Jeong(2009)
X3	RE/SC	Gestel et al.(2010), Andrés et al.(2011), Xiao et al.(2012)
X4	MVE/TL	Sun & Shenoy(2007), Chaudhuri & De(2011), Chen et al.(2011)
X5	MVE/SE	Tseng & Hu(2010), Chaudhuri & De(2011), Chen(2012)
X6	MVE/TA	Ding et al.(2008), Martens et al.(2008), Etemadi et al.(2009)
X7	Ca/TA	Etemadi et al.(2009)
X8	Size	Etemadi et al.(2009)
X9	TL/TA*	Min & Lee(2005), Shin et al.(2005), Bhimani et al.(2009)
X10	CL/SE	Wu et al.(2007), Sun & Li(2011), Xiao et al.(2012),
X11	CL/TL	Min & Lee(2005), Etemadi et al.(2009)
X12	(Ca+STI)/CL	Sun & Shenoy(2007),Chen et al.(2011), Sun & Li(2011)
X13	(R+Inv)/TA	Etemadi et al.(2009)
X14	R/S	Grice & Dugan(2001), Min & Lee(2005),Wu et al.(2007), Min & Jeong(2009), Lin et al.(2011)
X15	R/Inv	Sun & Shenoy(2007), Etemadi et al.(2009)
X16	SE/TL	Grice & Dugan(2001), Ding et al.(2008), Martens et al.(2008),Tseng & Hu(2010), Andrés et al.(2011)
X17	SE/TA	Brabazon & Keenan(2004), Sun & Shenoy(2007), Chen et al.(2011), Mokhtab Rafiei et al.(2011)
X18	CA/CL	Wu et al.(2007), Etemadi et al.(2009), Xiao et al.(2012)
X19	QA/CL	Brabazon & Keenan(2004),Koh & KeeLow(2004), Etemadi et al.(2009)
X20	QA/TA	Wu et al.(2007), Mokhtab Rafiei et al.(2011), Sun & Li(2011)
X21	FA/(SE+LTD)	Min & Lee(2005), Ding et al.(2008), Mokhtab Rafiei et al.(2011), Sun & Li(2011)
X22	FA/TA	Ding et al.(2008), Etemadi et al.(2009), Chen et al.(2011), Andrés et al.(2012)
X23	CA/TA	Grice & Dugan(2001), Martens et al.(2008), Lin et al.(2011), Sun & Li(2011)
X24	Ca/CL	Koh & KeeLow(2004), Etemadi et al.(2009), Mokhtab Rafiei et al.(2011)
X25	IE/GP	Etemadi et al.(2009), Chen et al.(2011)
X26	S/Ca	Etemadi et al.(2009), Andrés et al.(2012)
X27	S/TA	Ding et al.(2008), Chen et al.(2011), Sun & Li(2011)
X28	WC/TA	Andrés et al.(2012), Chen(2011), Etemadi et al.(2009)
X29	PIC/SE	Wu et al.(2007), Ding et al.(2008), Lin et al.(2011), Sun & Li(2011), Xiao et al.(2012)
X30	S/WC	Brabazon & Keenan(2004), Etemadi et al.(2009), Lin et al.(2011)
X31	RE/TA*	Brabazon & Keenan(2004), Min & Lee(2005), Chen(2011)
X32	NI/SE	Etemadi et al.(2009), Chaudhuri & De(2011), Andrés et al.(2012)
X33	NI/S	Brabazon & Keenan(2004), Tseng & Hu(2010), Chen(2011), Xiao et al.(2012)
X34	NI/TA*	Wu et al.(2007), Ding et al.(2008), Tseng & Hu(2010), Lin et al.(2011)
X35	S/CA	Martens et al.(2008), Min & Jeong(2009), Lin et al.(2011),Sun & Li(2011)
X36	OI/S*	Min & Lee(2005), Wu et al.(2007), Ding et al.(2008), Chen(2011), Sun & Li(2011)
X37	OI/TA	Min & Lee(2005), Chen(2011), Mokhtab Rafiei et al.(2011), Sun & Li(2011), Tseng & Hu(2010)
X38	EBIT/IE	Shin et al.(2005), Min & Jeong(2009), Lin et al.(2011), Chen(2012)
X39	EBIT/S	Brabazon & Keenan(2004), Min & Jeong(2009), Chaudhuri & De(2011), Chen(2011)
X40	GP/S	Ding et al.(2008), Etemadi et al.(2009), Chen(2011)
X41	S/SE	Sun & Shenoy(2007), Etemadi et al.(2009), Chen et al.(2011)
X42	S/FA	Sun & Shenoy(2007), Ding et al.(2008), Chaudhuri & De(2011), Lin et al.(2011)
CA: Current assets		Inv: Inventory
Ca: Cash		RE: Retained earnings
CL: Current liabilities		S: Sales
PIC: Paid in capital		LA : Liquid assets
EBIT: Earnings before interest & taxes		LTD: Long term debt
FA: Fixed assets		SC: Stock capital
GP: Gross profit		MVE: Marked value of equity
IE: Interest expenses		SE: Shareholders' equity
		NI: Net income
		STI: Short term investments
		Ol: Operational income
		TA: Total assets
		QA: Quick assets
		TL: Total liabilities
		R: Receivables
		WC: Working capital

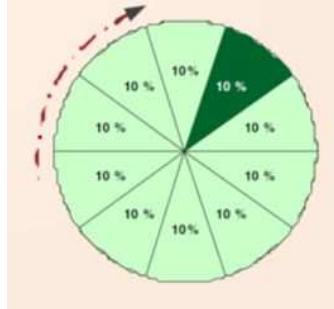
TABLE 2: SELECTED VARIABLES IN SDA ANALYSIS FOR t-1

Step		Tolerance	F to Remove	Wilks' Lambda
1	Net income to total assets	1.000	100.772	
2	Net income to total assets	0.938	56.243	0.748
	Total liabilities to total assets	0.938	9.068	0.550
3	Net income to total assets	0.513	8.617	0.522
	Total liabilities to total assets	0.912	11.103	0.532
	Operational income to sales	0.546	6.114	0.512
4	Net income to total assets	0.478	4.749	0.489
	Total liabilities to total assets	0.896	8.546	0.503
	Operational income to sales	0.539	4.586	0.488
	Retained earnings to total assets	0.770	4.369	0.487

## PREDICTIVE RESULTS

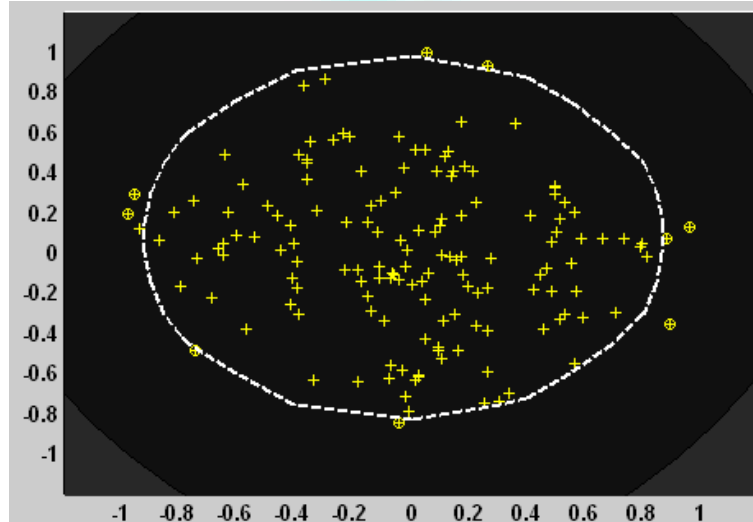
The proposed SVDD model is implemented using MATLAB 7.6. To assess the predictive accuracy of SVDD, the data set was divided into two groups of training and test set using 10-fold cross-validation technique. In 10-fold cross-validation the data is divided into 10 subsets of exactly or approximately equal size. Then, 10 iterations of training and test are done such that in each iteration a different fold of the data is held-out for validation while the rest 9 folds are used for learning and 10 outputs from the folds can be averaged and can produce a single estimation(as shown in Fig.2)(Alpadyn, 2010)

FIGURE 2: 10-FOLD CROSS VALIDATION SCHEME



One problems of SVDD in BFP is noisy samples. This problem is solved by applying the appropriate value for the C coefficient in (3). If C choose 120 or more number of data by sphere, by reducing in (3) noisy samples explained as outliers (see Fig. 3).

FIGURE 3: CHOOSING APPROPRIATE VALUE OF AND OUTLIERS AND FINDING OUTLIERS

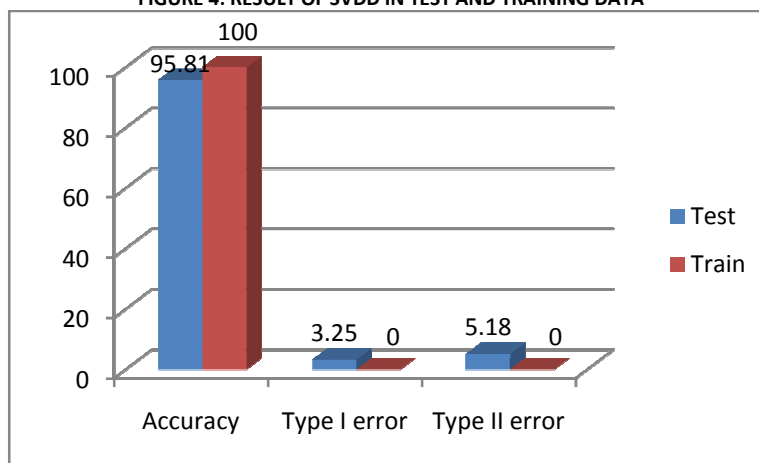


SVDD model could classify firms with 100% and 95.81% overall accuracy rate in the training and testing sample, respectively. The results of type I and Type II error is shown in Table 3 and figure 4.

TABLE 3						
The detailed results obtained by SVDD via 10-fold cross- validation.						
Fold	Accuracy (%)		Type I error(%)		Type II error(%)	
	TEST	TRAIN	TEST	TRAIN	TEST	TRAIN
1	100.00	100.00	0.00	0.00	0.00	0.00
2	100.00	100.00	0.00	0.00	0.00	0.00
3	93.33	100.00	0.00	0.00	12.50	0.00
4	93.33	100.00	12.50	0.00	0.00	0.00
5	100.00	100.00	0.00	0.00	0.00	0.00
6	100.00	100.00	0.00	0.00	0.00	0.00
7	92.86	100.00	20.00	0.00	0.00	0.00
8	92.86	100.00	0.00	0.00	14.29	0.00
9	85.71	100.00	0.00	0.00	25.00	0.00
10	100.00	100.00	0.00	0.00	0.00	0.00
Mean	95.81	100.00	3.25	0.00	5.18	0.00
Median	96.67	100.00	0.00	0.00	0.00	0.00
Max	100.00	100.00	20.00	0.00	25.00	0.00
Min	85.71	100.00	0.00	0.00	0.00	0.00
Variance	24.38	0.00	50.07	0.00	79.68	0.00



FIGURE 4: RESULT OF SVDD IN TEST AND TRAINING DATA



## SUMMARY AND CONCLUSION

The purpose of this paper is to develop new constitutive model to predict the bankruptcy using Support Vector Data Description (SVDD). An important contribution of this research is finding a set of important and effective variables in bankruptcy phenomenon. Using these variables, a SVDD model was developed. This model reached 100% and 95.81% accuracy rates for training and test data. In summary, it can be said that SVDD can predict bankruptcy with high accuracy.

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**ANALYSIS OF FACTORS INFLUENCING EXPORT VOLUME: THE NIGERIAN EXPERIENCE****KAREEM, R.O****LECTURER****DEPARTMENT OF ECONOMICS & ACTUARIAL SCIENCES****CRESCENT UNIVERSITY****ABEOKUTA****OKI A.S,****ALUMNI****CRESCENT UNIVERSITY****ABEOKUTA****RAHEEM, K.A****LECTURER****CRESCENT UNIVERSITY****ABEOKUTA****BASHEER, N.O****LECTURER****CRESCENT UNIVERSITY****ABEOKUTA****ABSTRACT**

*The research work is on the Analysis of factors influencing Export volume in Nigerian Economy. The objectives of the study was to show the trend of export volume over the years; estimate the factors influencing export volume in Nigeria; determine the relationship between GDP and export volume and to offer suggestions and recommends on how export volume can enhance Nigeria economic growth and development. The study adopts descriptive statistics, regression analysis and correlation analysis on the macro economic variables (i.e export volume, gross domestic product, interest rate, exchange rate, import, openness and inflation rate). Secondary data from central bank of Nigeria (CBN) was mainly used for this study to test the relative significance of the variables. The result shows that all the variables (interest rate, inflation rate, total import, degree of openness and exchange rate) have negative relationship with the export volume except the GDP. The coefficient of determination ( $R^2$ ) regression of GDP is 99.4%. R-square shows that about 99.4% total variations in GDP is explained by the explanatory variables (exchange rate, inflation rate, import, degree of openness and interest rate). Meanwhile, GDP and degree of openness are significant at 1% and import is significant at 5% level of probability respectively. The correlation analysis shows that inflation rate, interest rate and degree of openness have a negative relationship with export volume, while other variables have positive relationship with export volume. But degree of openness is significant at 1%. This implies that degree of openness is an important factor contributing to export volume in Nigeria. The study therefore concluded that GDP, degree of openness and import are important variables influencing the export volume that would invariably lead to economic growth and development of Nigerian economy.*

**KEYWORDS**

*Export Volume, Gross Domestic Product, Regression analysis, Degree of Openness.*

**1.0 INTRODUCTION**

At independence, the Nigerian economy was essentially a primary product export, based on a two – pillar product, agricultural and mineral products. Between the period of 1960 and 1966, the major agricultural products contributed about 71.4% of total export value. However, the emergence of crude oil on the economic scene during the 70s, coupled with the two global oil price stocks 1973/74 and 1979 and the macro economic policy distortions resulting essentially from the introduced trade, exchange and interest rate controls. The price fixing institution and commodity boards brought down the shares of agricultural sector in total exports. Since then, the share of agricultural products in total exports value has continued to decline. It decline as far as 2.3 percent in 1984 and further to 2.2 percent in 1998 (Falokun 1996, Omole and Falokun 1999).

More so, the two global oil price stocks of 1973 / 1974 and 1979 virtually made the economy a mono – product exporter in which the contribution of oil sector to total export value increased by about 37.3 percent in 1989 from 57.6 percent in 1970 to 94.9 percent in 1989 (CBN, 1999) from 1989 to date, the average annual contribution of the oil sector to total export has been hovering around source of foreign exchange earnings to government contributing more than 90 percent annually.

Specifically, the macro economic policy distortions resulting essentially from the introduced trade, exchange and interest rate controls, the price fixing institution and commodity boards during the period between 1970 and 1985, turned the country into an import dependent economy. For instance, aggregate import of the country grew substantially during the period. It grew from N0.7 billion in 1970 over N562 billion in 1996 and further to N1, 266 billion in 2001. The structure of import during this period was inimical to rapid industrial take – off. For example, the aggregate grow in rate of import of raw materials and capital goods were greater than 70 percent during the period (CBN, 1994).

Nigeria has also achieved some appreciable economic growth in recent time. Non-oil exports performance has hereby, improved considerably during this period. Several factors appear to have contributed to this phenomenon including a rapid improvement in trade liberalization, concerted efforts to diversify the productive base of the economy, and a substantial increase in foreign direct investment (FDI) inflows into the country. Expectedly, the role of exports in economic performance of developing countries has become one of the more intensively studied topics in recent years. The major impetus for most studies on this relationship is the export-led growth (ELG) hypothesis which interestingly represents a dominant explanation in this context. The export-led growth (ELG) hypothesis states that the growth of exports has a favorable impact on economic growth. However, the empirical evidence on the causal relationship between exports and growth is mixed. In particular, available time series studies fail to provide uniform support for the export-led growth (ELG) hypothesis while most cross-sectional studies provide empirical evidence in support of the hypothesis. Thus, FDI has also become an important link in the export-growth relationship. Overall, empirical evidence in the last few decades indicates that FDI flows have been growing at a pace far exceeding the volume of international trade. Between 1975 and 1995, the aggregate stock of FDI rose from 4.5% to 9.7% of world GDP, with sales of foreign affiliates of multinational enterprises

substantially exceeding the value of world exports (Barrell and Pain, 1997). The performance of the Nigerian non-oil export sector, as pointed out earlier, has however been relatively impressive in recent times. For example, the International Monetary Fund (IMF) 2008 is of the view that the robust non-oil sector growth in the 2007 fiscal year had offset the drag from a decline in oil production in the Niger Delta, thus boosting growth in the Nigerian economy. According to the Central Bank of Nigeria (CBN) 2007, aggregate output growth measured by the gross domestic product (GDP), was estimated at 6.05 per cent, compared with 5.73 per cent in the second quarter. The growth was driven by the non-oil sector which was estimated at 9.47 per cent. This growth was driven mainly by major agricultural activities such as yam, Irish and sweet potatoes, groundnuts and maize. It is noteworthy however, that despite the observed increasing inflows of FDI, there has not been any satisfactory attempt to assess its contribution to Nigeria's (non-oil) export performance- a major channel through which FDI affects economic growth.

However, before the euphoria of the oil boom in Nigeria, Agriculture was the main stay of the economy. The oil boom of the early 1970's brought about fundamental changes in the Nigeria economy. One of such fundamental changes was the heavy reliance on crude oil export, as the main sources of foreign exchange earnings. Consequently, it eroded the competitiveness of the other sectors of the economy. However, the oil glut of the 1980's resulted in the collapse of the world oil market and as a result, the Nigerian economy witnessed serious economic crisis. Thus, the inherent weakness of a mono-product economy manifested itself, since it was discovered that oil sector has few linkages with the rest of the economy.

This development has prompted different government over the last two decade to initiate various policy measures aimed at revamping the economy and diversification of the productive base of the economy in favors of Non-oil exports, some of such policy measures were the structural adjustments programmers, foreign direct investment, Export processing zones which contained various liberalization strategies, essentially for the development of the export sector.

It is noteworthy however, that despite the observed increasing inflows of FDI, there has not been any satisfactory attempt to assess its contribution to Nigeria's export performance. In view of the above facts, the research question now is; what has being the trend of export over the years? what are the factors influencing export volume in Nigeria? what is the relationship between export volume and GDP?

The broad objective is to examine the impact of export performance on Nigeria economy. Specifically, the study seeks to: show the trend of export volume over the years (1999-2008); estimate the factors influencing export volume in Nigeria; determine the relationship between export volume and GDP in Nigeria; offer suggestion and recommendations on how export volume can enhance Nigeria economic growth and development with a view to being one of the top 20 economies of the world.

The evaluation of the effectiveness and actual achievement of the export growth put in place by successive government to diversify the economy in favor of Non-oil export is worthy of assessment.

At present, crude oil export account for over 90% of total export earning. Bearing in mind, the continuous dominance of crude oil exports, a fresh dimension is needed to determine to what extent the manufactured export products determines the economic growth and development. Such an analysis would therefore make a useful contribution in future policy formation for the Non-oil export sector in Nigeria. More so, it would help fill some information Gap or bundle of literature on export theory model.

In other to achieve the research topic, the following hypotheses were tested;

- i. That there is no significant relationship between Nigeria's Gross Domestic Product and export volume.
- ii. That there is no significant relationship between macro-economic policy variables (inflation, exchange rate, interest rate, import values and the Export volume of Nigeria.

## 2.0 REVIEW OF LITERATURES

### 2.1 CONCEPT OF TRADE

Towon (1971) aptly put it "Trade is an important stimulator of economic growth" it enlarges a country's consumption capacity. Moreso, world output and provides access to scarce resources and world wide markets for products which poor country are unable to grow. Modern economists therefore distinguish between the two types of trade. Domestic and international trade. The domestic is trading within a country while international is trading outside the country.

David Ricardo (1882) attempt to answer question on, why do a country trade with other and why do countries specialized in the production of some goods. He was able to answer the question with the comparative advantage which he developed which was latter modified by J. Stewart Mill, Taussing and Asberier.

Ricardo's principle of comparative advantage is based on the following assumptions, that labour is the only productive factor and cost of product consist of only labour cost. Secondly, that all labour units are assumed to be homogenous. Thirdly, only two countries and two commodities are to be considered at any time. Fourthly, that international trade is free from all obstacles and barriers. Lastly, transportation changes are ignored. Samdharam (1981) enumerated the gains from international trade to includes, internal specialization. Secondly, increment in production and higher standard of living. Thirdly, it brings about equalization of prices between countries; fourthly, availability of scare materials. Lastly, international trade and the evolution of modern industrial society.

Shoham (1996) has generally defined export performance as the result of a firm's actions in export markets. Although, growing body of literature has addressed the issue but still there is no evenly accepted conceptual and operational framework (Cavusgil and Zou (1994); Shoham (1998)). Sousa (2004) has identified about 50 dimensions of export performance measure which are classified as subjective and objective measures of export performance. However, Leonidou et. al. (2002), have identified that export proportion of sales or export intensity, export sales growth, export profit level, export sales volume, export, market share, and export profit contribution are mostly used measures of export performance.

Aaby and Slater (1989) found systematic export planning very important in export operations. Zou and Stan (1998) found export planning is a reliable determinant of export performance.

According to Shamsuddoha and Ali (2006) it is ability of a firm to respond to marketing forces to achieve its objectives. Cavusgil and Zou (1994) pointed out that the exporting firm's performance can be measured by its marketing strategies and her ability to apply them. Export marketing strategy is usually considered as result of firms characteristics (Aaby and Slater (1989); Cavusgil and Zou (1994)) but here we take strategic capability as an independent factor. Export marketing strategic capabilities include among others the capabilities to adapt marketing mix (e.g. Product, Price, Promotion and Placement) and marketing channel strategies such as channel type and channel relationship etc. Zou and Stan (1998).

### 2.2 WHY AND WHEN TO EXPORT

Aside from the obvious need to earn foreign exchange to service imports and other dominated by foreign currency, a country or company according to Ogwo. E. Ogwo should be getting into export business for a or all the following reasons: To spread the risk of business which would be that much higher were a company or a country to remain only in domestic, considering the present exchange rate that more profit will be generated abroad than here, boosting of citizens morals once they see that their country has gone international and has made a success of it, that product quality is bound to improve once shoddy domestic products are made to conform to the generally higher standards of international markets. In spite of these advantages, some people who feel that Nigeria should not consider exporting until domestic demand has been satisfied. Nwakenma (1966) is of the view that with the following conditions are met, it will be unwise for Nigerian government and Nigerian Companies, particularly manufacturing sector to venture into the export trade. His preconditions include:

1. An ability to satisfy domestic demand for products to be exported
2. An assurance of the existence of comparative advantage
3. That a substantial amount of value added for the goods must be retained in Nigeria.
4. That an assurance must be got of existence of an efficient export infrastructure.

Onah (1984), while agreeing that export should not wait for a complete satisfaction of the home market before being stalled, however suggested the removal of the following obstacles; the inadequate government institutional machinery; the ill-defined role of the export sector in Nigeria economy; the inadequate trade promotion service (presumably in international markets).



**2.3 Nigeria's Export of Selected Products (1998-2007)**

Oil and natural gas are the most important export products for Nigerian trade. The country exports approximately 2.327 million barrels per day, according to the 2007 figures. In terms of total oil exports, Nigeria ranks 8<sup>th</sup> in the world. As of 2009, Nigeria has approximately 36.2 billion barrel oil reserves. Despite large scale liberalization efforts, this sector is under close check of the government agencies. Nigerian National Oil Corporation (NNOC) is the regulatory body for the oil and natural gas sector.

Prior to oil production, which surged after the 1970s, agricultural production was the largest export sector for Nigeria. After the country became a largely oil-intensive economy, the agriculture sector took a back seat. However, it still provides employment to almost 70% of the total working population.

However, Nigeria's total trade increased by 121.6% between 1998 and 1999, and by 74.9% between 1999 and 2000. It, however, dropped by 16.0% between 2000 and 2001. Fluctuations occurred from 2002 to 2007 by 11.4%, 56.2%, 33.4%, 25.1%, 24.7% and 5.1% in the six years respectively.

Total commodity exports rose significantly by 222.7% between 1998 and 1999, and by 82.9% between 1999 and 2000. They however, dropped by 29.6% in 2001, when compared to the previous year. 8%, 43.5%, 65.2%, 28.9% and 14.1% were recorded increases between 2002 and 2006, but there was another drop by 8.9% between 2006 and 2007.

The greater part of Nigeria's export trade went to America with the following percentage: 42.4%, 49.1%, 51.2%, 41.0%, 49.8%, 55.5%, 52.7%, 54.1% and 59.1%. It was followed by Europe with 29.2%, 20.9%, 23.8%, 24.1%, 24.6%, 22.3%, 17.4%, 17.5%, 21.2%, and 19.4%. Asia took third place with 8.5%, 26.4%, 20.0%, 18.3%, 23.5%, 19.3%, 19.1%, 21.9%, 14.8% and 12.6% respectively. Amongst the Asian countries, China, India and Japan are Nigeria's major partners.

In the ECOWAS Sub-Region, Nigeria's major trading partners are Ghana and Cote D'Ivoire for the period reviewed. The table below shows the selected product in Nigeria's export since 1998-2007.

**2.4 THEORIES OF TRADE**

International Trade Theory deals with the different models of international trade that have been developed to explain the diverse ideas of exchange of goods and services across the global boundaries. The theories of international trade have undergone a number of changes from time to time. The basic principle behind international trade is not very much different from that involved in the domestic trade. The primary objective of trade is to maximize the gains from trade for the parties engaged in the exchange of goods and services. Be it domestic or international trade, the underlying motivation remains the same. The cost involved and factors of production separate international trade from domestic trade.

International trade involves across border exchange and this increases the cost of trading. Factors like tariffs, restrictions, time costs and costs related with legal systems of the countries involved in trade make the international trade a costly affair; whereas the extent of restrictions and legal hassles are considerably low in case of domestic trade.

When it comes to the comparison between international trade and domestic trade, the factors of production assume a crucial role. There is no denying that mobility of factors of production is less across nations than within the domestic territory. The incidence of trade in factors of production like labor and capital is very common in case of domestic trade; while in case of international trade exchange of goods and services contributes the major share of the total revenue.

International trade theory has always been a preferred field of research amongst the traditional and contemporary economists. The international trade models attempt to analyze the pattern of international trade and suggest ways to maximize the gains from trade.

Among the different international trade theories, the Ricardian model, the Heckscher-Ohlin model and the Gravity model of trade are worth mentioning.

The Ricardian model of international trade is developed on the theory of comparative advantage. According to this model countries involved in trade, specialize in producing the products in which they have comparative advantage.

The Heckscher-Ohlin model put stress on endowments of factors of production as basis for international trade. As per this theory countries will specialize in and export those products, which make use of the domestically abundant factors of production more intensively than those factors, which are scarcely available in the home country.

The Gravity model of trade provides an empirical explanation of international trade. According to this model, the economic sizes and distance between nations are the primary factors that determine the pattern of international trade.

The international trade theories also deal with challenges before international trade, international trade laws, rules of international trade and many other related issues.

Focusing on large amount of trade among industrialized countries relative to the trade with less developed economies, Markusen (1986) stresses unequal elasticity of demands that result from non-homothetic preferences. If demand from differentiated products is superior to that for homogeneous products, then intra-industry trade should be larger the larger income; and, if industrialized countries are net exporters of these differentiated products, then intra-industry trade among industrialized countries should increase relative to trade with less developed countries. Thus, as the world gets richer, trade among industrialized countries should expand faster than other trade. As Marusen et al. (1995) point out, it was to match the facts listed above that the theory had been formulated. Thus, non-homogeneous demand leads to a decrease in North-South trade and to an increase in (intra-industry trade) among Northern industrialized countries. These are precisely the facts there were to be explained.

The new trade theory has made a fundamental contribution in providing a tractable framework for analyzing the volume of intra-industry trade. Deardoff for example stresses that the growth of intra-industry trade is an empirical phenomenon not well explained by older traditional theories. It has been the trade of manufactured goods among OECD countries that account for most of the expansion of trade over the period 1961-1990. Over this same period, however, the production of manufactures in this country has declined sharply as a fraction of total production. A model that relies on the taste for variety approach developed by Spence (1976) and Dixit and Stiglitz (1977) links increases in trade to increases in production.

**3.0 DATA AND METHODOLOGY****3.1 DESCRIPTION OF THE CASE STUDY**

Nigeria, republic in western Africa also known as the federal republic of Nigeria, with a coast along the Atlantic ocean on the golf of guinea. Most of Nigeria consists of a low plateau cut by rivers, especially the Niger and its largest tributary, the Benue. The country takes its name from its chief river. Until 1991, the capital was the largest city, Lagos, on the southwestern coast; at that time, the city of Abuja, in the country's interior, became capital.

Nigeria has a federal form of government and it is divided into 36 states and a federal capital territory. The country's official name is the federal republic of Nigeria. Lagos, along the coast, is the largest city and the country economic and cultural centre, but Abuja, a city in the interior planned and built during the 1970s and 1980s, is the capital.

The government moved from Lagos to Abuja in 1991 in the hope of creating a national capital where none of the country's ethnic groups would be dominated.

Nigeria's three ethnic groups-the Hausa-Fulani, Yoruba and Igbo.

Nigeria long had an agricultural economy but now depends almost entirely on the production of petroleum, which lies in large reserves below the Niger Delta. While oil wealth has financed major investments in terms of per capita income. Oil revenues led the government to ignore agriculture, and Nigeria must now import from farm products to feed its people.

Nigeria covers an area of 923,768 sq km (356,669 sq mi). at its greatest expanse, it measures about 1,200 km (about 750 mi) from east to west and about 1,050 km (about 650 mi) from north to south. Nigeria is bounded by Cameroon to the east, Chad to the northeast, Niger to the north, Benin to the west, and the Gulf of Guinea on the Atlantic Ocean to the south.

Population densities and agricultural development are generally lower in the Niger and Benue.

Nigeria has not held a census since 1991. In 2007, Nigeria's estimated population was 135,031,164, yielding an average density of 148 persons per sq km (384 per sq mi). With a birth rate of 40.2 per 1,000 and a death rate of 16.7 per 1,000, Nigeria's population is growing at an average of 2 percent annually-a rapid pace and little changed from the 1970s. The average Nigerian woman gives birth 5 times in her lifetime, although among more educated women the rate is somewhat lower. Nearly half of Nigerians are younger than 15 years. By 2025 the population is projected to grow to 206 million.

### 3.2 METHOD OF DATA COLLECTION

The data for this study was collected mainly from secondary sources, particularly from Publication of Central banks of Nigeria (CBN) such as statistical bulleting, annual report and statement of account. The data requirements include Gross Domestic Product (GDP), volume of export, interest rate, exchange rate value and inflation. The estimation period covers 1999-2008.

### 3.3 METHOD OF DATA ANALYSIS

#### 3.3.1 Descriptive statistics

This involved the use of charts to describe the trend of export volume over the years (1999-2008) to achieve objective one.

#### 3.3.2 Ordinary Least Square (OLS)

This will be used to determine the factors influencing export performance in Nigeria.

#### 3.3.3 Correlation Analysis

It is used to show the relationship between the volume of export volume and GDP, and impact of the explanatory variables (exchange rate, inflation, interest rate, import and degree of openness) on the gross domestic product of the country.

#### 3.3.4 A priori expectation

A priori expectation is that the constant is expected to be positive ( $b_0 < 0$ ,  $b_1 > 0$ ,  $b_2 < 0$ ,  $b_3 > 0$ ,  $b_4 < 0$ ) because there are numbers of other factors that determines the GDP.

In macro economics, export is regarded as an injection in an economy, and so, it is expected to have a positive impact on the economy.

### 3.4 MODEL SPECIFICATION

This study adopts the multiple regression analysis to determine the impact of all the independent variable (interest rate, exchange rate, import, degree of openness, GDP and inflation) on all exportable products.

$Y = f(X_1, X_2, X_3, X_4, X_5, X_6)$ .....Implicit function (model I)

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + U$ ...Explicit function

Where Y = Export volume (₦)

$X_1$ = Interest rate (%)

$X_2$ = Inflation rate (%)

$X_3$ = Exchange rate (USD)

$X_4$ = Import (₦)

$X_5$ = GDP (₦)

$X_6$ = Degree of openness

Log= Logarithm

U= Random error

**3.4.1 Correlation Analysis:** This shows the relationship between export volume, GDP, degree of openness, import, inflation, interest rate and exchange rate. It is stated by the formula below:

$Y = f(X_1, X_2, X_3, X_4, X_5, X_6)$ .....Implicit function (model II)

Where Y = Export volume (₦)

$X_1$ = Interest rate (%)

$X_2$ = Inflation rate (%)

$X_3$ = Exchange rate (USD)

$X_4$ = Import (₦)

$X_5$ = GDP (₦)

$X_6$ = Degree of openness

#### 3.4.2 Descriptive Statistics

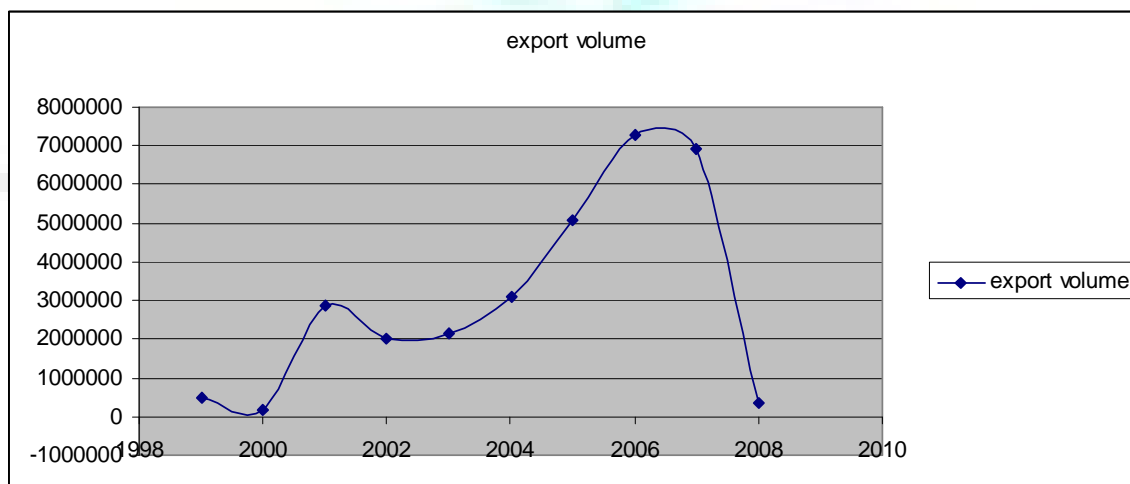
This involves the use of graph to show the trend of all macro economic variables considered in this research over the years. It is used to achieve objective 1 (one) which is to describe the trend of macro economics variables with particular reference to the period under review (1999-2008).

## 4.0 RESULTS

### 4.1.1 EXPORT VOLUME (1999-2008)

Figure (1) below shows Nigerian export volume from 1999-2008. The horizontal axis shows the years and the vertical axis shows the amount of export. In 1999 exportation was very low, it was fluctuating till 2003 and later increased sharply in 2006—2007. It fell back in 2008 drastically.

FIGURE 1: THE TREND OF EXPORT VOLUME BETWEEN 1999-2008

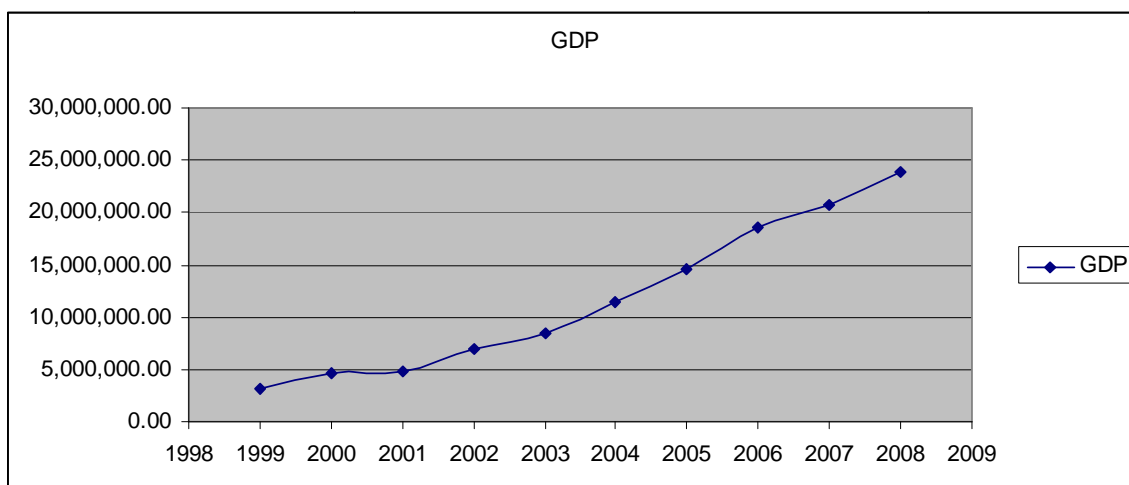


(Source: Data analysis, 2010)

### 4.1.2: Gross Domestic Product (1999-2008)

Figure (2) below shows that GDP has been increasing gradually from 1999 – 2008, with a sharp increase in the GDP in 2008. This simply means that the GDP trend has been increasing with reference to the period under review.

FIGURE 2: THE TREND OF GROSS DOMESTIC PRODUCT BETWEEN 1999-2008

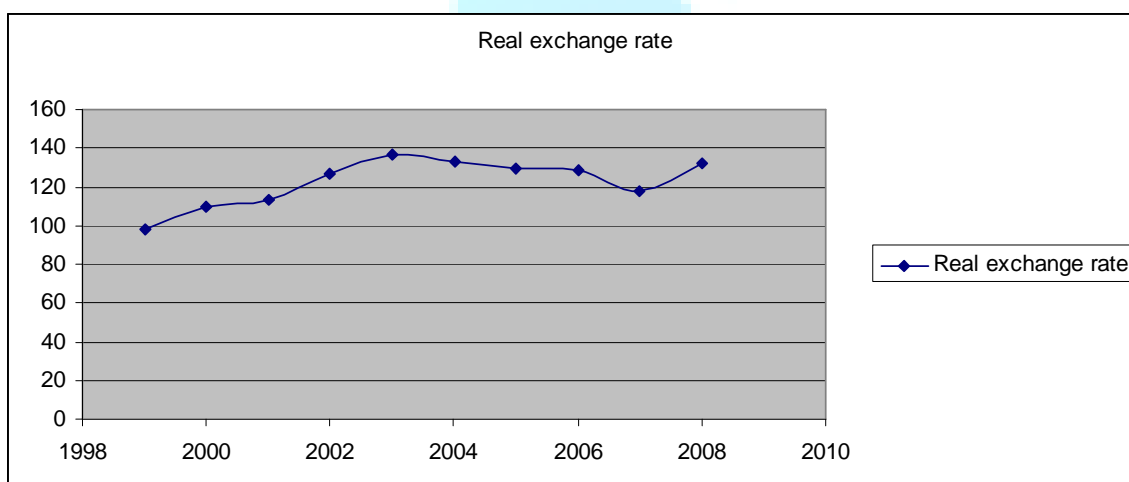


(Source: Data analysis, 2010)

**4.1.3: Real Exchange Rate (1999-2008)**

Figure (3) shows that over the past years, Nigeria currency value depreciated in 1999, it appreciated gradually from 2000-2003 and later fell in 2007. It rose again in 2008. This therefore implies that there has been a fluctuation in the trend in 1999-2008.

FIGURE 3: THE TREND OF REAL EXCHANGE RATE BETWEEN 1999-2008

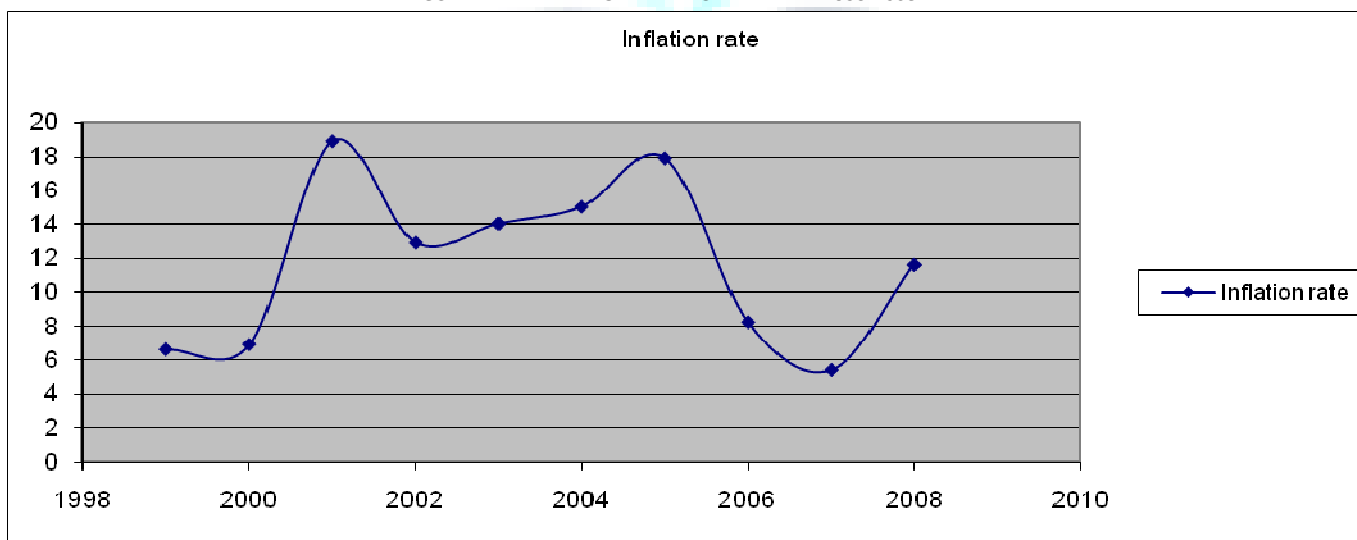


(Source: Data analysis, 2010)

**4.1.4: Inflation Rate (1999-2008)**

Figure (4) shows the movement of inflationary rate in Nigeria. In 1999 inflation was very low. It rose gradually in 2000 with a sharp rise in 2001 and dropped a little in 2002 and later increased in 2005 and 2008 respectively. This increase in 2008 might be as a result of the shock of global financial crises.

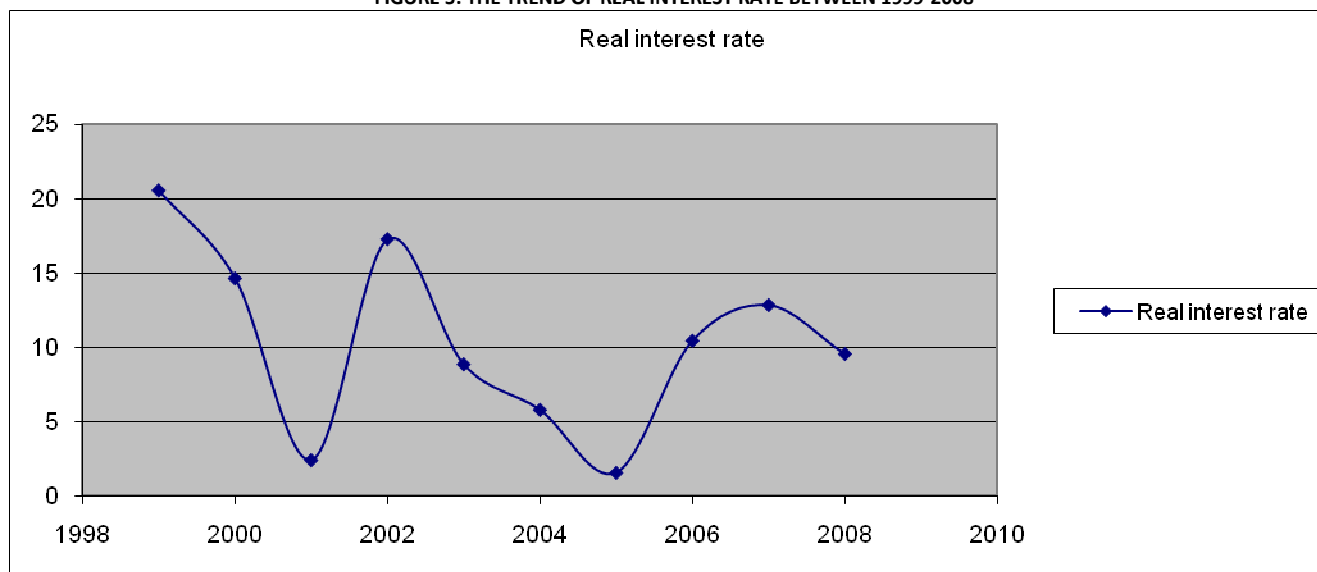
FIGURE 4: THE TREND OF INFLATION BETWEEN 1999-2008



(Source: Data analysis, 2010)

**4.1.5: Real Interest Rate (1999-2008)**

Figure (5) shows how the real interest rate in Nigeria has been fluctuating. The interest rate in Nigeria increased in 1999 and fell in 2001, it rose sharply in 2002 and fell back in 2005, it later increased in 2006.

**FIGURE 5: THE TREND OF REAL INTEREST RATE BETWEEN 1999-2008**

(Source: Data analysis, 2010)

**4.2. REGRESSION RESULTS**

This is used to achieve objective two. It estimates the factors influencing export volume (performance) in Nigeria. The signs of coefficient if positive shows a percentage increase in the explanatory variables would lead to a percentage increase in GDP and vice versa.

The result shows (table 1) that all the variables (interest rate, inflation rate, total import, degree of openness and exchange rate) have negative relationship with the export volume except the GDP. The coefficient of determination ( $R^2$ ) regression of GDP is 99.4%. R-square shows that about 99.4% total variation in GDP is explained by the explanatory variables (exchange rate, inflation rate, import, degree of openness and interest rate). Meanwhile, GDP and degree of openness are significant at 1% and import is significant at 5% level of probability respectively. The F-statistics show that the model is significant.

**TABLE 1: REGRESSION RESULTS OF EXPORT VOLUME (MODEL 1)****Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.997 <sup>a</sup>	.994	.983	.07446

a. Predictors: (Constant), logimport, loginflation, logopenness, logexchange rate, loginterest rate, loggdp

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.946	6	.491	88.544	.002 <sup>a</sup>
	Residual	.017	3	.006		
	Total	2.962	9			

a. Predictors: (Constant), logimport, loginflation, logopenness, logexchange rate, loginterest rate, loggdp

b. Dependent Variable: logexport volume

**COEFFICIENTS<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.367	1.030		2.298	.105
	Loggdp	3.534	.345	1.878	10.231	.002
	Logopenness	-2.834	.251	-.801	-11.276	.001
	Loginflation	-.455	.245	-.153	-1.852	.161
	loginterest rate	-.082	.141	-.052	-.584	.600
	logexchange rate	-.058	.034	-.126	-1.701	.187
	Logimport	-3.033	.400	-1.472	-7.586	.005

**Summary of the Regression Results**

$$\text{Logx} = 2.367 + 3.534\text{loggdp} - 2.834\text{logop} - 0.455\text{loginf} - 0.082\text{logint} - 0.058\text{logxc} - 3.033\text{logm}$$

(0.105) (0.002)\* (0.001)\* (0.161) (0.600) (0.187) (0.005)\*\*

R-squared = 0.944(94%)

\* Significant at 1%

\*\* significant at 5%



F-statistics = 88.544

Figures in parenthesis are t- statistics

**4.3: CORRELATION ANALYSIS**

The value of correlation ranges between 0 and 1. However, as the value tends towards 1, shows a strong relationship between dependent variable and independent variable.

The correlation analysis shows the relationship between the export volume and the explanatory variables (inflation, interest rate, exchange rate, import, GDP, and degree of openness). In the table below, inflation rate, interest rate and degree of openness have a negative relationship with export volume, while other variables have positive relationship with export volume. But degree of openness is significant at 1%. This implies that degree of openness is an important factor contributing to export volume in Nigeria.

**TABLE 3: CORRELATION MATRIX BETWEEN EXPORT VOLUME AND OTHE MACRO ECONOMIC VARIABLES**

Correlations								
		Export volume	GDP	openness	Inflation	interest rate	Exchange rate	import
export volume	Pearson Correlation	1	.465	-.793**	.253	-.430	-.623	.391
	Sig. (2-tailed)		.176	.006	.481	.215	.054	.264
	N	10	10	10	10	10	10	10
GDP	Pearson Correlation	.465	1	.046	.002	-.176	-.341	.970**
	Sig. (2-tailed)	.176		.900	.995	.626	.334	.000
	N	10	10	10	10	10	10	10
openness	Pearson Correlation	-.793**	.046	1	-.360	.488	.573	.024
	Sig. (2-tailed)	.006	.900		.306	.152	.083	.947
	N	10	10	10	10	10	10	10
inflation	Pearson Correlation	.253	.002	-.360	1	-.760*	-.341	-.020
	Sig. (2-tailed)	.481	.995	.306		.011	.335	.955
	N	10	10	10	10	10	10	10
interest rate	Pearson Correlation	-.430	-.176	.488	-.760*	1	.231	-.175
	Sig. (2-tailed)	.215	.626	.152	.011		.522	.630
	N	10	10	10	10	10	10	10
exchange rate	Pearson Correlation	-.623	-.341	.573	-.341	.231	1	-.382
	Sig. (2-tailed)	.054	.334	.083	.335	.522		.276
	N	10	10	10	10	10	10	10
import	Pearson Correlation	.391	.970**	.024	-.020	-.175	-.382	1
	Sig. (2-tailed)	.264	.000	.947	.955	.630	.276	
	N	10	10	10	10	10	10	10
**. Correlation is significant at the 0.01 level (2-tailed).								
*. Correlation is significant at the 0.05 level (2-tailed).								

**4.4 SUMMARY OF MAJOR FINDINGS**

The result shows that the export volume has been fluctuating with respect to the years under review. Similarly, the result shows that the movement of GDP has been rising gradually from 1999-2008, with a sharp increase in 2008.

The trend of real exchange rate is also not stable; Nigeria currency depreciated in 1999, it appreciated gradually from 2000-2003 and later fell in 2007. It rose again in 2008. This therefore implies that there has been a fluctuation in the trend in 1999-2008.

The result also shows that all the variables (interest rate, inflation rate, total import, degree of openness and exchange rate) have negative relationship with the export volume except the GDP. The coefficient of determination ( $R^2$ ) regression of GDP is 99.4%. R-square shows that about 99.4% total variations in GDP is explained by the explanatory variables (exchange rate, inflation rate, import, degree of openness and interest rate). Meanwhile, GDP and degree of openness are significant at 1% and import is significant at 5% level of probability respectively.

The correlation analysis shows the relationship between the export volume and the explanatory variables (inflation, interest rate, exchange rate, import, GDP, and degree of openness). In the table, inflation rate, interest rate and degree of openness have a negative relationship with export volume, while other variables have positive relationship with export volume. But degree of openness is significant at 1%. This implies that degree of openness is an important factor contributing to export volume in Nigeria.

**4.5 CONCLUSION OF THE FINDINGS**

The research work is on the analysis of factors influencing export volume on the Nigeria economy, the study concluded that GDP, degree of openness and import are important variables in the analysis of export volume that would invariably lead to economic growth and development of Nigerian economy.

**4.6 POLICY RECOMMENDATIONS**

The study hereby recommends the following:

- Exchange rate: the major focus of exchange rate policy should be to ensure that the naira and major convertible currencies exchange at competitive levels in the real terms in order to export a stimulating effort on external sector. Emphasis should therefore be placed on relative stability of the rates as well as ensuring a favourable comparison between official and parallel market rate.
- There is need to upgrade the institutional machinery for standardization and quality control in respect of export goods. This could be done on sectoral product basis with focus on target markets.
- There is need to stimulate increase in production of both manufactured and agricultural items. Such output increases would ensure product availability for both local and export markets.

- The need to upgrade basic infrastructural facilities to functional level cannot be overemphasized. Regular and adequate water and power supplies must be assured.
- Rural roads, port facilities as well as telecommunications services should be upgraded and made continually functional. This would greatly reduce both overhead and operating cost and price competitiveness of Nigeria exports.
- An overall review of the existing machinery for the administration of export incentives should be undertaken with the objective of removing any identified obstacles and elimination avoidable delays in accessing them.

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**A MODEL FOR ORGANIZING, MEASURING, ANALYZING STUDENTS' KNOWLEDGE AND PERFORMANCE**

**ROY MATHEW**  
**LECTURER**  
**I.T. DEPARTMENT**  
**BURAIMI UNIVERSITY COLLEGE**  
**AL BURAIMI**

**ABSTRACT**

*Present work tries to offer a new view on the current, vastly discussed and successfully engaged concept of a Data Warehouse. This view presents it in the light of Knowledge Management that includes knowledge sharing and knowledge reuse. i.e., a Data Warehouse can serve as a storage medium for keeping the business memory, or at least involving certain varieties of data. It helps to get new knowledge by presenting well integrated data to analysis tools and then becomes an important part of Executive Information Systems or Decision Support Systems. Sharing and reuse of relevant knowledge during project could prove significant benefits. Data Warehouse by storing, managing and sharing data contributes to the growth of knowledge and may show the way to improve the institution's quality and success. Data mining can be used for the purpose of discovering new knowledge from large databases. New knowledge may be further managed by the applications of knowledge sharing and reuse. Data mining as a new technology allows the user to access or process large amount of information generated mainly from large databases using its latest database technologies. Thus the present work relates Data Warehousing and Data Mining to Knowledge Discovery and Knowledge Management including knowledge sharing and knowledge reuse. The intention is to apply this problem to the higher education sector and compare their results to diagnose pros and cons.*

**KEYWORDS**

Achievement Measure, Course Objectives, Performance Analysis, Students' Assignments.

**1. INTRODUCTION**

The suitability in systems of education requires detailed reports about students' performance to take appropriate actions. A well developed set of information regarding students' knowledge and their performances, helps to make a diagnosis with fair accuracy what the student knows and how much a student knows, in order to conclude what a student does not know i.e., a student's learning gaps. The set of information regarding students' knowledge and their performances obtained through an assessment process of their several assignments specify, with reasonable precision, whether the courses selected were appropriate for them or not. And if not, the areas for improvement have to be identified for its remedy, in case students decide to go ahead with their study in that field. This work proposes a model for organizing, measuring, analyzing students' knowledge and performance in systems of education with the help of certain Data Mining tools.

There could be various Assignments to assess students' knowledge in a particular area of knowledge. The general knowledge area is very vast, but an assignment is designed to measure the knowledge only in a particular area of knowledge. Assignment is a tool designed to observe student's behavior and produce data that can be used to draw reasonable conclusion about what students know. Assignments serve a vital role in providing information to help students, teachers, parents, administrators, and policy makers to take decisions [7].

Assignments are very powerful educational tools for encouraging effectual study in the field of education. These Assignments provide specific information about students' strengths and weaknesses with their study. Educators can use information from these Assignments after its evaluation, to adjust their instructions to meet students' requirements. Students can also use this information to decide which skills and knowledge they need to learn further or to be improved upon or for their higher studies.

Black and William [3] specified that classroom-based formative Assignments can positively affect learning when the Assignments are properly used. According to them and to their research, students study better when they get advice on what they can do to improve on particular qualities of their work along with a feedback about their work. Based on research of Black and William, the Assessment Reform Group [5] holds that successful study occurs when students understand the goals they are aiming at and when they get control on their proper study, and when they have the enough abilities to do self-assessment tasks.

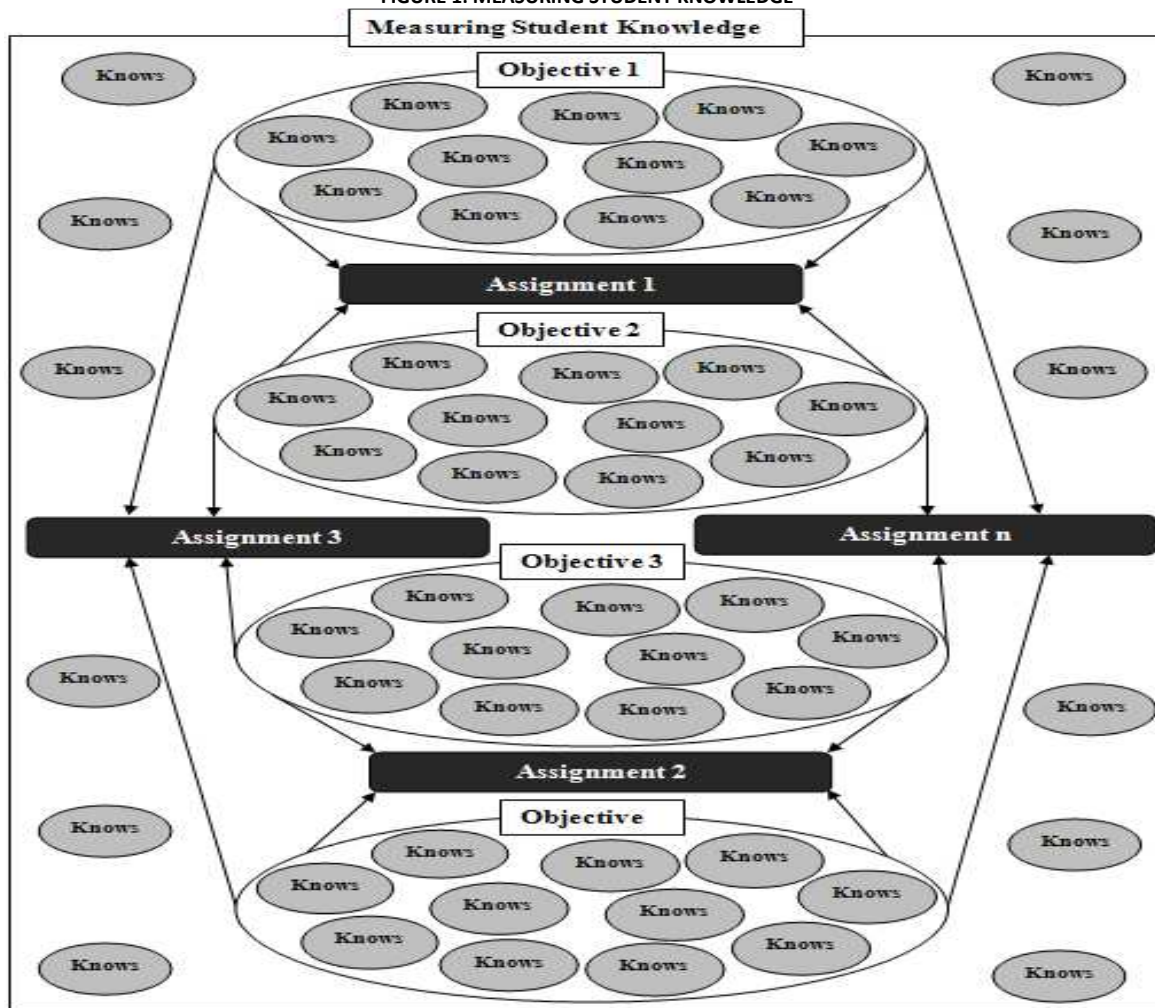
The continuous assessments of various Assignments that aim to identify difficulties and to improve the learning, instead of simply classifying the students, can provide data for increasing the personalization of the learning through the flexibility of systems. Status Measures are important in many Assignment situations, but in educational setting it is also important to track and monitor student change over time [7]. Pimentel and Omar [28] developed a model for continuous assessments of the study to detect possible learning gaps, by monitoring student's Knowledge Acquisition Level in each item of the knowledge area. The model also supports the monitoring and developing the process of acquiring knowledge to allow the student controlling his own study through a process of self-regulation, which consists of self-reinforcement, self-evaluation and self-monitoring [29].

The process of data collection creates great amount of data involves automatic procedures for analysis to acquire new knowledge for further action [29]. This paper suggests another model for organizing, measuring, analyzing students' knowledge and performance in systems of higher education with the help of certain Data Mining tools. Following descriptions in the next few sections contain a discussion on knowledge organization using specialized group of concepts associated with its objectives and presents some ideas on data mining and its application in higher education sector. It demonstrates the proposed model for organizing, measuring, analyzing students' knowledge and performance.

**2. KNOWLEDGE ORGANIZATION AND ITS MEASUREMENTS**

The outermost rectangle in the below given figure corresponds to the whole knowledge area and the ellipses in the figure represent the student current knowledge i.e., what the student knows. The student will possibly have a bad performance if an Assignment is designed mainly from "knowledge absence" portion of the knowledge area. But the student will possibly have a good performance if an Assignment is designed mainly from that part of knowledge area where the student possesses a certain level of knowledge. It is always better to have assignments designed to give emphasis on identifying students' learning gaps. The instructions can be adjusted based on the outcome of an assignment.

FIGURE 1: MEASURING STUDENT KNOWLEDGE

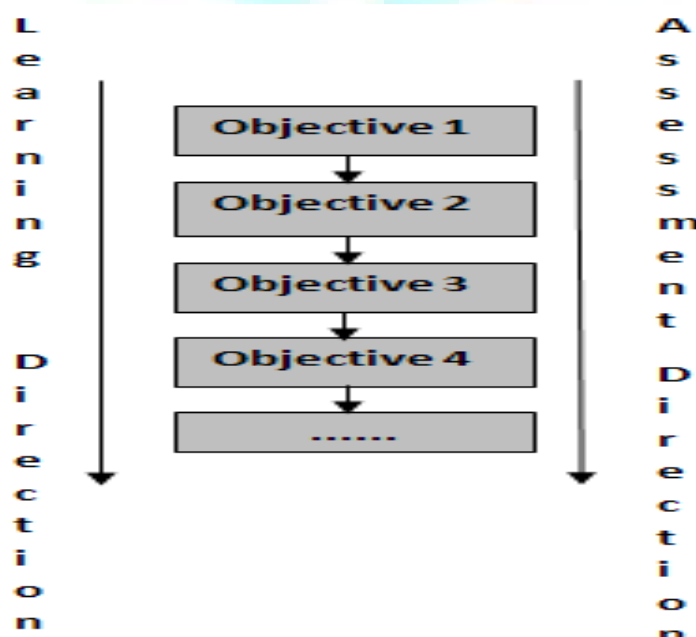


Knowledge Area and Students' Knowledge Measure

The knowledge or expertise has to be encoded and represented in such a way it supports reasoning that resembles the human problem-solving process within the teaching domain and in Intelligent Tutoring Systems (ITS) the domain module contains the knowledge of the specific domain to be taught [36] [37].

Robert Gagne [12] has proposed instructional prescriptions designed to facilitate learning in the various categories of learned capabilities that he has identified. According to Gagne, if instruction is organized hierarchically, learning some of the skills can be facilitated, so that prerequisite courses and objectives are learned in proper order. Hierarchical learning maps can also help the students and educators to prioritize or schedule their learning activities based on objectives for a course. Moreover, the hierarchical learning maps can guide assignments that assess different objectives of a course in the direction as shown in the figure below.

FIGURE 2: HIERARCHICAL ASSESSMENT AND LEARNING DIRECTIONS



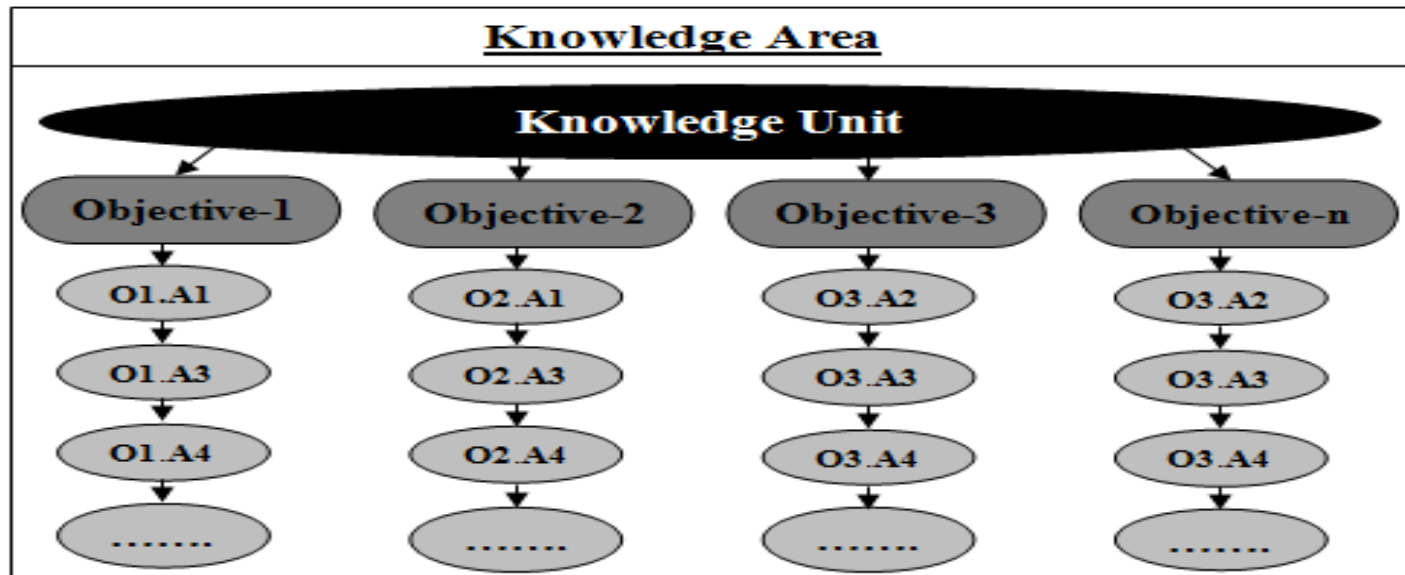


The continuous learning assessment process of different assignments in a course allows to have a better understanding of the students' knowledge in a particular course (current student knowledge), in order to guide the instruction in that area of the course. The phrase "current student knowledge" means that what someone knows is always changing.

The knowledge representation in a knowledge area allows ontology knowledge units with many objectives and its measurements in a hierarchical way, through interconnections between the objectives and its measurements. The word ontology means a specialized type of knowledge that consists of definitions or descriptions of special kinds of things and it is frequently mystified with knowledge base. This corresponds roughly to Gruber's definition, which is: "a specification of a conceptualization: the objects and relations that exist for an agent" [13] [14].

The following figure shows an architecture of the Knowledge Unit with the hierarchical organization of the objectives and its various related assignments for a course. A course may have many objectives (n number of objectives: O1, O2, O3... On) and it could be measured using several assignments (A1, A2, A3... An).

FIGURE 3: KNOWLEDGE UNIT



According Self J. [31], a detailed student model preferably contains information about previous student knowledge prior to the application of educational system, like the student's interests, objectives, preferences, progress and all other information related to student. In addition to the Knowledge Unit of the knowledge organization, other important points are the Objective Units and Marks Units, i.e., the units to organize the way students' performances will be updated.

Brusilovsky [6] considered Student Knowledge Model as a part of the main model which symbolizes a manifestation of the student's mental state and level of knowledge and abilities in terms of a particular course and its output. The Assessments Unit could be configured with measurements from various assignments of the course. The process of acquiring knowledge from various such Assignments is done by its accumulation and dynamic updation in the Objectives Unit and Marks Unit. After organizing the Knowledge Area, Assignments can be created in order to refer objective items from the Knowledge Unit. The Assignment grading will show the measurement for each objective item in detail, and its accumulation in the Objectives Unit and Marks Units, making it possible to show the students' main learning gaps, i.e., it identifies in which course objective, the student displays better or worse performance.

### 3. DATA MINING IN HIGHER EDUCATION SECTOR

Data mining can be used for the purpose of discovering new knowledge from databases. Data mining as a new technology allows the user to access or process large amount of information extracted mainly from large databases using its latest database technologies. The process of data mining uses its techniques to create automatic tools to investigate and then to generate new information from large databases. The generated new knowledge is then offered with the help of certain rules using different variables and then presented as a model. Data mining is used to predict new data, based on a set of rules or models extracted from databases. Data mining uses its techniques and powerful tools to describe database in a summarized way by capturing its important properties. Due to their multidisciplinary application, a multitude of data mining techniques have been studied, applied and proposed in a variety of different fields and visual data mining can be considered a data mining process enriched by visualization methods [29] [10]. Some works that apply Data Mining techniques in education concentrate on the data gathered during student interaction with communication tools: chat, forum and e-mail [31].

Data mining is applied on students 'performance-data' obtained from several of his Assignments (for example, Test 1 [A1], Test 2 [A2], Take-home-assignment [A3] and Final Examination [A4]). The main idea is to prepare the data collected from all of his assignments related with different objectives of a course and relate them by using their hierarchical organization of study, in order to discover new knowledge about students learning by using data mining tools.

Assessments Unit of the Relational Model presents data from the database that contains Assignment data showing students' performance in various assignments stored in relational database model. Students' knowledge is measured based on the different objectives of the course using different assignments and the findings are recorded using a relational database.

FIGURE 4: TABLE OF RELATIONAL ASSESSMENT UNIT

Relational Model for Assessments Unit			
Student ID	Assignment ID	Objective ID	Performance
1001	A1	O1	10
1001	A1	O2	08
1001	A2	O3	08
1001	A2	O4	10
1001	A3	O1	02
1001	A3	O2	02
1001	A3	O3	03
1001	A3	O4	02
1001	A4	O1	12
1001	A4	O2	13
1001	A4	O3	10
1001	A4	O4	10
...	...	...	...
1002	A1	O1	10
1002	A1	O2	09
...	...	...	...

This data from the relational model is then summarized to get another data for a multidimensional model of Objectives Unit, as shown in the table below. It shows students' summarized performance in different objectives that were measured previously using various assignments.

FIGURE 5: TABLE OF MULTIDIMENSIONAL OBJECTIVE UNIT

<b>Multidimensional Model for Objectives Unit</b>					
<b>Student ID</b>	<b>O1</b>	<b>O2</b>	<b>O3</b>	<b>...</b>	<b>On</b>
<b>1001</b>	<b>24</b>	<b>23</b>	<b>21</b>	<b>...</b>	<b>22</b>
<b>1002</b>	<b>20</b>	<b>25</b>	<b>20</b>	<b>...</b>	<b>20</b>
<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>
<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>

Each objective (O1 for example) can be measured in several Assignments. The Knowledge Acquisition Level indicates the student knowledge level in a specific objective item of the knowledge area and it could be computed using appropriate formula. For example, the knowledge acquisition level for the objective O1 can be calculated from three assignments (A1, A3, and A4) as  $10 + 2 + 12 = 24$  getting by adding all separate marks obtained in all different assignments testing that particular objective of the course. Another way of calculation is computing the arithmetic average of the percentages of marks obtained in various assignments of the course testing that objective.

In the multidimensional table of the Objectives Unit, the knowledge acquisition level for each objective (O1, O2,...,On) is displayed. This data corresponds to the objective evaluated (each respective line of the table in relational model) and the measures correspond to respective knowledge acquisition level for the objectives. (The objectives are all specified clearly and distributed to the students normally at the beginning of the course's training along with the syllabus for that course.)

Marks obtained in various assignments during the continuous evaluation process are summarized in Marks Unit as shown in the given table below. This is same as the summation of marks obtained in all the objectives for that course. (For example  $O1+O2+O3+O4=24+23+21+22=90$ ) The student with ID: 1001 scored 90 marks and the grade 'A-' is awarded to that student according to the assessment criteria for the marks. (Assessment criteria are also specified in the syllabus of the course.)

FIGURE 6: TABLE OF MULTIDIMENSIONAL MARKS UNIT

<b>Multidimensional Model for Marks Unit</b>		
<b>Student ID</b>	<b>Marks</b>	<b>Grade</b>
<b>1001</b>	<b>90</b>	<b>A-</b>
<b>1002</b>	<b>85</b>	<b>B+</b>
<b>1003</b>	<b>96</b>	<b>A</b>
<b>...</b>	<b>...</b>	<b>...</b>

Apply visual data mining tools along with other data mining techniques like clusterization, segmentation, classification and association on the data for knowledge discovery. Historical data must be kept and utilized for new knowledge discovery for a continuous assessment learning model. The conclusion based on historical data helps the teachers to see what qualities and problems their students face and who their students are. An improvement in education is possible by the implementation of a program of such data and analysis.

A model for organizing, measuring, analyzing students' knowledge and performance with the help of data mining is discussed next.

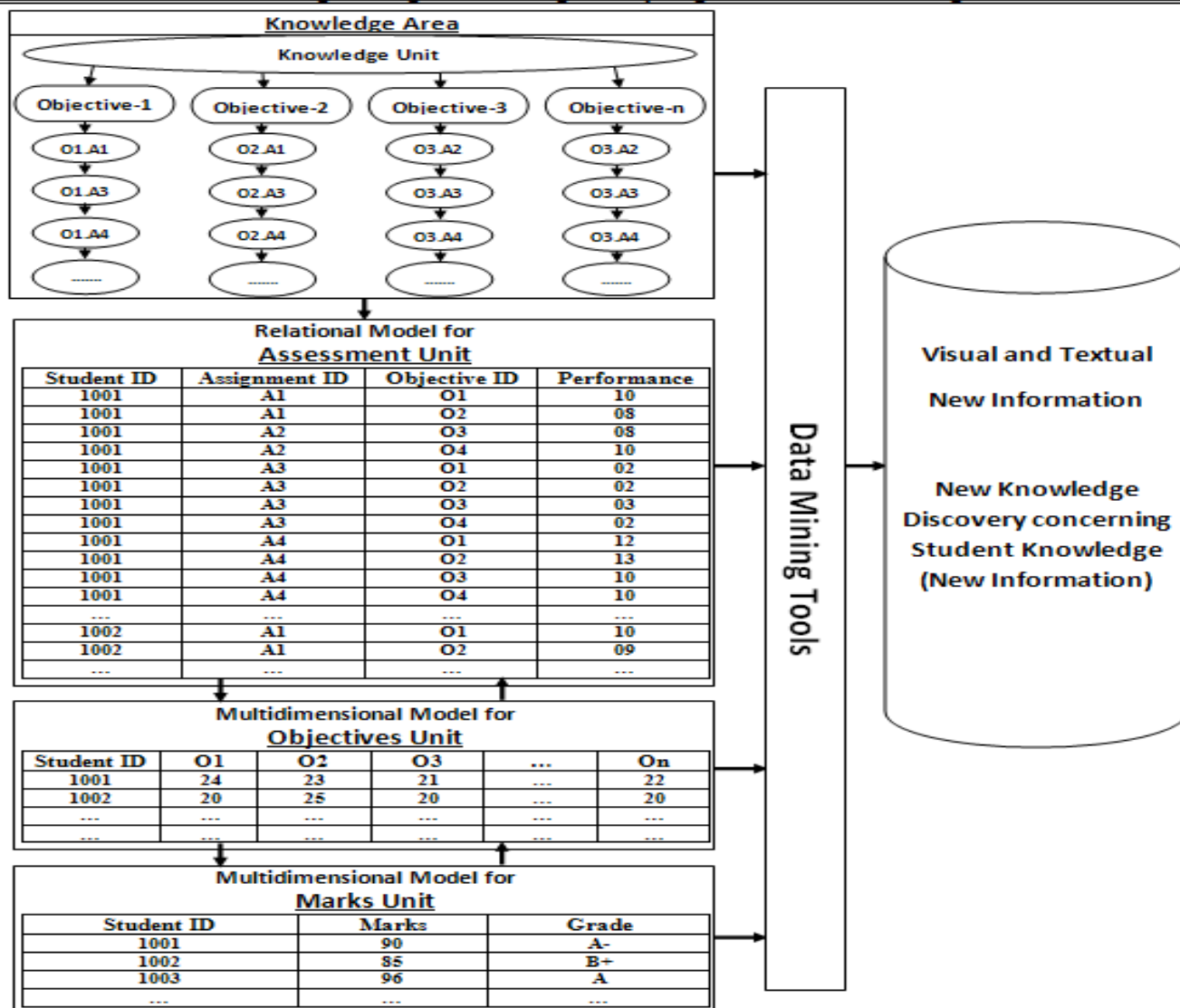
#### 4. A MODEL FOR ORGANIZING, MEASURING, ANALYZING STUDENTS' KNOWLEDGE AND PERFORMANCE

It is very important to find out continuously what the student knows by measuring their performance and knowledge. Keep this information in a database for its investigation, so that the new knowledge can be used for improvement of teaching by instructors as well as for improved understanding and study by students. This work proposes a model for knowledge organization, measurement and analysis based on ontology knowledge area, and with the help of data mining techniques; the model makes discovery of new information from the data collected with the several assignments.

This model is based on knowledge organization representing the learning hierarchies, uses ontology knowledge area with different objectives and its measurements using several assignments. Each problem or question in an Assignment must be associated with an objective of the course and the objective must be clearly indicated for each question specifying very clearly which objective is tested with that question.

It is possible to establish a knowledge measure for each ontology objective item specified in the model. The establishment of knowledge measure in each objective item will allow the selection of more adjusted evaluations to the students' knowledge acquisition levels and it might trigger an adjusted guidance in accordance with the student learning gaps due to students' learning necessities.

FIGURE 7

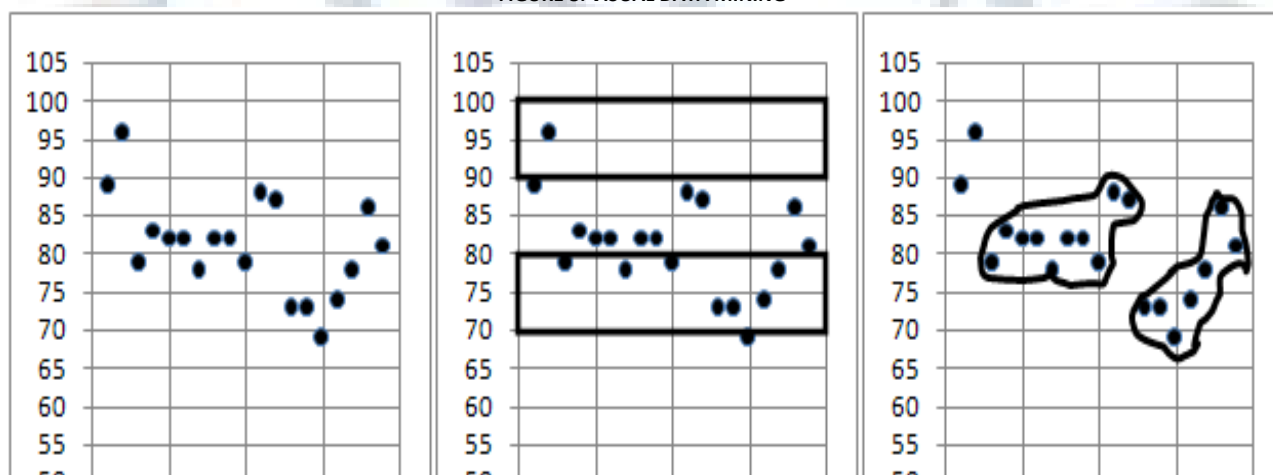
**Model Architecture for Organizing, Measuring, Analyzing Students' Knowledge and Performance**

Based on knowledge organization using Knowledge Unit and the current student knowledge calculated in the Objectives Unit and Marks Unit, the proposal is to apply data mining techniques for new knowledge discovery concerned with students' knowledge to get new information regarding them. The use of visual tools will help in the new knowledge reading and its interpretation.

Successful knowledge management (including knowledge sharing and reuse) needs to integrate data bases, information systems, and knowledge based systems. These kinds of systems can be connected based on the Data Ware-house of the architecture shown in the figure above. It provides an extensive basis of integrated data. This data can be presented and utilized via proper knowledge management; knowledge sharing and knowledge reuse activities with the help of data discovery or related tools.

Knowledge-based support for decision-making is becoming a key element of a Higher Educational setting. Traditional data warehouses with the combinations of knowledge management environments and its related tools may influence Higher Educational decision-makers. The knowledge oriented model together with a collection of services, can be used to manage and encourage knowledge activities within the Higher education sector, through the data mining and data warehousing techniques.

FIGURE 8: VISUAL DATA MINING



## 5. CONCLUSION

The continuous learning assessment process aims to find out the learning gaps to improve the training, can create a huge amount of data. The collected data need to be recorded and analyzed so as to provide new and necessary information concerning the current student knowledge level and measure how much they know about the course and evaluate it to take decisions to improve the situation.

The model for organizing, measuring, analyzing students' knowledge and performance in systems of education with the help of Data Mining tools generates new information from the collected assessment data automatically. The model is based on knowledge organization using ontology of course objectives that represents the learning hierarchies and it makes possible to establish the knowledge acquisition level in each objective item of the knowledge area. The model helps to organize, measure, analyze students' knowledge and performance and thus used to improve both students' as well as teachers' performances.

The model for organizing, measuring, analyzing students' knowledge and performance must be tested with some data mining techniques on the real data and implement the model after its validation.

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# DETERMINANTS OF CUSTOMER LOYALTY AND SUBSCRIBER CHURN OF MOBILE PHONE SERVICES IN GHANA

**JACOB NUNOO**

**LECTURER**

**DEPARTMENT OF ECONOMICS**

**UNIVERSITY OF CAPE COAST**

**CAPE COAST**

**CHRISTIAN KYEREMEH**

**PRINCIPAL RESEARCH ASST.**

**DEPARTMENT OF ECONOMICS**

**UNIVERSITY OF CAPE COAST**

**CAPE COAST**

**GHANA**

## ABSTRACT

*This paper investigates determinants of customer loyalty and subscriber churn among Ghanaian tertiary students. The study addresses two research questions: What factors are responsible for customer loyalty in mobile telephony? What factors influence mobile users to change mobile telephone provider? The study employed binary logit model and used a sample survey data. The results indicate that students' mobile switching behaviour is affected by factors relating to customer service, service quality and mobile service price. Also, customer loyalty of students is dependent on call quality and brand image. The results have implications that mobile service providers should consider their service quality, prices, customer service and brand image to retain subscribers.*

## JEL CLASSIFICATION

L86, L96, O33.

## KEYWORDS

Mobile telephone service, customer loyalty, subscriber churn.

## 1. INTRODUCTION

Mobile telephony facilitates personal communication and business transactions. The use of mobile phones for personal and business purposes has been phenomenal in the last few decades. According to International Telecommunication Union (2011), mobile phone subscribers reached 5.4 billion worldwide in 2010. It is also estimated that about 90 percent of the world population has access to mobile telecom networks. In the developed countries, mobile markets have reached saturation levels with average subscriptions of 116 per 100 inhabitants. Between 2005 and 2010 mobile subscription in developing countries increased from 53 percent to 73 percent (ITU, 2011).

Mobile subscriptions in most African countries have increased remarkably and Ghana is no exception. The country's teledensity is one of the highest in the sub-region. According to the National Communication Authority (NCA), Ghana's mobile phone penetration reached 74 percent in 2010. There are five mobile service providers providing mobile telephone services to variety of subscribers. Intense competition in the market among the five operators for subscribers has resulted in a rapid growth of users. The service providers are MTN, Vodafone, tiGo, Expresso and Airtel.

According to NCA, mobile subscription crossed the 17 million mark by the end of 2010. The mobile market is gradually getting saturated and operators are adopting policies to retain their existing subscribers. They are also implementing marketing strategies to lure and attract subscribers from other networks. An interesting question that needs to be answered is: what will compel some clients of one provider to switch to other providers? Or why will clients of one provider refuse to switch to other providers? Given that mobile telephony plays a critical role in promoting business and personal communication, the way forward to approach the improvement in service delivery is to gain a deeper understanding about why some customers change mobile telephony networks and others do not. There is therefore the need to undertake empirical investigation on the customer loyalty and switching behaviour in mobile telecommunication.

A lot of empirical studies have been done on mobile telecommunication in Ghana (Overå, 2005; Chabossou, Stork, Stork & Zahonog, 2008; Sey, 2008). However, none of these studies considered customer loyalty and subscriber churn in Ghanaian mobile telecom market. This study therefore seeks to investigate the determinants of customer loyalty and subscriber churn in the Ghanaian mobile telephony market, focusing on tertiary students mobile phone users. The study addresses two research questions: What factors are responsible for customer loyalty in mobile telephony? What factors influence mobile phone users to change mobile telephone provider? These questions are worth investigating because with the number of mobile telephone providers increasing in Ghana, some customers mostly the youth have been found to be switching from one service provider to another. At the same time others remain loyal to their service providers, citing many reasons for doing so.

The paper is organised as follows. The second section follows with the literature review. The third section looks at overview of the Ghanaian mobile telephony market. Section 4 deals with the methods of the study. This section outlines the survey method and describes the model as well as the estimation technique. Section 7 presents the estimation results and discussion. Section 6 provides the conclusions and policy implications.

## 2. LITERATURE REVIEW

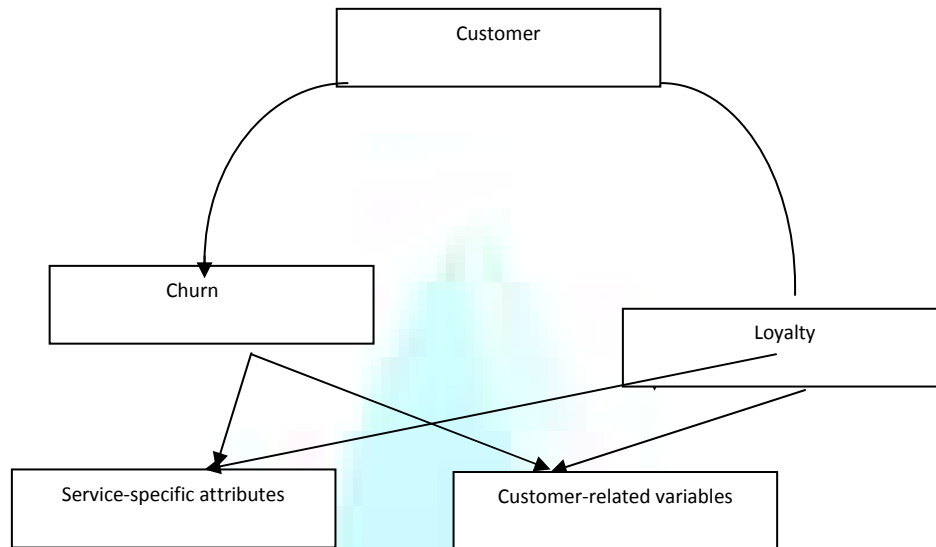
Chander, Laha, Krishna (2006) define customer churn as the tendency of customers to stop doing business with a firm or vendor within a period of time. Customer churn simply means customer defection. In mobile telephony customers defect by changing service providers. Kim and Yoon (2004) argued that customers tend to switch mobile service providers when they are dissatisfied with the services offered them.

Keaveney (1995) discovered that core service failures determine customer switching behaviour in services industries. Ahn, Han and Lee (2006) in their study found that call-quality related factors influence customer churn.

Lee, Lee and Feick (2001) developed three measures of customer loyalty in mobile telephone service from a number of measures provided by Narayandas (1996). The measures are i) willingness to recommend preferred provider to others; ii) repurchase intent and iii) resistance to switching to a competitor's service that is superior to the preferred provider's service. The first measure, willingness to recommend preferred provider to others, shows a strong form of customer loyalty. In this case the customer is not only interested in continuing doing business with the provider but also is willing get more customers for the provider.

The literature shows that customer loyalty and subscriber churn are influenced by customer characteristics and operator-specific attributes. The conceptual framework for customer loyalty and subscriber loyalty is shown in Figure 1. The mobile customer decides to switch to a new service provider or remain with the current service provider. The switching decision is influenced by the customer own characteristics and operator-related variables.

FIGURE 1: CONCEPTUAL FRAMEWORK FOR CUSTOMER CHURN AND CUSTOMER LOYALTY



Source: Researchers' own conceptualization

### 3. OVERVIEW OF GHANAIAAN MOBILE TELEPHONY MARKET

Mobile telephone service in Ghana started in the early 1990s by private telecom network. The state-owned telecom network joined the mobile telephony market some years later. Mobile telephone service was a result of reform undertaken in the telecommunication sub-sector. The sector reform started with the launch of the Accelerated Development Plan (ADP) in 1994. This policy was meant to liberalise and revamp sector through the participation of the private sector as a way of meeting the needs of Ghanaians (Atubra and Frempong, 1999). The private telecom networks focused first on mobile telephone services. Some later added fixed telephone services.

The first company to start mobile telephone service in Ghana was Millicom Ghana limited (mobitel), a subsidiary of Millicom International Cellular S.A of UK/Luxembourg. The company started operation in 1992. A year later, Celtel entered the mobile telephony market. Scancom Ghana Limited entered the market in 1996 and two other mobile operators, Onetouch and Zain, entered the market in 2000 and 2008 respectively. The mobile telephony market in Ghana has been characterized by frequent takeovers and acquisitions. These developments have resulted in rebranding of most of the companies in the market. Scancom, Celtel, Onetouch and Zainall have been renamed as MTN Ghana, Expresso, Vodafone and Airtel respectively. Though the ownership structure of Millicom has not changed since it entered the market, its brand name was changed from Buzz to tiGo in March 2006 to conform to global branding strategy (Sey, 2008).

Ghana's mobile telephony market is one of the fastest growing and most competitive markets in the country. Mobile telephony remains the dominant mode of access and accounts for 98.2 percent of total telephone lines. It is important to note that greater majority of mobile subscribers are prepaid. Prepaid subscribers account for over 90 percent of total mobile subscribers. By the end of 2010 MTN Ghana was the market leader with a share of 50%. This was followed by TiGo with a market share of 22.93%. Vodafone was third with a market share of 15.4%. Airtel took the fourth place with the market share of 10%. Expresso trailed with a market share of 1.7%. The market share is likely to change due to acquisition of licence by one of African mobile giants, Globacom International. The company is yet to commence operation. It has promised to roll-out innovative products and services at very affordable rates when it begins operation. Also, the Ministry of Communication together with the NCA Ghana is on the process to implement mobile number portability in the mobile telephony market by July this year. This policy when implemented would give consumers flexibility of choice but as to whether the policy would have a dramatic impact on the mobile telephone service industry is yet to be seen.

### 4. METHODOLOGY

#### ECONOMETRIC MODEL

The mobile customer decision to switch service provider or not is dichotomous and can be analysed using binary logit model based on discrete choice theory. Discrete choice theory is the study of behavior in situations where the individual selects from a finite set of choices. It assumes that an individual is likely to choose an alternative over others when the level of its utility to him is greater than the utility of other alternatives (Kim & Yoon, 2004).

In this study, the set of alternatives is 'to switch' and 'to remain'. The factors that influence the decision of mobile subscriber on whether to switch to other mobile operator are divided into operator attributes and individual-specific factors. The level of utility that the  $n$ th obtains from either churning or remaining with the current provider can be expressed as an indirect utility function in terms of  $Z_{jn}$  (Provider  $j$ 's service attributes) and  $S_n$  (individual-specific factors).

$$U_{jn} = U(Z_{jn}, S_n) \quad j = (\text{switch, remain}) \quad (1)$$

The indirect utility in (1) can be decomposed into an observed ( $V_{jn}$ ) and an unobserved ( $\epsilon_{jn}$ ) components.

$$U_{jn} = V_{jn} + \epsilon_{jn} \quad (2)$$

A binomial logit model is used to relate the probability of a mobile subscriber switching a provider or remaining loyal to a set of explanatory variables which include service attributes and individual-specific variables. The model is expressed as

$$P_i \equiv \Pr[y = 1 | x] = F(x_i' \beta) \quad (1)$$

Where  $P_i$  is the probability that the  $i$ th mobile subscriber will switch service provider,  $x_i'$  is the vector of explanatory variables,  $\beta$  is the vector of parameters to be estimated, and  $F$  indicates the logistic cumulative distribution function.

#### EMPIRICAL MODELS

The empirical models considered for the analysis of customer loyalty and subscriber churn are presented below

$$CL_i = \alpha + \beta_1 Inc_i + \beta_2 Subdu_i + \beta_3 Qua_i + \beta_4 NetCov + \beta_5 Pr_i + \beta_6 BIM_i + \epsilon_i \quad (2)$$

$$SC_i = \alpha + \beta_1 INC_i + \beta_2 Subdu_i + \beta_3 ICS + \beta_4 HPS_i + \beta_5 HC_i + \beta_6 SD_i + \beta_7 LWCS_i + \epsilon_i \quad (3)$$

Where Inc= Income; Subdu= subscription duration; Cqua = call quality; Netcov = Network coverage; Pr = prices of services; BIM = brand image; ICS= Impolite customer services; HPS= High prices of services HC=Hidden charges; SD = service disruption; LWCS = long waiting time for customer services; and  $\epsilon$ = error term. The dependent variables are customer loyalty and subscriber churn. Customer loyalty variable was set to 1 if the subscriber is willing to recommend current service provider to others and 0 if otherwise. For subscriber churn, a value of 1 was set for those willing to switch current service provider and 0 for those not willing to switch service provider.

The explanatory variables include service attributes and customer-related variables. The customer-related variables considered in the two models are income and subscription duration. Subscription duration was measured as the years of subscription with current network while income was measured as the average monthly income received by subscribers. For age, we considered the actual completed age of subscribers. The service attributes considered in the customer loyalty model are: call quality, network coverage, pricing and brand image. Instead of using the service attributes directly, the level of satisfaction of the attributes was considered. A five-point likert scale was adopted to evaluate the level of satisfaction of the alternative service attributes.

For the subscriber churn model, the explanatory variables included high prices of services, impolite customer services, hidden charges, service disruption and long waiting time for customer services. The likeliness of these variables affecting subscriber churn was evaluated using a five-scale likert scale.

#### DATA SOURCE

Data for the study was obtained through survey of tertiary students in Ghana. The population for the study is students of the University of Cape Coast. The study adopted stratified sampling technique to select 813(5%) out of 16260 students of the university. The sampling was done according to courses or programmes of study. The data for the faculties/ schools were obtained from the students' records management unit for the 2010/2011 academic year. The distribution of the students selected for the study is shown in Table 1.

**TABLE 1: DISTRIBUTION OF STUDENTS SAMPLED FOR THE STUDY**

Faculty/School	No. of Students	Selected Students
Agriculture	675	34
Arts	1457	73
Business	1842	92
Education	5746	287
Social sciences	2576	129
Biological Sciences	1656	83
Physical Sciences	2101	105
Medical Sciences	192	10
Total	16245	813

The data for the study was collected using questionnaire. The questionnaire was pretested with 25 students. This was done to validate the questionnaire. The questionnaire was fine-tuned after the pre-test before the main data was collected. Eight hundred and thirteen questionnaires were administered to the selected students but 603(74%) copies of the questionnaire were completed and returned. The remaining 210 (26%) questionnaires could not be retrieved from the field because of various reasons.

#### ESTIMATION TECHNIQUE

The dependent variables are qualitative. Therefore, the ordinary least square technique becomes inappropriate for estimation. The appropriate technique for estimating the logit model is the maximum likelihood estimation. The technique was used to estimate the parameters of our regression models. The Wald test was used to examine the overall fitness of the regressions models. The results of the Wald test indicate that the regression models were of good fit. To be specific, the Wald test statistic for the customer loyalty model was 72.73 with P-value < 0.01. For the subscriber churn model, the Wald test statistic was 23.41 with the P-value of < 0.01. Thus, the regression models were very significant. In order to cater for the problem of heteroscedasticity which is inherent in cross sectional data, the robust coefficients are reported for all the explanatory variables.

## 5. RESULTS

**TABLE 2: DESCRIPTIVE STATISTICS OF SUBSCRIBERS**

	No. of observations	Mean	Minimum	Maximum
Age in years	603	23.06	16	51
Monthly income in Ghana cedis	603	150.30	10	1500
Subscription duration in years	603	5.35	1	13

Table 2 presents the descriptive statistics of subscribers. The ages of student mobile phone subscribers ranged from 16 years to 51 years with the mean age being 23years. The minimum income received by subscribers in a month was 10 Ghana cedis with the highest being 1500 Ghana cedis. The mean income was about 150 Ghana cedis. The average years of subscription for the mobile users were about 5 years.

Table 3 shows that a larger majority of subscribers, 78.5 percent, were willing to recommend their current networks to others while 42.1 percent of subscribers were willing to switch their current service providers.

**TABLE 3: DESCRIPTIVE STATISTICS OF CUSTOMER LOYALTY AND SUBSCRIBER CHURN**

	Yes	No
Loyalty (subscriber willing to recommend current network to someone)	474 (78.5)	129 (21.4)
Churn (subscriber willing to switch current service provider)	254 (42.1)	349 (57.9)
Total	603 (100.0)	603 (100.0)

#### ESTIMATED RESULTS AND DISCUSSION

In Table 4, we present the estimated results for variables used to explain customer loyalty. The results reveal that call quality and brand image significantly determine customer loyalty. The estimated parameters of call quality and brand image are positive and significant at 1 percent. The positive coefficient of call quality indicates that a subscriber is more likely to stay with the current service provider when call quality improves. In general, consumers would want to stick to service provider offering quality services to them.

TABLE 4: ESTIMATED RESULTS FOR CUSTOMER LOYALTY

Variable	Robust Coeff.	Odds ratio	P-value
INC	0.0012	1.0013	0.109
Subdu	-0.0419	0.9588	0.370
Cqua	1.6936	5.8457	0.000***
Netcov	0.2578	1.0910	0.756
Pr	0.3957	1.4732	0.136
BIM	0.8146	2.2561	0.000***
Constant	-1.1280		0.004***
No. of Obs =603 Wald Chi2(6) =72.73 Prob>Chi2 =0.0000 Pseudo R2 = 0.1274			

Note: \*\*\*indicates statistical significance at 1% level.

The positive coefficient of brand image indicates that improvement in brand image is necessary to retain customers. This stresses the need for service providers to build strong image if they are to retain subscribers. This finding confirms the works of Kim and Yoon (2004) and Lai et al (2009). The results show that customer loyalty is not influenced by network coverage and prices of providers. The estimated coefficients of these variables were not significant.

As can be seen from Table 5, customer-related variables (i.e. income and subscription duration) are not significant in explaining customer loyalty. The insignificant coefficient of subscription duration implies that years of subscription do not create lock-in effects on students' mobile phone users. This finding is consistent with the work of Kim and Yoon (2004) which reported insignificant results for subscription duration in their study.

TABLE 5: ESTIMATED RESULTS FOR SUBSCRIBER CHURN

Variable	Robust Coeff.	Odds ratio	P-value
INC	0.0006	1.0008	0.291
Subdu	-0.0311	0.9626	0.337
ICS	-0.4613	0.6528	0.019**
HPS	0.6702	2.0563	0.022**
HC	-0.4542	0.6386	0.085*
SD	0.4089	1.2759	0.002***
LWCS	0.2767	1.4940	0.083*
Constant	-0.7558		0.005***
No. of Obs =603 Wald Chi2(6) =23.41 Prob>Chi2 =0.0014 Pseudo R2 = 0.0328			

Note: \*\*\*, \*\* and \* indicate statistical significance at 1%, 5% and 10% levels respectively

As shown in Table 5, impolite customer services, high prices of services, hidden charges, service disruption and long waiting time for customer services significantly determine subscriber churn. This implies that when consumers are satisfied with the tariff level they tend to stay with their service providers. The findings are consistent with the work of Sathish et al (2011). Our results have implication that mobile service providers can discourage subscriber churn by offering lower prices and avoid hidden charges. In the same way, reducing service disruptions and improving customer service could results in lower churning. Just like the customer loyalty model, customer-related variables were not statistically significant in explaining subscriber churn of mobile telephone services.

## 6. CONCLUSIONS AND POLICY IMPLICATIONS

This paper sought to investigate the determinants of customer loyalty and subscriber churn of Ghanaian tertiary students' mobile phone users. The main conclusions of the study are considered below. It was realised that call quality and brand image affect customer loyalty in mobile service industry. A strong correlation was found between high prices of service and subscriber churn. Service disruption was found to be an important determinant of subscriber churn. Customer loyalty and churn are not related to customer-related variables. Thus, the decision to retain subscribers is at the discretion of service providers. The policy implications derived from the results of the study are as follows. There is the need for mobile service providers to build strong corporate image to retain subscribers. Also, improvement in call quality is necessary to retain subscribers. The study shows that high services prices determine subscriber churn so mobile service providers should offer low prices to retain subscribers. The study reveals that service disruption leads to subscriber churn so mobile phone providers should improve service quality to discourage churn.

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# FACTORS AFFECTING CUSTOMERS' ATTITUDE TOWARDS INFORMATION TECHNOLOGY ADOPTION IN COMMERCIAL BANKS OF ETHIOPIA: A CASE STUDY OF SELECTED BANKS IN MEKELLE CITY

**ZEMENU AYNADIS**  
**LECTURER**  
**COLLEGE OF BUSINESS AND ECONOMICS**  
**DEPARTEMENT OF MARKETING**  
**MEKELLE UNIVERSITY**  
**MEKELLE**

## ABSTRACT

Information Technology infrastructures have various advantages for business organizations like financial institutions, and more particularly banks. They assist to improve their service quality, increase speed of service delivery, minimize cost, increase profitability, offer convenience in providing anytime and anywhere banking. Hence, adoption of such technologies is highly appreciated. However, the implementations of the technologies depend on the attitude of customers towards the technology to be adopted. Therefore, this research is concerned with investigating the factors affecting attitude of customers towards Information Technology adoption in the banking sector; because, customers are the ultimate users of the technology to be adopted. Such factors are discovered based on Roger's Diffusion of Innovation theory which identifies five variables affecting customers' attitude for technology adoption; these are simplicity, trialability, relative advantage, observability and compatibility. Multiple regression model is used to determine the significance of the variables. Accordingly, all variables except compatibility are found to be significant. The attitude of the banks' staff to technology adoption is also assessed using descriptive statistics; since they are stakeholders of the technology adoption, and it is assessed that they have positive attitude. Similarly, descriptive statistics is used to examine the existing status of the banks in Information Technology adoption. And most commercial banks are found lagging behind in adopting Information Technologies that can provide them with multi-directional benefits.

## KEYWORDS

Customers' attitude towards Information Technology, Diffusion of Innovation theory, Information Technology in banks, Technology adoption.

## 1. INTRODUCTION

McFarlan, (1984) discussed that information technology is, nowadays, affecting the daily activity of individuals and organizations. He said that information is an input for every activity of organizations, without which organizations cannot function efficiently. He also added that to be competent nationally and internationally, organizations should apply information technologies in such a way that can help them to achieve their goals.

According to Avison, *et al.*, (2000) information technology helps organizations to be successful. It helps organizations to be competent in the industry for which they belong to. Danielsson and Persson (2006) also investigated that information technology has positive impact on economical successfulness of organizations. As Idowu *et al.*, (2002) found, information technology, that is dynamically changing, has impact in the banks' service quality as well as efficiency and effectiveness. Kraemer *et al.*, (1994) in their study explored that proper application of information technology can create business value by reducing or avoiding costs, increasing or sustaining revenues, creating capabilities for future revenues and improving the decision making process. In his study, Ferguson (2000), described that most of the industries including the banking industry, for that matter, rely on gathering, processing and providing information in order to meet the needs of their clients. Because Information Technology leads to irreversible change that creates new opportunities for banks in the way they organize product development, delivery and marketing (Holland *et al.*, 1997).

People perceive that banks are strictly about money. However, they are about information. Banks are information processing and control centers that adjust control, update and maintain financial information based on the need of their customers (Vohra, 2007). Banking as any other type of business organization relies on information technology to be successful. Over the past few years, studies have shown that there is a positive relationship between banks productivity and information technology. As a result, the industry is facing extensive and unprecedented change. As customers demand new levels of personal service at an unexpected fast rate, the level of competition in the banking industry becomes fast growing. Therefore many banks now depend on improved technology in order to stay competitive in the market (Osho, 2008).

Hence, the utilization of information technology has been magnificently increased in the banking industry. By using information technology products such as internet banking, electronic payments, security investments, information exchanges, financial organizations can deliver high quality and efficient services with less effort for their customers (Berger, 2003).

## 2. REVIEW LITRATURE

### 2.1. DEFINITIONS OF INFORMATION TECHNOLOGY

Information Technology is data resource management, hardware, and software and telecommunications technologies, used in computer based information systems (Obrien, 1996).

Information technology is a technology that deals with the physical devices and software that link various computer hardware components and transfer data from one physical location to another (Laudon and Laudon, 1991).

Anderson (2006) has defined information technology as hardware and software technologies used to create information system.

### 2.2. THE BUSINESS VALUE OF INFORMATION TECHNOLOGY

According to (Kraemer *et al.*, 1994) business value of information technology refers to the contribution of information technology to organizational performance. Information technology adds value for business organizations to perform well. Different organizations operating in different environments, apply different information technology products, and thus attain values from the applied information technology. In effect, individual firms or firms in different industries do not gain equal value from information technology. Moreover, Kraemer and his colleagues have identified ten dimensions in which information technology can contribute to the business performance. These are organizational effectiveness, organizational efficiency, and economies of production, new business innovation, customer relations, supplier relations, product and service enhancement, inter-organizational coordination, marketing support and competitive dynamics.

As studies indicate, information technology has positive influence on the productivity and profitability of organizations (Brynjolfsson and Hitt 1996). Information technology is changing the way organizations do their activities. It uses computer technologies, telecommunication technologies and other software and hardware technologies to facilitate the activities of business organizations (Obrien, 1996).

In his study entitled "The Output Contributions of Computer Equipment and Personnel", Lichtenberg (1995) also has found that information technology application result in invaluable benefit.

Moreover, information technology helps organizations to take competitive advantage. As result organizations are trying to use the modern information technology in such a way that fits with their working style and organizational environment (Mallick, 2006). It has significant role in increasing the organizations'



market share; and missing to apply information technology lags the business organization behind its competitors who are using information technology. Hence, inability to apply information technology will make the organization to lose market share (Clemons, 1991).

Information technology is an instrument for socio-economic development. The utilization of present day technology is the distinguishing factor between human species in today's contemporary society (Inkster, 1990). Every individuals and organizational life is being highly influenced by technology (Oscamp and Spacapan, 1990). In one or other way the life of this modern world is becoming dependant on technology. Application of the up-to-date information technology is, therefore, the better way of life for human being as well as organizations for the fact that it is one among the technologies which highly affect the life of human beings and/or organizations (Kirkup and Keller, 1992).

### 2.3. BENEFITS OF INFORMATION TECHNOLOGY IN BANKS

Like any other organization information technology has business value for banks. According to Ghaziri (1998) the benefits of information technology is three directional; i.e. to the customer, to the bank and to the employees.

#### 2.3.1. BENEFIT OF IT FOR THE CUSTOMER

Banks are aware of customers' need for new services and plan to make them available. IT has increased the level of competition and forced them to integrate the new technologies in order to satisfy their customers. They have already developed and implemented a certain number of solutions among them:

- *Self-inquiry facility*: customers enjoy from self-service provided by the technologies.
- *Remote banking*: Remote terminals at the customer site connected to the respective branch through a modem, enabling the customer to make inquiries regarding his accounts, on-line, without having to move from his office.
- *Anytime banking- anywhere banking*: Installation of ATMs which offer non-stop cash withdrawal, remittances and inquiry facilities. Networking of computerized branches inter-city and intra-city will permit customers of these branches, when interconnected, to transact from any of these branches.
- *Tele-banking*: A 24-hour service through which inquiries regarding balances and transactions in the account can be made over the phone.
- *Electronic Banking*: This enables the bank to provide corporate or high value customers with Graphical User Interface (GUI) software on a PC, to inquire about their financial transactions and accounts, cash transfers, cheque book issue and inquiry on rates without visiting the bank.
- As information is centralized and updates are available simultaneously at all places, single-window service becomes possible, leading to effective reduction in waiting time.

#### 2.3.2. BENEFIT OF IT FOR THE BANK

During the last decade, banks applied bank-related information technologies to a wide range of back and front office tasks in addition to a great number of new products. The major advantages for the bank to implement IT are:

- Availability of a wide range of inquiry facilities, assisting the bank in business development and follow-up.
- Immediate replies to customer queries without reference to ledger-keeper as terminals are provided to managers and chief managers.
- Automatic and prompt carrying out of standing instructions on due date and generation of reports.
- Generation of various reports and periodical returns on due dates.
- Fast and up-to-date information transfer enabling speedier decisions, by interconnecting computerized branches and controlling offices.
- Reduce cost by improving the efficiency of employees by automate business processes.

#### 2.3.3. BENEFIT OF IT FOR THE STAFF

IT has increased their productivity through the followings:

- Accurate computing of cumbersome and time-consuming jobs such as balancing and interest calculations on due dates.
- Automatic printing of covering schedules, deposit receipts, pass book / pass sheet (transaction documents), freeing the staff from performing these time-consuming jobs, and enabling them to give more attention to the needs of the customer.
- Signature retrieval facility, assisting in verification of transactions, sitting at their own terminal.
- Avoidance of duplication of entries due to existence of single-point data entry.

A search of the banking literature reveals that banks are moving rapidly to take advantage of recent and new customer service and cost reduction opportunities that new technologies offer. A sampling is in the table below:

### 2.4. MAJOR INFORMATION TECHNOLOGY PRODUCTS USED IN BANKS (BANKING INFORMATION TECHNOLOGIES)

According to Rahman (2007) there are so many Information Technology products that can be applied in the banking industry. Among others the following are most important.

#### ✚ AUTOMATED TELLER MACHINE (ATM) TECHNOLOGY

ATM technology is an information technology product that replaces human tellers. It runs automatically through ID like card and password, PIN (personal Identification Number), which is uniquely provided by the bank. If people insert their visa card in to the machine, it verifies the password and makes it open for the user to access the service delivered by the machine. It allows all visa card holders to withdraw cash and ask their balance. It allows 24-hours cash withdrawal facilities using debit/ credit cards, fast cash, fund transfer, Personal Identification Number (PIN) change, mini-statement request etc.

#### ✚ INTERNET BANKING TECHNOLOGY

It is the use of internet technology as a channel for providing service directly for customers. Using internet banking technology, customers who have access to internet, can conduct transaction from wherever they are. Account balance enquiry, fund transfer among the accounts of same customer, opening or modify of term deposit account, pay order request, exchange rate or interest rate enquiry, bills payment, account summary, account details, account activity, standing instructions, loan repayment, loan information, statement request, cheque status enquiry, stop payment cheque, refill prepaid card, password change, bank guarantee application, lost card (debit/credit) reporting, pay credit card dues, view credit card statement or check balance are some of the services that can be provided by banks through internet banking technology.

#### ✚ POINT OF SALE (POS) TERMINAL

It is an electronic machine that can sense a special plastic card that is encoded with information on a magnetic strip. Actually, the device functions as a receiving desk of cash counter of a bank branch. Allows debit cards, credit cards, visa cards etc for making transactions. POS provides a number of services such as, payment for products purchased or services rendered at different merchant locations using debit/ credit cards etc

#### ✚ TELE BANKING TECHNOLOGY

Tele Banking Technology is a banking technology that enables customers to get banking service by dialing to particular telephone number of the banks from the place they are. It provides detail account information, balance inquiry, information about products or services, ATM card activation, bills payment, credit card service etc.

#### ✚ CREDIT CARD TECHNOLOGY

A special plastic card that is encoded with information on a magnetic strip linked with credit accounts with access to ATM or POS terminal located at merchant outlet, restaurant, 5 star hotels, hospitals etc. It provides 24-hours cash access within the sanctioned limit to customer's credit account through ATM, POS, merchant shop window, and payment counter, making payment to merchant against purchase of goods and services, availing cash advances, withdrawal of cash from ATM, SMS banking, internet banking, E statements, auto bills, pay insurance coverage, rewards program, card cheque, etc

#### ✚ DEBIT CARD TECHNOLOGY

A special plastic card that is encoded with information on a magnetic strip linked with deposit accounts with access to ATM or POS terminal. It provides 24-hours cash access to customer's savings or current account through ATM and POS terminals, balance enquiry, mini statement printing in ATM, cash withdrawal from ATM, fund transfer to linked accounts of respective customer, PIN change, utility bills payment, cash deposit, cheque deposit, purchase of goods and

services through POS terminal, transaction details, etc While using the debit card, cash will be subtracted from the account from which the debit card is linked. Unlike the credit card, debit cards purchase doesn't incur interest. However, it has usage charges.

#### ✚ SOCIETY FOR WORLDWIDE INTER-BANK FINANCIAL TELECOMMUNICATION (SWIFT)

It is a Belgium based international network of the bank community that provides banking service worldwide through member banks of the network. It provides instant message transmission services to its member banks, sending and receiving fund transfer message both outward and inward, receiving NOSTRO account statement and correspondence between banks, transmits remittance related messages, transmitting payment instructions, transmit letter of credit (L/C) related messages such as, L/C issuance, advising, subsequent amendments, negotiations, add confirmations and reimbursements.

#### ✚ MOBILE BANKING TECHNOLOGY

According to Andrew (2009) Mobile banking is defined as 'the provision of banking and financial services with the help of mobile telecommunication devices'. About two billion people worldwide are using a mobile phone. As the number of mobile phone increases there has been a pervasive impact on people's lives. Mobile banking helps to cover wide geographical area. They can reach remote area at low cost.

Mobile banking has the potential to be a powerful tool for poverty alleviation. In developing countries where financial services are scarce, mobile banking provides an inexpensive and secure way to transfer funds. It also offers improved access to savings accounts (Britni Must and Kathleen Ludewig, 2010).

#### 2.5. ATTRIBUTES DETERMINING DIFFUSION/ADOPTION OF INNOVATIONS

Different technologies are innovated in different countries at different time. Thanks to globalization, if one technology innovated in a nation is found to be important to the other part of the world; it will made diffused using various mechanisms. The attitude of the ultimate users to the technologies is a critical component. As a result dealing with the attitude of such ultimate users towards the technology to be applied or already adopted technology is quit important. The successfulness of diffusion of innovation is determined by different factors that influence the attitude of such ultimate users. Rogers (2003) theorizes that about 49-87% of the successful diffusion of new technologies is determined by five attributes namely relative advantage, ease of use (simplicity), compatibility, trialability and observability. This theory is called "Diffusion of Innovation (DOI) Theory". According to him innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption. The perceived newness of the idea for the individual determines his/her reaction to it. And diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system.

He defined the five variables as follows.

- ✚ **Relative advantage** – that is the degree of which an innovation is perceived to have better advantage than the idea it supersedes. The greater the perceived relative advantage of an innovation the more rapid its rate of adoption is going to be.
- ✚ **Compatibility** – that is the degree to which an innovation is perceived to be consistent with the existing values, past experience and needs of potential adopters. The greater the compatibility, the faster is the rate of technology adoption.
- ✚ **Simplicity** – that is the degree to which the innovation is perceived to be simple to understand or to use. In other words the simpler the innovation for understanding it will be more rapidly adopted than innovation that requires more complex understanding. More complex understanding require the adopter to develop new skills thus the rate of understanding, slows down the process of the diffusion,
- ✚ **Trialability** – that is the degree to which an innovation may be experimented on a trial basis before it really convince large majority of the adopters. If the innovation is not tested it is likely that the innovation will not succeed as expected. If an innovation can be broken down into parts and tried small portions at a time, the innovation has a greater chance for adoption.
- ✚ **Observability** – that is the degree to which the results of an innovation are visible to others. The easier for individuals to see the results of an innovation the more convincing the innovation to be adopted.

In general, the greater the relative advantage, compatibility, trialability, observability, and simplicity of the innovation, the more rapidly it will be adopted by individuals.

#### 2.6. FACTORS AFFECTING STAFF'S ATTITUDE TOWARDS BANKING TECHNOLOGIES

Banks' staff' attitude and expectations towards banking information technologies are a crucial element in the development of successful banking technologies implementation (Constantine and Chaniotakis, 2005). Because so long as they are stakeholders of the technology, the adoption of technology is in part dependent up on their attitude. If banks' staff' have positive attitude, it will be easy to adopt the technology (Nath *et. al.*, 2001); and on the other hand if they have negative attitude towards the technology, they will resist the adoption of the technology (Mols, 2001). (Moore and Benbasat, 1991) argue that staff' attitude is the determinant factor of technology adoption.

Liao *et. al.*, (1999) also argue that targeted users may reject the new technologies for several reasons. Absence of user involvement, lack of an understanding, technical difficulties, lack of training, and insufficient support from top management and perceived complexity, are considered as the main affecting staff' attitude.

In their research conducted in Libya, Abukhzam and Lee (2010) have described factors affecting the attitude of banks' staff towards application of banking information technology. Some of them are fear of new responsibilities, fear of job losses, fear of losing autonomy, fear of losing customer relationship, lack of effective leadership, lack of training, lack of strategic IT plan, lack of appropriate technical knowledge amongst bank staff, IT terminology, availability of IT funds, poor IT infrastructure, lack of national IT expertise, fear of transaction error and fraudulent activities, poor security measures, confidentiality and privacy, system integration problem, system technical difficulties etc.

- ✚ **Fear of new responsibilities:** when new technologies are applied, it is obvious that they will come up with new way of doing things, which employees assume it as new responsibilities. Employees fear such responsibility and as a result develop negative attitude towards new technology adoption.
- ✚ **Fear of job losses:** bank's staff might have negative attitude towards the application of new banking technology anticipating it as a threat to their jobs. Because they perceive that application of modern banking technology reduces the labor force of the banks.
- ✚ **Fear of losing autonomy:** Bank's staff worry about possible vigilance of daily banking operations with the use of banking technologies. As a result they develop negative attitude towards banking technology.
- ✚ **Fear of losing customer relationship:** employees argue that the benefits of face of face interaction with their customers will be lost as result of banking technology implementation.
- ✚ **Lack of effective leadership:** employees act the way their leader act. If there isn't effective leadership style that could motivate employees towards implementation of modern banking technologies, the bank's staff will be reluctant about such technologies.
- ✚ **Lack of strategic Information Technology plan:** lack of strategic IT plan in the bank implies lack its attention to banking technologies. If the bank doesn't give due attention for banking technology, employees similarly might not worry about the implementation of banking technology.
- ✚ **Lack of training:** absence of Information Technology related training for employees make them passive about the use and application of banking technologies. As a result bank's staff will not give value for banking technologies and as a result might develop negative attitude towards such technologies.
- ✚ **Telecommunication infrastructure:** All interviewees identified that a lack of appropriate IT infrastructure is the main technical constraint preventing e-banking implementation in Libya. According to the literature, this acts as a barrier to IT adoption.
- ✚ **Compatibility (System integration problem):** bank's staff perceives that banking technology might not compatible with their existing banking systems.
- ✚ **Complexity (System technical difficulties):** Banks' staffs fear that new banking technology might be complex to adopt in many ways.
- ✚ **Fear of transaction error and fraudulent activities:** All interviewees expressed great anxieties about security issues such as potential fraudulent activities and errors in conducting customer transactions.
- ✚ **Poor security measures:** Absence of laws and legislations allowing e-contract and other related e-services.
- ✚ **Confidentiality and privacy:** Less standard security measures expressed by those responsible for IT are not up to the standard required in the banking industry.

- ✚ **Lack of appropriate technical knowledge amongst bank staff:** bank's staff with poor IT backgrounds will show a negative attitude towards banking technology application.
- ✚ **Availability of Information Technology funds:** this is related with lack of strategic plan. If there is no strategic plan for Information technology, there will not be budget for Information technology.

### 3. STATEMENT OF THE PROBLEM

Technology in general and information technology in particular has significant impact on quality and productivity of banking and finance sector (Batiz-Lazo and Wood, 2001). Marketing of banking service is changed as a result of the new electronic age, at which financial transactions are being conducted without the necessity of carrying money. And as a result of it, customers demand new and different financial product and service. Therefore, banks are indebted to apply the modern information technology to respond to such customers' needs. Information technology comes up with different products that ease the complexity of traditional banking system. Some of the information technology products that can be applied in the banking industry include Automated Teller Machine (ATM), mobile banking, and internet banking and so on. A study conducted in Kenya shows that ATM banking, Debit Card, Credit Card, Internet Banking, Tele Banking and Mobile Banking are the most widely used information technology products in the banking industry. (Nyangosi and Arora, 2010)

New competitive pressures have emerged due to the emergence of the modern information technology. This information technology innovation make consumers more perceptive and less dependable to a particular bank, and demanding of products and services that fit their specific financial needs and time schedules. To respond to consumer and market demands, banks must provide greater convenience, increase accessibility of financial services and products, and deliver new and better targeted products and services at a faster speed. (Boutt'e, 2001).

Some nations' banks are getting advantage of information technology and some others (especially developing nations) are lagging to exploit such opportunity. Banks in most developed countries have been investing on information technology and using it as means to increase bank productivity by reducing costs and improving operational efficiency (Ehikhamenor, 2003).

As discussed above information technology has greater role in organizations and brings forth profitability. Hence application of such technologies is unquestionable issue for banks. However, banks need to know what the response of end users, customers for which the technology is going to be installed, would be before coming in to action. Accordingly, such attitude of customers towards bank-related information technologies and their intention to use them are determined by different factors. Therefore, these factors need to be identified beforehand so that the technologies will be installed to be used by them. In Ethiopian context I found no research conducted to identify factors affecting customers' attitude towards bank-related information technology application in the banks. Therefore, conducting research in this area will be used an input for Ethiopian banks to make decision regarding information technology adoption.

### 4. RESEARCH OBJECTIVES

#### 4.1. GENERAL OBJECTIVE:

The general objective of the study is to investigate factors affecting customers' attitude towards Information Technologies' adoption in banks.

#### 4.2. SPECIFIC OBJECTIVES

- ✚ To identify the current status of banks' in IT application.
- ✚ To assess the attitude of the staff towards application of banking technologies.
- ✚ To assess factors affecting attitude of customers to adopt banking information technologies.
- ✚ To assess the attitude of customers towards banking technologies.
- ✚ To assess the customers' intention of using banking technologies.

### 5. RESEARCH HYPOTHESIS

To investigate the significance of the variables affecting customers attitude towards acceptance of bank-related information technologies, the following hypotheses formulated.

**Hypothesis 1:** The *relative advantage* of using banking technologies does not affect the attitude of customers towards using banking technology.

**Hypothesis 2:** *Simplicity* of the banking technologies does not affect customer's attitude of banking technology.

**Hypothesis 3:** The *compatibility* of banking technologies does not affect the attitude of customers towards using banking technology.

**Hypothesis 4:** The *trialability* of banking technologies does not affect the attitude of customers toward using banking technology.

**Hypothesis 5:** The *observability* of banking technologies does not affect the attitude of customers towards using banking technology.

**Hypothesis 6:** The *attitude* towards banking technologies does not affect the intention of customers towards using banking technology.

### 6. METHODOLOGY OF THE STUDY

#### 6.1. POPULATION, SAMPLING TECHNIQUE AND SAMPLE SIZE

Among the commercial banks operating in Mekelle city, Awash International Bank S.C, Dashen Bank S.C (Mekelle Branch), Bank of Abyssinia, Wegagen Bank S.C (Mekelle Branch) and United Bank S.C are selected as sample banks based on their year of establishment.

For the sake of similarity governmental banks are not part of this study. Unlike private banks whose primary objective is profit making, the main objective of governmental banks is providing service for the public. Their prime motive is the welfare of the general public. Of course both governmental banks and private banks may similarly require banking technology. However, the way that banks plan to apply such technologies is quite different. Governmental banks view banking information technology from the point of view of its fitness to public service.

On the other hand, private banks view application of banking information technology from the point of view of profitability. This means governmental banks and private banks might follow different IT policies. Therefore, the researcher thought that handling private and governmental banks together for research purpose is not reasonable. As a result, only selected private banks are considered in this study.

The target populations are the banks' customers, banks' staff, the banks' IT managers as well as the banks' branch managers of the selected banks.

Customers are targeted so as to know their attitude towards the banking information technologies; because they are the main stakeholders for which the technology is to be adopted; but the number of banks customers is not well known. In measuring attitude of customers, there are five variables that influence customer attitude towards banking information technologies. The impact of such attributes is therefore measured by regressing attitude over the five attributes. As cited by pallant (2007), Tabachink and Fidell (2007) said that the sample size can be determined by the number of independent variables in to account when multiple regression is to be used for analysis. And he formulated that  $n > 50 + 8m$ , where  $m$  is the number of independent variables. He added that in stepwise regression, 40 observations per independent variable determine the sample size. Based on Tabachink and Fidell formula the sample size of customers will be  $n > 50 + 8 \times 5$ , i.e.  $n > 90$ .

However, the researcher used 208 sample sizes, which is much greater than Tabachink and Fidell's assumption. The 208 observations are addressed using convenience sampling technique. All the enumerators involved in the study are assigned in all banks at a time and collected data from customers that are conveniently available for a period of one hour. This is thought to minimize the possibility of repetition, since there is a possibility for a person to be customer of more than one bank. The following table shows summary of selected respondents.



TABLE 1: PROPORTION OF SAMPLE SIZE OF CUSTOMERS

No	Name of bank	No of sample taken per period of an hr
1	Awash International banks S.C	35
2	Dashen Bank S.C	40
3	Bank of Abyssinia	43
4	Wegagen Bank S.C	48
5	United Bank S.C	42
Total		208

The number of banks' staff of all selected bank branches is 140. From this population samples of 103 banks' staff are selected based on the following formula using 95% confidence interval.

$$n_0 = \frac{N}{1+N(e)^2} \quad \text{Where } n_0 = \text{sample size}$$

N = population size

e = sampling error/level of precision

Proportional stratified sampling technique is used to select each individual bank's staff.  $103/140=0.736$ , which means 73.6% of each banks' staff are selected. In this context each banks are taken as a strata. The following table displays such information.

TABLE 2: PROPORTION OF STAFF'S SAMPLE SIZE

No	Name of bank	No of staff (population)	proportion
1	Awash international Banks S.C.	19	$0.736*19=14$
2	Dashen Bank S.C	33	$0.736*33=24$
3	Bank of Abyssinia	21	$0.736*21=16$
4	Wegagen Bank S.C.	40	$0.736*40=29$
5	United Bank S.C	27	$0.736*27=20$
Total		140	$0.736*140=103$

Furthermore, I used complete enumeration technique to select IT managers and branch managers, since there are only one IT manager and branch manager per bank. The summary information of target population, sampling technique and sample size determination is shown below.

TABLE 3: TARGET POPULATION, SAMPLING TECHNIQUE AND SAMPLE SIZE DETERMINATION

Target population	Sample size	Sampling Technique
Branch Managers	Five	Complete Enumeration
IT managers	Five	Complete Enumeration
Staff	103/140 (Yamane, 1967) $n_0 = \frac{N}{1+N(e)^2}$	Proportional stratified sampling followed by Convenience sampling technique
Customers	208; $n>50 + 8m$ , where m is the number of independent variables; i.e. 5 (Tabachnick and Fidell, 2007)	Convenience sampling technique

## 6.2. DATA TYPE AND SOURCE

Only primary data is used in this study. The data is collected from the employees, customers and IT managers through questionnaire and from branch managers through semi-structured interview.

## 6.3. DATA COLLECTION

Questionnaires are distributed to collect primary data from the staff of the banks and customers and IT managers. The questionnaire of customers include all closed ended questions and the questionnaires of IT managers and bank staff include both open and closed ended questions. Moreover, data is collected from the branch managers through semi-structured interview. The reliability of the data collected from customers and employees through questionnaires is tested using Cronbach's alpha. Cronbach's alpha above 0.6 is acceptable to say that the data has internal consistency/reliability (Nunnally, 1978). The overall reliability of data collected from customers is found to have Cronbach's alpha value of 0.816. Similarly the data collected from staff's has Cronbach's alpha value of 0.711. The reliability of data collected from IT managers is tested by test-retest method and found to be reliable.

## 6.4. DATA PROCESSING AND ANALYSIS

First, the primary data collected through questionnaire is edited and coded and then it is analyzed using STATA software. Descriptive analysis is used to achieve the first two objectives and multiple regression model is used to achieve the rest objectives. As Menard (1995) noted, when dependent variables are measured on an ordinal scale, treating the variable as though it were continuous does not seriously distort the findings. In this case, just you can use Ordinary Least Square regression or the other techniques we have discussed for continuous variables. Certainly, this is widely done, particularly when the dependent variable has 5 or more categories.

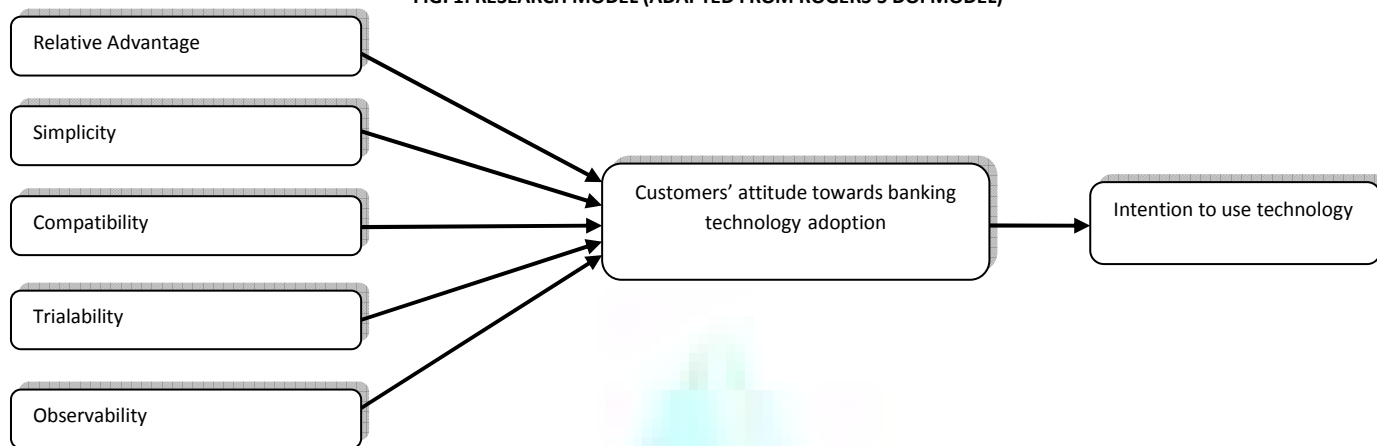
## 6.5. MODEL SPECIFICATION

Roger's Diffusion of Innovation Theory (DOI), used in this study, attempted to examine the factors that influence customers' attitude to adopt an innovation (Rogers, 2003). The theory set five variables or constructs that influence the attitude of individuals towards adoption of an innovation. These are relative advantage, simplicity, compatibility, trialability, and observability.

Based on the model, all the attributes positively affect the attitude of customers towards banking information technology products. Customer attitude internally positively affects the intention of customers to use the technology.



FIG. 1: RESEARCH MODEL (ADAPTED FROM ROGERS'S DOI MODEL)



Regressing the dependent variable attitude over the five independent variables help to know the impact of each independent variables on the dependent variable. Moreover, the significance of each of the independent variables will be determined based on their p-values. According to the coefficients of each of the independent variables, attitude of customers will be determined as follows. Based on the above information, the regression equation will be:

Attitude =  $f(\text{relative\_adv, simplicity, compatibility, trialability, observability})$

Attitude =  $\beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \beta_5x_5$

Attitude =  $1.077 + 0.214x_1 + 0.032x_2 + 0.139x_3 + 0.142x_4 + 0.319x_5$

Where:

$x_1$  = relative advantage

$x_2$  = compatibility

$x_3$  = simplicity

$x_4$  = trialability

$x_5$  = observability

Similarly multiple regression model is used to know the intention of customers to use technologies based on attitude they have; i.e. attitude is independent variable and intention is dependent variable. Hence the impact of attitude on decisions of customers to use or not to use technology will be measured. Consequently the following regression equation is developed.

Intention =  $f(\text{attitude})$

Intention =  $1.88 + 0.57y$

Where:  $y$  = attitude

## 7. DISCUSSION AND FINDINGS

### 7.1. CURRENT STATUS OF SELECTED BANKS IT APPLICATION

According to the data collected from IT managers, the current status of IT application of the selected banks is analyzed below. The branch managers of the banks also confirmed the response of the IT managers. The following table shows current status of bank regarding the banking technologies.

TABLE 4: CURRENT STATUS OF IT APPLICATION OF BANKS

No	Name of Technology	Awash international Bank S.C	Dashen Bank S.C	Wegagen Bank S.C	Abyssinia Bank S.C	United Bank S.C
1	ATM banking Technology	x	✓	✓	x	x
2	Mobile banking Technology	x	✓	x	x	✓
3	Internet Banking technology	x	x	x	x	✓
4	Tele banking technology	x	x	x	x	✓
5	Debit card technology	x	x	x	x	x
6	Credit card technology	x	✓	✓	x	x

KEY x Do not apply the technology

✓ Applied the technology

As we can see from the above table, most of the banks do not apply the modern banking technologies. Relatively Dashen Bank S.C and United Bank S.C have better installed banking technologies than others. Dashen bank has installed ATM banking technology, Mobile banking technology (Dashen Modbirr) and credit card technology. United Bank S.C. has also installed mobile banking, internet banking and tele-banking. Wegagen bank S.C has installed ATM banking technology and credit card technology. Abyssinia Bank S.C and Awash International Bank S.C are still looking for the modern banking technology.

Based on the interview with the branch managers, the banks have planned to apply uninstalled technologies in the near future. All banks have short term plan to apply most of the available banking technologies by studying their feasibility, as the branch managers explained. Dashen bank S.C (Mekelle branch) manager said that the bank is preparing itself to apply Tele-banking and Internet banking. The manager of United bank S.C (Mekelle branch) said that the bank will apply ATM banking technology and Credit card technology.

According to the interview with the branch manager of Awash International Bank S.C, the bank will install ATM banking technology and core banking system in the near future. Similarly the branch manager of Wegagen Bank S.C (Mekelle branch) asserted that Core banking system and mobile banking system are planned to be applied in the near future. United Bank's manager on his behalf said that it will apply ATM banking in the near future.

### 7.2. STAFF'S ATTITUDE TOWARDS INFORMATION TECHNOLOGY APPLICATION IN BANKS

To measure banks' staff attitude towards application of information technology in banks, the researcher finds out the mean score of responses of all staff to each individual question. This helps to reveal average response of the staff to each question. Then the mean of the staffs' response is calculated to determine whether employees have positive or negative attitude. The questionnaire is designed using 5 rating likert scale questions which begin with 1, which represents strongly disagree, and ends with 5 which represents strongly agree. Similarly, 2 represents disagree, 3 represents neutral and 4 represents agree.

TABLE 5: ATTITUDE OF STAFF TOWARDS APPLICATION OF IT IN BANKS

No	Factors affecting staffs attitude to the technology adoption	Minimum	Maximum	Mean of Scores
1*	It will add new responsibilities on employees.	1	4	2.194
2*	It technologies lead employees to lose their position or jobs.	2	5	4.068
3*	It causes lose of autonomy of bank's staff	1	5	3.738
4*	It lead to lose customer relationship	1	5	4.01
5*	bank leaders might push technological failures and responsibilities back to the bank staff	1	4	3.272
6*	Since there is no training concerning the banking technologies, application will be difficult.	1	3	2.612
7	Application of banking Information technology saves service operating time.	1	5	4.165
8	Banking information technologies speed up transactions.	1	5	4.214
9*	Lack of appropriate technical knowledge amongst bank staff might make Banking information technologies application complicated.	1	4	2.563
10	Banking information technology increases accuracy of service	1	5	4.146
11*	It is better to use existing banking system than applying new banking information technology, because it is costly.	1	5	3.67
12*	In current infrastructure (electric power availability, NW, and others), it is difficult to apply banking information technology.	1	4	2.709
13*	Previous IT professionals are based on previous innovation. So it might difficult to apply new technology with no professional to manipulate such new technology.	1	4	2.942
14*	Application of new technology lead bank's staff to make more transaction error since it is new for the staff.	1	5	3.087
15	Banking information technology increases service quality.	1	5	4.029
16*	It is difficult to be confident on the security of manmade technologies for monetary activities.	1	5	3.204
17	There is threat of compatibility of the technology with the existing banking system.	1	4	3.01
18*	Banking information technology might be complex to operate.	1	5	3.563
19	Banking information technology reduces operation cost	1	5	3.66
20	Banking information technology helps the organization to be profitable.	1	5	4.078
21	Banking information technology Support collaboration and sharing of information	1	5	4.107
22	Banking information technology increase organization efficiency	1	5	4.301
23	Banking information technology increase organization effectiveness	1	5	4.32
24	Banking information technology increase organization competitiveness	1	5	4.262
25	Banking information technology eliminates time and space constraint.	1	5	4.087
AVERAGE RESPONSE SCORE OF ALL RESPONDENTS TO REGARDING THE FACTORS				3.64

\* Items whose weights are set reversed because they have negative content.

The calculated mean of responses' of the banks' staff response is found to be 3.64. This shows that employees have positive attitude towards the application of information technology in banks. Most of the banks' staff gives high degree of intensity for the parts of the questions which explain benefit of the banking technology for the banks and for the staff indicating that banking technologies are helpful for the staff and for the banks. According to the staff, banking technologies increase profitability of banks by increasing efficiency and effectiveness of bank activities. They agreed that banking technologies save time by speeding up transaction. They also reduce service cost, increase accuracy and service quality.

On the other part of the questions, which include issues about the influence of the technology on the banks' staff, they gave low level of intensity showing that technologies have negative impact on banks' staff. Most of the banks' staff responded that application of information technology in banks will add new responsibilities on staff, let the staff to lose existing accustomed position, lose of autonomy and consequently might lead to lose of job. They, in general, perceived that application of information technology will negatively affect their work environment, though its benefit in improving the efficiency and effectiveness of the service delivery system is undeniable.

The mean of means value, which is 3.64, is not more far from the median (bench mark) value. From the response, it is possible to infer that this is because of staff's wrong perception on IT application regarding the influence of the technology in the job environment of the staff.

### 7.3. TESTING THE HYPOTHESES

In this section, the hypotheses formulated based on the five variables of Rogers's Diffusion of Innovation (DOI) theory are tested to check how much they predict attitude of customers towards bank-related information technology products.

TABLE 6: STATA REGRESSION OUTPUT FOR THE ATTITUDE AND THE FIVE VARIABLES

Number of obs = 208, Prob > F = 0.0000, R-squared = 0.5373

DEPENDENT VARIABLE - ATTITUDE		
Explanatory Variables	B-value	P-value
Observ	0.3193707	0.000*
Trialability	0.1416296	0.006*
Simplicity	0.1394393	0.005*
compatibility	0.0324876	0.592
relative_adv	0.2136537	0.004*
Constant	1.076773	-

\* Statistically significant at 1%

The above table presents the results from the multiple regressions carried out using the five variables: relative advantage, simplicity; compatibility; observability and trialability as the independent variables and attitude as the dependent variable.

Based on the table above, we can know the goodness-of-fit of the model in general. The p-value of the model is 0.000. This means the probability of variation in the dependant variable to occur by chance (not to be affected by the explained independent variables) is 0.000. This will result in the following null hypotheses.

$$H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$$

$H_0: \beta_1=0; \beta_2=0; \beta_3=0; \beta_4=0; \beta_5=0$

Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. This shows that the beta coefficients of the independent variables are different from zero. Hence, the model can be used to predict attitude based on the explanatory variables.

The table shows R-squared values of 0.537, that indicates how much of the variation of the dependent variable is explanatory variables. Hence, 53.7% of variation of the dependent variable, attitude, is explained by the independent variables observability, simplicity, relative advantage, trialability and compatibility; and the rest 46.3% is determined by unexplained factors.

### 7.3.1. TESTING HYPOTHESIS ONE

**Hypothesis 1:** *The relative advantage of using banking technologies does not affect the attitude of customers towards using banking technology.*

Respondents perceived that getting service via banking technologies provide safety and convenience. Most of the customers respond that using banking technology to get bank service provides different advantages over the traditional banking system. Using banking technology reduces/avoids waiting time. According to them, banking technologies are better in accuracy. Moreover, respondents appreciate the modern banking services for their anytime banking service delivery, which breaks many of the customers' restrictions to get the banking service.

Their response shows that the advantages of using banking technologies have enabled customers to develop positive attitude towards banking technologies. Some of these advantages include speed (time saving), convenience, anytime banking service, safety and so on.

Based on the p-value (0.004), relative Advantage was found to have a significant effect on customers' attitude towards using banking technologies at 1% significance level. Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. Hence, the relative advantage of using banking technologies positively significantly affects the attitude of customers towards using banking technology.

### 7.3.2. TESTING HYPOTHESIS TWO

**Hypothesis 2:** *Simplicity of the banking technologies does not affect customer's attitude of banking technology.*

The simplicity of a technology affects how well customers view the technology and develops a certain attitude. Based on their response, customers agreed that banking technologies are not complex to adapt. They are simple to operate which enable customers to get self-service. Getting self-service provides customers an ability of control over their transactions. Most of customers respond that they are confident in banking technologies. According to its p-value (0.005), simplicity is found to be significant at 1%. Hence the null hypothesis is rejected and the alternative hypothesis is accepted. As a result the simplicity of the technology is found to significantly affect attitude of customers towards banking technologies.

### 7.3.3. TESTING HYPOTHESIS THREE

**Hypothesis 3:** *compatibility of the banking technologies does not affect the attitude of customers towards using banking technology.*

The response of customers indicates that banking technologies do not contradict with the culture, as well as cultural feasts and festivals of the society; but they are not compatible with the local language of the customers and all customers cannot use banking technologies equally. From the responses of customer it is possible to infer that inability of the banking technologies to accommodate the local language is critical factor that will be an input to develop negative attitude for the customer. Of the five constructs, compatibility has the least impact on attitude. It is found to positively contribute to the research model,  $\beta = 0.032$ . Although compatibility positively influences the attitude of customers towards banking technologies, it is statistically insignificant even at 10% significance level as shown in the above table. Hence, the null hypothesis which says "compatibility of the banking technologies does not positively significantly affect the attitude of customers towards using banking technology" is accepted; and the alternative hypothesis is rejected.

### 7.3.4. TESTING HYPOTHESIS FOUR

**Hypothesis 4:** *Trialability of the banking technologies does not affect the attitude of customers towards using banking technology.*

According to their response, customers can easily try banking technologies, without incurring significant cost, and then join to be actual customer. Moreover, they responded that it is not costly to switch off, if the technology is found to be uncomfortable due to some reasons. Like other constructs, trialability also positively affect attitude of customers to accept and use the technologies. And it is statistically significant at 1%. Hence, the null hypothesis is rejected; i.e. trialability of the banking technologies significantly affects the attitude of customers towards using banking technology.

### 7.3.5. TESTING HYPOTHESIS FIVE

**Hypothesis 5:** *Observability of the banking technologies does not affect the attitude of customers towards using banking technology.*

Observability has the highest beta-value; and it is significant at 1% significance level. This shows that customers attitude towards banking technology is highly affected by the observability of the results of technologies. When customer observe that banking technology is avoiding queue, waiting time, distance and related problems of the traditional banking system, that is completely dependent on the opening of the branch office, they easily tend to use the banking technologies. Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. Among the five constructs, observability has the highest impact on attitude of customers towards banking technology.

### 7.3.6. TESTING HYPOTHESIS SIX

**Hypothesis 6:** *The attitude towards banking technologies does not affect the intention of customers towards using banking technology.*

Hypothesis-6 is concerned with the impact of attitude on intention. But before testing its significance, it is better to regress it first.

TABLE 7: STATA REGRESSION OUTPUT OF INTENTION AND ATTITUDE

Number of obs = 208, Prob > F = 0.0000, R-squared = 0.3521

#### DEPENDENT VARIABLE - INTENTION

Independent Variable	B-value	P-value
Attitude	0.5702486	0.000*
Constant	1.88137	-

\* Statistically significant at 1%

Table 8 shows R-squared value of 0.3521. This means that 35.2% of variation in intention of customers to use technology is explained by their attitude. The output of the regression depicts that the model is appropriate to be used for the given data. As explained in the above regression model, (prob>F) value that represents probability that variation on intention to be occurred by chance is 0.000 (i.e. intention is influenced by attitude).

This hypothesis is also tested using p-value of the dependent variable. As we can see from the table, attitude significantly affects intention to use technology at 1% level of significance.

### 7.3.7. SUMMARY OF HYPOTHESES RESULTS:

TABLE 8: HYPOTHESES RESULTS

Hypothesis	Result
H <sub>1</sub> : The <i>relative advantage</i> of using banking technologies does not affect the <i>attitude</i> of customers towards using banking technology	Rejected
H <sub>2</sub> : The <i>simplicity</i> of the use of banking technologies does not affect the <i>attitude</i> of customers towards using banking technology	Rejected
H <sub>3</sub> : The <i>compatibility</i> of banking technologies with the adopter's values does not affect the <i>attitude</i> of customers towards using banking technology	Accepted
H <sub>4</sub> : The <i>trialability</i> of banking technologies does not affect the <i>attitude</i> of customers toward using banking technology	Rejected
H <sub>5</sub> : The <i>observability</i> of banking technologies does not affect the <i>attitude</i> of customers towards using banking technology	Rejected
H <sub>6</sub> : The <i>attitude</i> towards banking technologies does not affect the <i>intention</i> of customers towards using banking technology.	Rejected

**7.3.8. ATTITUDE OF CUSTOMERS TOWARDS BANKING TECHNOLOGIES**

The questionnaire delivered for the respondents contains five rating scales that ranges from one, which is strongly disagree to five which is strongly agree. The variables are fed to STATA software in order to predict the overall attitude of customers towards banking technologies. And STATA output provides the following coefficients of independent variables.

**TABLE 9: COEFFICIENTS OF INDEPENDENT VARIABLES AND THE CONSTANT**

Independent Variables	$\beta$ - value
Relative Advantage	0.2136537
Simplicity	0.1394393
Compatibility	0.0324876
Trialability	0.1416296
Observability	0.3193707
_ Const	1.077

The beta values of variables shown above indicate that all the independent variables have positive impact on the dependent variable.

Hence, the regression equation will be:

$$\text{Attitude} = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5$$

$$\text{Attitude} = 1.077 + 0.214x_1 + 0.032x_2 + 0.139x_3 + 0.142x_4 + 0.319x_5$$

Where:

$x_1$  = relative advantage     $x_4$  = trialability     $x_2$  = compatibility     $x_5$  = observability     $x_3$  = simplicity

The beta values of the five variables and their influence on attitude is shown in the above table. The attitude of customers towards banking technologies is, therefore, calculated based on the derived regression equation.

For example, the attitude of respondent 1 can be calculated in the following manner. Here are the responses of respondent1 for the five attributes.

Relative advantage=3.166667

Compatibility=3.666667

Simplicity=4.166667

Trialability=3.5

Observability=3.0

Then:

$$\text{Attitude} = 1.077 + 0.214x_1 + 0.032x_2 + 0.139x_3 + 0.142x_4 + 0.319x_5$$

$$\text{Attitude} = 1.077 + (0.214 \times 3.166667) + (0.032 \times 3.666667) + (0.139 \times 4.166667) + (0.141 \times 3.5) + (0.319 \times 3)$$

$$\text{Attitude} = 3.905167 = 3.9$$

This shows that respondent 1 has positive attitude towards banking technologies. The attitude for the other customers is calculated in the same manner; and lastly the overall attitude of customers is calculated by taking the mean value of each respondent's attitude values. This result is found to be 4.35, which indicates that customers have positive attitude towards banking technologies.

This shows customers' have positive attitude towards banking technologies in that banking technologies have good relative advantage compared to the traditional banking system, they are somehow compatible with the customers' needs, simple to operate, trialable and its result is observable by other.

**7.3.9. INTENTION OF CUSTOMERS TO USE TECHNOLOGY****TABLE 10: COEFFICIENTS OF THE INDEPENDENT VARIABLE AND THE CONSTANT**

Variable	$\beta$ - value
Attitude	0.57
_const	1.88

As assured in the regression, 35.2% of the variation in intention of customers is affected by the variation in their attitude. And customers are found to have positive attitude towards banking technologies. This gives a clue that customers might have intention to use technologies. Based on the outputs of the regression equation the intention of customers to use the technology is calculated as follows.

$$\text{intention} = \beta_0 + \beta_1 y, \text{ where } y = \text{attitude}$$

$$\text{intention} = 1.88 + 0.57y$$

According to this regression equation the intention of the first respondent will be:

$$\text{intention} = 1.88 + 0.57 \times \text{attitude}$$

$$\text{intention} = 1.88 + 0.57 \times 4$$

$$\text{intention} = 4.16$$

Since 4.16 is 1.16 far from the median, we can say that respondent 1 has high intention to use the banking technology.

Similarly the intention of the rest 207 customers is calculated and the average intention value is found to be 4.3. This shows that customers have intention to use banking technologies.

**8. CONCLUSION AND RECOMMENDATION****8.1.1. CONCLUSIONS**

The purpose of this research was to investigate factors affecting customers' attitude towards bank-related information technologies in banks operating in Mekelle city. According to the response of customers, they have positive attitude to bank-related information technology application in banks. It is also discovered that customers have intention to use such technologies. More over the significance of some of the factors that affect customers' attitude are tested. The regression output indicates that all the variables affecting customers' attitude have positive impact on their attitude towards bank-related information technology application in banks. All variables are found to be significant at 1% significant level except compatibility, which is insignificant even at 10%. Similarly attitude of customers, that in turn determines their intention, is found to be significant at 1%; that contributes customers to have intention to use bank-related information technology results.

**8.1.2. RECOMMENDATIONS**

- Nowadays, customers are more perceptive and less dependable to a particular bank, and demanding of products and services that fit their specific needs. As expressed in the findings, customers' demand of using banking technologies has increased. Therefore, those banks who have applied some technologies should install other extra banking technologies; and those banks that are lagging to adopt the modern banking technologies should follow the footprint of the banks who have applied to take advantage of latter adopter opportunities.
- The current Ethiopian education system is promising that there will be literate customers than ever before. Besides, banks should use media in order to introduce the technology to the customers. They could prepare pamphlets to provide tutor about operation of the applied technologies for their customers.



- In Ethiopia, there was no legal and regulatory framework for electronic services. This was because of absence of electronic services for which regulation is to be set. But now since there is emergence of electronic services in banks and other institutions, banks should collaborate with other e-service providing institutions and request government to set legal framework to handle electronic services.
- Banks should formally discuss with the Ethiopian telecommunication corporation so that the frequent network interruption problem will be alleviated.
- Banks should build the capacity of the banks' staff by providing corresponding/relative trainings to get them fit with the adopted technology.
- Banks should be committed enough to cope-up with challenges result from technology application by developing good IT policy rather than frustrating and ignoring to apply information technology, so long as IT is found to increase efficiency and effectiveness of the transaction activities and profitability of the bank altogether.
- Banks should try to have optional user interface developed with the local language of the customers so that customers can easily communicate with the technologies to execute their transactions.
- Banks should use highly secured authentication/authorization systems which protect applications by verifying user identity and password, providing access to devices based on authentication given for the user. They should also assure customers that they will take risks which might result from system failures.
- Banks should create awareness for their staff that application of banking technology will not negatively influence their working environment and assure them that application of information technology in the bank will not let them lose their job and or autonomy. And the banks should show a sense of accountability for their staff with respect to job related risks that might be caused by application of information technology in the bank. This will make the staff to have sense of belongingness and strive for the successfulness of the organization's goal instead of feeling as any ordinary employee.
- Banks who have installed technologies should try to customize them in such a way they agree with their customers.
- Banks should install information technology products that are simple to operate; compatible with the living style, working hours, local language and societal cultures; whose results are observable so that they will easily get adopted by customers.

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## EFFECTIVE USE OF TRAINING FEEDBACK FOR REINFORCEMENT OF LEARNING AND EMPLOYEE DEVELOPMENT

**AJAY KR VERMA**  
**DEPUTY GENERAL MANAGER & LEAD TRAINER**  
**LEARNING CENTER**  
**RELIANCE COMMUNICATIONS LIMITED**  
**MUMBAI**

**SUDHIR WARIER**  
**ASST. GENERAL MANAGER & LEAD**  
**LEARNING CENTER**  
**RELIANCE COMMUNICATIONS LIMITED**  
**MUMBAI**

**LRK KRISHNAN**  
**SENIOR VICE PRESIDENT & HEAD HR**  
**NETWORK GROUP & LEARNING CENTER**  
**LEARNING CENTER**  
**RELIANCE COMMUNICATIONS LIMITED**  
**MUMBAI**

### ABSTRACT

*The technology intensive telecom industry mandates a radical approach to training management, delivery and calls for an integrated holistic feedback mechanism to positively impact employee productivity and performance. Organization learning and development function is an important catalyst that facilitates the creation of an agile and engaged workforce capable of meeting the current and future business requirements. An effective learning & development framework coupled with a multi dimensional feedback mechanism is a precursor to building a highly competent work force. This paper is based on primary research data from a leading telecom company, compiled over a span of ten months, and provides conclusive linkages between an effective feedback mechanism and employee competency development in the telecom industry.*

### KEYWORDS

CVP, EVA, EVP, Training Delivery Index, Trainee Satisfaction Index.

### 1.0 INTRODUCTION

The telecom industry is highly technology centric and requires a pool of highly skilled and technically competent workforce for managing its operations. This study is based on primary data from an integrated information and communications company with over 160 million subscribers and a pan-India, high-capacity, integrated (wireless and wireline), convergent (voice, data and video) digital network, offering services spanning the entire communication value chain. Its network is a convergence ready broadband network, spread over large geographical area through terrestrial, submarine and satellite links, with a scalable and restorable global NGN footprint, MPLS enabled CORE data network, certified MEN network (e.g. MEF forum), integrated BSS-OSS to support complex suite of services with end-to-end connectivity provided over fibre. The highlights of the network include the following:

- Over 800 global, regional and domestic carriers
- Over 2,100 Indian and Multinational corporations
- Providers of cutting edge connectivity to over 850 of top 1000 companies in India
- Connecting 2.5 million individual overseas customers
- 190,000 Kms of fiber optic cable connecting over 1 million buildings with over 1.4 million access lines
- 9 Data Centre's with data storage space of over 6.5 Lakh sq. ft.
- Fiber-to-the-building approach helping in creating a network with unlimited capacity and ability to support gigabit per second bandwidth services for customers

The present day telecom networks are layered as shown in figure 1. The transport layer provides the common photonic framework that interconnects the access networks and elements. Switching, signalling and NGN services are provided by the core layer in the middle which consists of MSCs, GSMCs, Fixed Line Switches, Trunk Automatic Exchanges, Home Location Registers, Value Added Services platforms etc. The application layer at the top hosts contents and services on application servers and access networks facilitates connectivity to the end-users. The technologies deployed include Plesiochronous Digital Hierarchy (PDH), Synchronous Digital Hierarchy (SDH), Dense Wavelength Division Multiplexing (DWDM), Optical Transport Network (OTN), Microwave, VSAT and Optical Burst Switching (OBS) on the transport domain, 2G to 3G, GSM to UMTS, CDMA to HSD in the Wireless domain, IP to MPLS, Circuit Switched to IP Multimedia Subsystem (IMS), Utilities, OSS and many more. The services provided includes POTS, PRI, Leased line, VoIP, HSD, Video Calling, Ethernet Leased Lines, L3-VPN, Mobile TV, Mobile broadband on 3G, etc.

FIGURE 1 – LAYERED TELECOM NETWORK



The Network entity of the telecom company is responsible for planning, deployment, monitoring, operation and maintenance of its overall telecom network. The primary network functions include Planning & Engineering, Installation & Commissioning, Provisioning & Fault Management, Operation, Maintenance, Administration & Performance (OMAP), Quality and other Support functions.

The Learning Center (LC), an ISO 9001:2008 certified entity established in the year 2002. Over the past ten years, LC has trained & certified more than 56,000 employees through instructor led trainings as well as distance learning programs. In addition over 61,000 employees were certified using proprietary self learning methodologies. The LC portfolio comprises of over 220 Instructor Led Training (ILT) courses and 92 Self Learning Modules (SLM) on cutting edge telecom equipment, technologies and services covering all telecom layers. The LC lead trainers (Subject Matter Experts – SME) are functionally aligned to the domain experts. Learning & Development function ensures the readiness of the organizational manpower to quickly adapt to the technological advancements and maintaining high quality standards as per the business requirements.

Individuals in an organisation are distinct in terms of their personality, experience, skills and capability. Meeting key performance indices (KPI) of a modern day telecom network calls for a team effort in order to deliver sustained performance. With the change in technology, increasing complexity of equipments and resultant operation & maintenance (O&M) issues inconsistencies in team & individual performance will translate into poor network performance. A holistic feedback mechanism is required in order to provide effective customised learning solutions targeted at satisfying the network requirements while measuring on-the-job impact of the trainees. The feedback mechanism should be capable of integrating participant perceptions, track assimilation of skill sets and on-the-job assessments of the participants and provide objective inputs to the design process. This will facilitate the design and development of customized learning solutions that will lead to employee competency development (as opposed to skill development using conventional design methodologies). A competent workforce forms the corner stone of an organization leading to enhanced EVA, employee (EVP) and customer value proposition (CVP).

## 2.0 RESEARCH PROBLEM

The design, deployment, maintenance and management of the modern day state-of-the-art telecom networks mandates a pool of competent technical manpower that is capable of quickly adapting to technological and product changes. A dynamic learning and development framework is an important precursor to employee competency development. A competent workforce helps an organization build and sustain a long-term competitive advantage. The major challenges faced by the telcom industry are enumerated below:

- Increasing number of customers, development of new bandwidth intensive applications, design and exponential growth in online gaming results in frequent network expansion for capacity expansions. This results in dynamic changes in network architecture, traffic engineering and deployment of new products and technologies. The technical manpower is thus expected to develop new skills and competencies to keep abreast of the latest technology and products deployed in the network. This calls for frequent “learning and un-learning” cycle putting additional pressure on the workforce
- There is a gap in academic learning verses skill requirement at the industry. Studies (NASSCOM-McKinsey report, 2005) have revealed that only about 25% of total engineering graduates passing out of colleges/universities are possessing skill sets relevant to the telecom industry
- The telecom industry has the highest rate of attrition in the industry. Organizations thus need to invest substantially on training to scale up its employee competencies
- More than 90% of the high end telecom equipments are manufactured in the American, European and Chinese markets. The availability of technical literature and trainings are thus at a very high premium
- In-depth knowledge is a pre-requisite to effective troubleshooting and impacts business performance

A holistic feedback mechanism is thus imperative and a pre-cursor to organizational learning & development.

## 3.0 LITERATURE SURVEY

Literature survey was undertaken to study the subject in hand. The key works that were highly pertinent to the research problem have been reproduced in this section. The study of literature validated the research solution.

### Training Needs Assessment (Janice A. Miller, February 1996 Reviewed July 2002)

This research paper highlights the importance of training need assessment. The training needs assessment is a critical activity for the learning and development function. This study provides an overview of the training and development function and highlights how the need assessment fits into this process, followed by an in-depth look at the core concepts and steps involved in conducting a training need assessment. Designing a training and development program involves a sequence of steps that can be grouped into five phases: needs assessment, instructional objectives, design, implementation and evaluation. To be effective and efficient, all training programs must start with a needs assessment. Long before any actual training occurs, the training manager must determine the who, what, when, where, why and how of training. To do this, the training manager must analyze as much information as possible about the following:

- Organization and its goals & objectives
- Jobs and related tasks that need to be learned
- Competencies and skills that are need to perform the job
- Individuals who are to be trained

There are three levels of needs assessment: organizational analysis, task analysis and individual analysis.

1. Organizational analysis looks at the effectiveness of the organization and determines where training is needed and under what conditions it will be conducted
2. Task analysis provides data about a job or a group of jobs and the knowledge, skills, attitudes and abilities needed to achieve optimum performance
3. Individual analysis analyzes how well the individual employee is doing the job and determines which employees need training and what kind

**Developing An Effective 360 Degree Feedback Survey And Conducting A Successful Campaign (Corporation, 2007)**



The 360 degree feedback process involves gathering a full circle of ratings from various perspectives (self, manager, peers, subordinates and customers) in order to diagnose skills and provide feedback to participants. While 360 degree feedback has several advantages, they are often not fully realized due to flaws in the survey design and/or poor implementation of the 360 assessment process. This Insight white paper offers suggestions on how to develop a valid and effective 360 degree feedback survey, and how to conduct an effective process that can lead to valid assessments of capabilities and employee development.

#### **Transfer of Training: The Role of Feedback In Supportive Social Networks (Piet Van den Bossche, June 2010)**

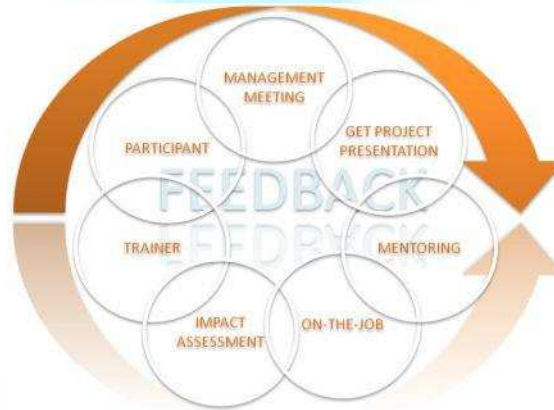
The transfer of training to the workplace often fails to occur. The authors argue that feedback generated within the work environment about the application of newly learned skills in the workplace helps to close the gap between the current performance and the desired goal of full application of what is learned during training. This study takes a social network perspective and explores the role of feedback generated within the social network in fostering motivation-to-transfer and the transfer of training. The results show that the number of people providing feedback and the helpfulness of this feedback are positively related to the motivation for and actual transfer of training. The frequency of feedback appears to be negatively related. This study underlines the importance of feedback in turning the workplace into a learning environment fostering the transfer of training.

The literature survey helped to get insights about feedback from unconventional sources like employee mentoring, network performance report analysis, MTTR and even post training validation. The analysis of these feedbacks will form the basis of development of dynamic learning solution to cater to the changing requirements.

#### **4.0 MULTI-DIMENSIONAL FEEDBACK MECHANISM**

LC uses a proprietary multi-dimensional feedback mechanism for evaluating effectiveness of its training program. The figure 2 illustrates this feedback mechanism. The multi-dimensional model integrates feedback from multiple sources including participants of training programs – classroom, virtual and self learning, trainers, impact analysis reports, on-the-job training assessment sheets, mentoring reports, graduate engineering trainees (GET) 6-monthly and confirmation presentations, senior management reviews, open houses, quarterly quality management reviews (QMR), Network performance reports (Daily, Weekly, Fortnightly, Monthly, Quarterly and Annual), validation test scores and assessment, certification and online quizzes. The learning's are translated to actionable points through integration with the development life-cycle.

**FIGURE 2 – MULTI-DIMENSIONAL FEEDBACK MECHANISM**



The conventional approaches of collating training feedbacks are not a sufficient indicator of the efficacy of the training programs. In fact there are many other avenues for tapping feedbacks for productivity and performance improvement of a telecom network. Current methods of participant validation involve a mandatory test at the end of a training program, the scores of which are deemed to be indicative of the participants' knowledge of the subject. However unattempted or wrong answers in the validation test can provide ample insights into the learning gaps of the participants' learning and are never looked into. In addition, network performance indicators, Mean-Time-To-Repair (MTTR), Root Cause Analysis (RCA), network failures etc provide good insights to potential learning gaps and should be used as training design inputs to improve upon the existing training modules and its delivery. In-depth knowledge is a pre-requisite to effective troubleshooting and impacts business performance.

Network performance reports of all the network elements (NEs) are generally captured by operation support systems. These reports provide key performance indices (KPIs) of cellular radio network, packet and TDM core networks, value added services (VAS) platforms etc. Performance parameters, its threshold settings and observed gap give insight on network quality, performance. These important feedbacks provide ample opportunity to uncover potential learning gaps and reinforcing redesigned course modules to improve competency level of employees. Return of investment (ROI) from training can be maximised when holistic feedback is taken into account in current training process.

The constituents of the multi-dimensional feedback system developed by the LC are enumerated in the following section:

- Trainer Feedback on any critical points or supplementary observations raised by training participants
- Impact Assessment is carried out by taking specific feedback (half-yearly) from the reporting managers of the training participants on the outcomes of training programs
- On-the-job feedback is used to evaluate and modify the trainings imparted to the fresh engineering recruits. This feedback also forms an important source for training need identification, course design & development and delivery
- Mentoring feedback provide details about the performance of the mentees. Because of their regular interaction with mentees, mentor is able to capture feedback which is not captured during normal training delivery
- GET project 6 monthly and confirmation presentations provide direct feedback on their learning and shortcomings during the training period
- Organizational learning and development activities and progress are presented and tracked at senior management meetings and the feedback obtained is ploughed back as a design input

Training programs supplemented with self learning modules (SLM) enhances the learning efficiency. A paradigm shift is required in Training Need Identification (TNI), equipping trainers (SMEs) with sufficient skills and knowledge, course design & development, thorough feedback capturing & analysis and training delivery. It is conclusively established that continuous learning and skill updation is mandatory to the various stakeholders in the telecom domain – the individuals as well as teams/organizations.

The following points summarises the need for a multi-dimensional feedback mechanism:

1. There are many potential areas for obtaining critical feedback for the learning & development function, which are not generally included in the normal evaluation process. These include on-the-job feedback, validation test, impact analysis, mentoring, presentations by participants, meetings, network performance reports, MTTR and downtime analysis among others
2. The curriculum design & development process is incomplete without translating multi-dimensional feedback into learning objectives. Learning solutions without a holistic feedback mechanism would not be able to improve the training delivery

## 5.0 LEARNING AND DEVELOPMENT FRAMEWORK

LC has developed two models for providing customized learning solutions to meet the technological challenges, business requirements while keeping in mind the unique requirements of individual learners. The ALS model has been developed to accelerate the learning curve of fresh engineering graduate recruits while 3T's model meets the requirements of the experienced engineers.

### ACCELERATED LEARNING SOLUTION FRAMEWORK

The Accelerated Learning Solution Framework (ALS) offers instructor led conventional and virtual classroom (video conference) learning supplemented by a self learning framework.

### 3TS (TELECOMMUNICATION, TECHNOLOGY AND TRAINING)

3Ts (Telecommunication, Technology and Training) model is a cost effective learning solution in comparison with conventional & virtual classroom techniques. It is tempered with a voluntary self learning and mandatory certification mechanism, thereby increasing its effectiveness and creating a learning organization. The model goes beyond traditional e-learning and is an amalgamation of online learning, virtual learning, distributed learning, networked or web-based learning techniques. 3Ts training model includes hands-on experience on live equipments in training labs that can be accessed locally as well as remotely over Intranet/Internet. Trainers provide online guidance and evaluation to individual participants during practical sessions. 3Ts model facilitates balances learning while developing proficiencies required in managing huge multi service global networks within specified quality levels.

#### 5.1 TRAINING NEED ASSESSMENT

Designing a training and development program involves a sequence of steps that can be grouped into five phases: needs assessment, instructional objectives, design, implementation and evaluation. The training needs are assessed by a 4-tier hierarchy comprising of the immediate supervisor, department head, Learning Center and HR. Training needs are assessed broadly based on

- Organization and its goals and objectives
- Jobs and related tasks that need to be learned
- Competencies and skills that are need to perform the job
- Individuals who are to be trained

The learning solutions are structured into three levels basic, intermediate and advanced.

#### 5.2 CURRICULUM DEVELOPMENT

Learning solutions are developed based on the inputs received from training need analysis and the multi-dimensional feedback mechanism. These include conventional courseware, presentations supplemented with e-learning modules (self learning), videos, best practices, root cause analysis (RCA) duly validated by LC and functional subject matter experts.

#### 5.3 TRAINING DELIVERY

The reinforcement of training solutions after taking into account all the training needs is done through following methods:

- Conventional classroom
- Video Conference (VC) based distance learning
- Voluntary self learning & mandatory certification
- On-the-job learning

Conventional classroom based training is primarily used for Induction training of fresh engineers and employees present at training location. To infuse required skills and capability, LC offers them 3Ts (Telecommunication, Technology and Training) blended learning exposure of theory and hands-on on telecom technology and network equipments. It is a cost effective learning solution, developed by leveraging LC's experience in delivering learning solutions for over a decade, as compared to conventional & virtual classroom techniques. The model goes beyond traditional e-learning and is an amalgamation of online learning, virtual learning, distributed learning, networked or web-based learning techniques. Training on diverse and complex telecommunication technologies gives leverage to a corporate on doing strategic planning, data security, offering competitive B2B & B2C solutions, efficient network operation and management.

#### 5.4 TRAINING EVALUATION & FEEDBACK

Training program include an evaluation mechanism to track employees learning. Certified task-force is the key in achieving set targets, productivity and growth. Improved service quality, customer satisfaction and retention, higher network usage and hence higher revenues are then achievable goals. Learning environment in an organisation creates a win-win situation for both employees and the organisation.

## 6.0 RESEARCH METHODOLOGY

The broad objective of this research is to present and analyze the impact of a multi-dimensional feedback mechanism on employee competency development and productivity improvement in the telecom industry.

### 6.1 RESEARCH OBJECTIVES

The specific objectives include:

- To establish the impact of feedback on training delivery and employee competency development
- To measure the effectiveness of a holistic feedback mechanism on employee productivity and performance

### 6.2 HYPOTHESIS

Hypothesis for this research is as below:

**H1:** A multi-dimensional feedback mechanism positively impacts Employee Learning and Development

**H2:** A multi-dimensional feedback mechanism contributes to the development and delivery of effective enterprise Learning Solutions

### 6.3 SAMPLING DESIGN

The research employed stratified variable sampling with a sample size of 100. The issue of variable sampling has been used extensively in conceptual development but has received almost no empirical evaluation. The development of both validity and reliability models has used the concept of variable sampling. For example, content validity "is established by showing that the test items are a sample of a universe in which the investigator is interested" (Cronbach & Meehl, 1955, p. 285). Likewise, internal consistency definitions of reliability, such as KR-20 or coefficient alpha, have relied on variable-sampling arguments (Cronbach, 1951; Kuder & Richardson, 1937).

This research study was based on the data collected from the core network period 2011-2012. A sample size of 100 participants is deemed to be statically significant for the purpose of hypothesis testing.

### 6.4 DATA COLLECTION

The primary data for this research has been collected through online feedback system, LC management information system (MIS), PMS records, mentoring feedback, impact assessment, CTO review meetings, National Network Operation Center (NNOC) performance reports on core switch MTTR, switch availability & answer to seizure ratio.

### 6.5 DATA ANALYSIS AND INTERPRETATION

The participant feedback is captured online after the end of every course and Training Delivery Index (TDI) and Trainee Satisfaction Index (TSI) is computed from the feedback. TDI & TSI of courses on telecom Core domain – function Switch is shown in figure 3 & 4.

FIGURE 3 – TRAINING DELIVERY INDEX OF CORE DOMAIN - SWITCH

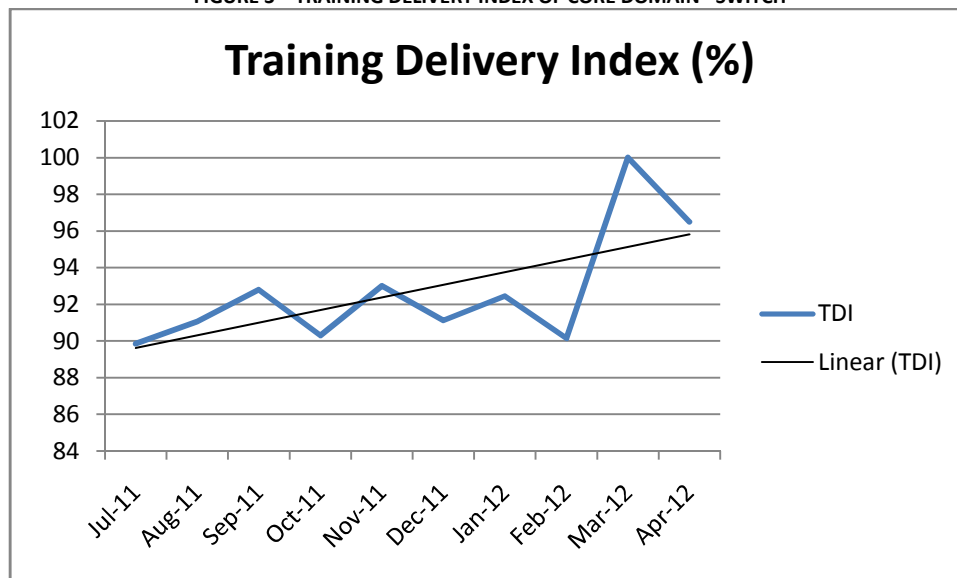
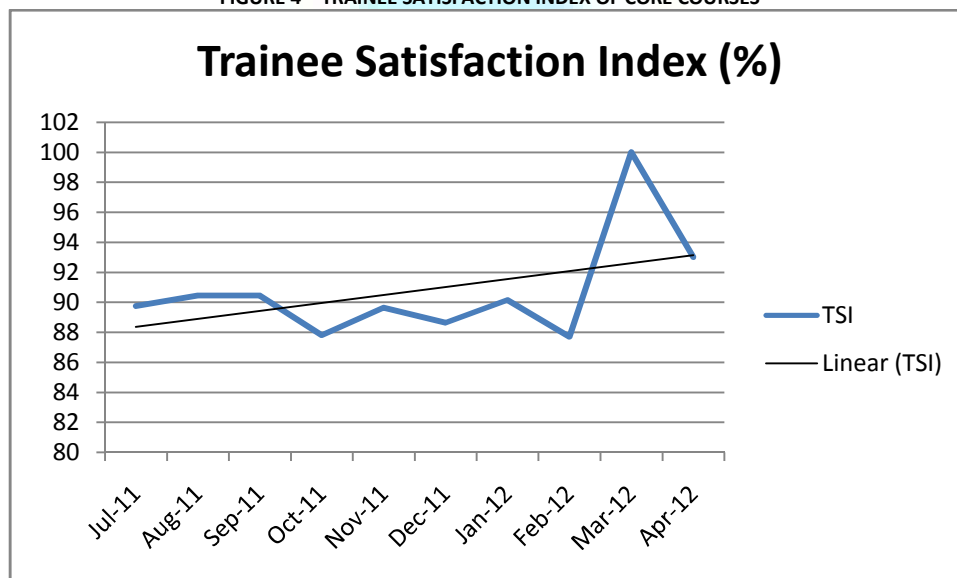
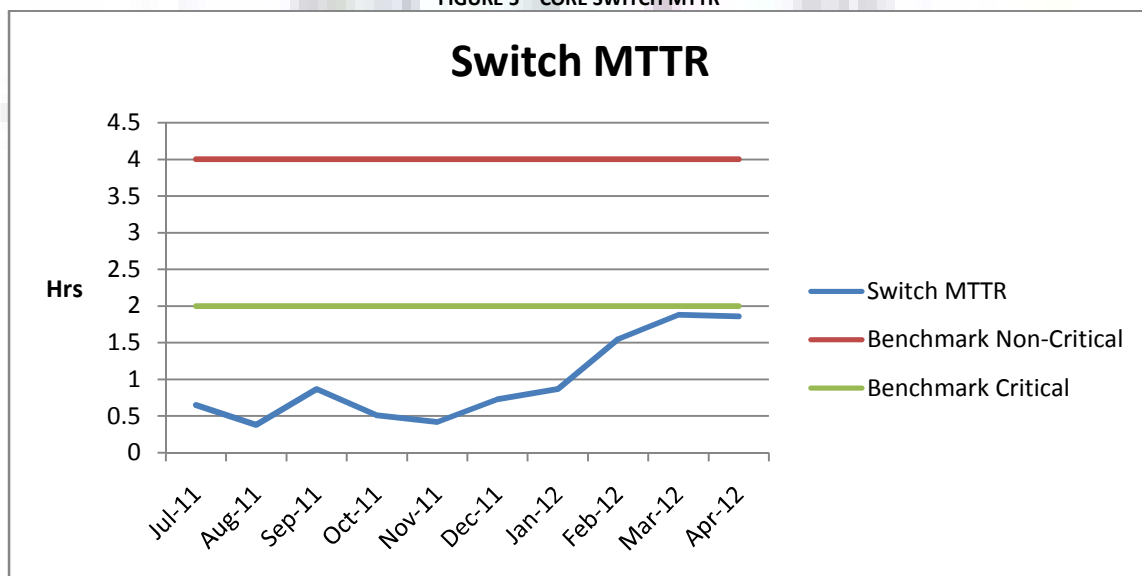


FIGURE 4 – TRAINEE SATISFACTION INDEX OF CORE COURSES



Feedback of participants and few main telecom network KPIs – MTTR, Availability and Answer to Seizure Ratio (ASR) are analysed for hypothesis testing. MTTR is a basic measure of the maintainability of repairable items. It represents the average time required to repair a failed component or device. It is the total corrective maintenance time divided by the total number of corrective maintenance actions during a given period of time. Network MTTR for critical and non-critical faults is set at 2 hrs and 4 hrs respectively. The Switch MTTR in figure 5 shows that switch MTTR is well within the minimum limit of 2 hrs for all types of faults.

FIGURE 5 – CORE SWITCH MTTR



Improved switch availability directly represents the readiness of the exchanges to carry subscriber call or services. It leads to increase in or sustained level of ARPU (Average Revenue Per User), Wireless MoU per sub (Minutes of Use), RPM (Revenue Per User), EBITDA (Earning Before Interest Tax Depreciation & Amortisation) and customer satisfaction. Figure 6 shows sustained high core switch availability over the observed period.

FIGURE 6 – CORE SWITCH AVAILABILITY

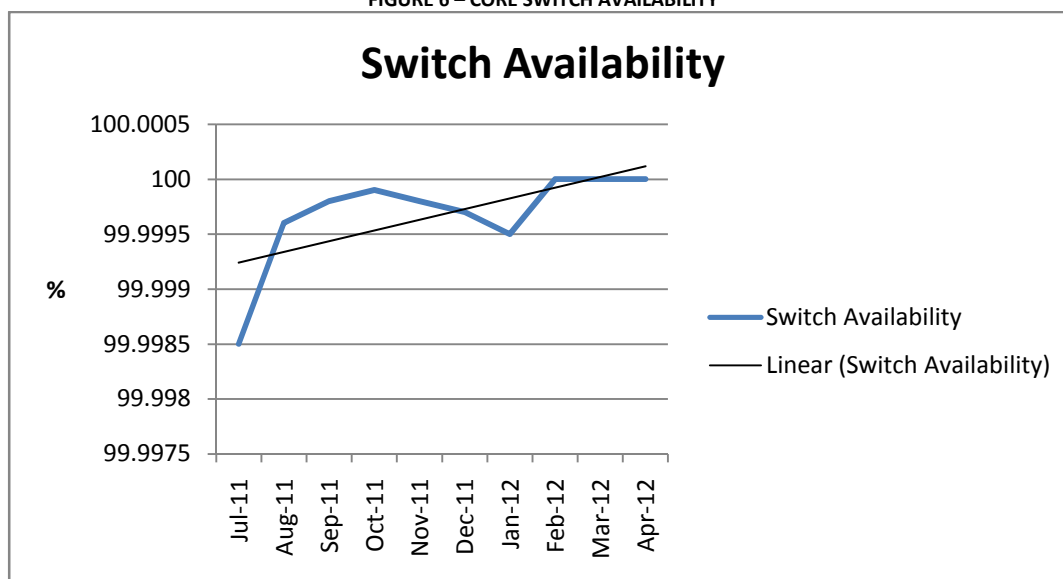
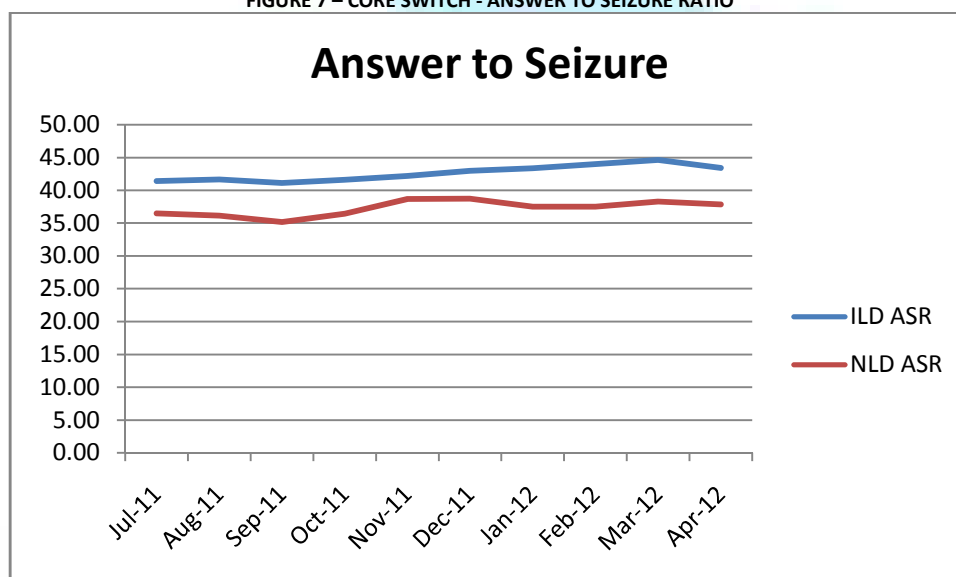


Figure 7 represents Answer to Seizure ratio of telecom switches. ASR represents a ratio of successful call to all call attempts received by the exchange. All call attempts (seizures) do not result into revenue for the operator. An answered call ensures revenue from the call. There are many factors beyond network, affecting ASR. Some of the reasons of poor ASR is no answer by the called party, rejecting a call by the subscriber, ring out and no answer etc. Improvement on ASR can be achieved by high network availability and improved network KPI or quality. Improvement on ASR over a long period indicates improved and healthy network.

FIGURE 7 – CORE SWITCH - ANSWER TO SEIZURE RATIO



## 6.6 HYPOTHESIS TESTING

### Null Hypothesis

**H<sub>0</sub>1:** A multi-dimensional feedback mechanism does not impact organizational learning and development

TABLE 1 – HYPOTHESIS TEST SUMMARY FOR FEEDBACK &amp; LEARNING

PAIRED SAMPLES TEST							
		Paired Differences				t	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		
					Lower	Upper	
Pair 1	ILDASR - TDI	4.12927	2.72879	.86292	2.17721	6.08133	4.7859
Pair 2	SwitchAvail - TDI	7.2766800	3.2222849	1.0189760	4.9715962	9.5817638	7.1419
Pair 3	ILDASR - TSI	6.09427	3.17177	1.00300	3.82533	8.36322	6.0769
Pair 4	NLDASR - TSI	-6.06255	3.92055	1.23979	-8.86714	-3.25795	-4.8909

It can be observed that from Table 1 that  $p < 0.05$  for Pair 1 & 2. The null hypothesis stands rejected.

It can thus be inferred that a multi-dimensional feedback mechanism positively impacts organizational learning and results in employee competency development.

**H<sub>0</sub>2:** A multi-dimensional feedback mechanism does not contribute to the development and delivery of effective enterprise learning solutions.

It can be observed that from Table 1 that  $p < 0.05$  for Pair 3 & 4. The null hypothesis stands rejected.

Thus it can be inferred that the multi-dimensional feedback mechanism results in the development and delivery of effective learning solutions that positively impacts employee and network performance.



**7.0 KEY FINDINGS****7.1 DESCRIPTIVE STATISTICS****TABLE 2 - DESCRIPTIVE STATISTICS**

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
		Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
TDI	10	10	90	100	92.72	1.019	3.222	1.559
TSI	10	12	88	100	90.76	1.135	3.588	2.206
ILD ASR	10	4	41	45	42.61	.384	1.215	.315
NLD ASR	10	4	35	39	37.27	.378	1.195	-.399
Switch Availability	10	0	100	100	100.00	.000	.000	-2.355
Switch MTTR	10	2	0	2	.97	.183	.577	.807
Valid N (listwise)	10							

**7.2 CORRELATIONS****TABLE 3 - CORRELATIONS**

		TDI	TSI	ILD ASR	NLD ASR	Switch Availability	Switch MTTR
TDI	Pearson Correlation	1	.936**	.593	.382	.442	.703*
	Sig. (2-tailed)		.000	.071	.276	.200	.023
	N	10	10	10	10	10	10
TSI	Pearson Correlation	.936**	1	.527	.250	.218	.628
	Sig. (2-tailed)	.000		.118	.486	.546	.052
	N	10	10	10	10	10	10
ILD ASR	Pearson Correlation	.593	.527	1	.700*	.464	.797**
	Sig. (2-tailed)	.071	.118		.024	.176	.006
	N	10	10	10	10	10	10
NLD ASR	Pearson Correlation	.382	.250	.700*	1	.281	.319
	Sig. (2-tailed)	.276	.486	.024		.431	.370
	N	10	10	10	10	10	10
Switch Availability	Pearson Correlation	.442	.218	.464	.281	1	.437
	Sig. (2-tailed)	.200	.546	.176	.431		.206
	N	10	10	10	10	10	10
Switch MTTR	Pearson Correlation	.703*	.628	.797**	.319	.437	1
	Sig. (2-tailed)	.023	.052	.006	.370	.206	
	N	10	10	10	10	10	10
**. Correlation is significant at the 0.01 level (2-tailed).							
*. Correlation is significant at the 0.05 level (2-tailed).							

**INTERPRETATION:** Following is observed from the above correlations.

1. Training Delivery Index has strong correlation with Trainee Satisfaction Index. Multi-dimensional feedbacks when taken into account for course improvement and delivery, positively impacts trainee satisfaction i.e. improved training contents are helpful in achieving on-the-job competence.
2. Training Deliver Index has strong correlation with switch Mean-Time-To-Repair. MTTR is observed well within the allowed specification limits. Improvement in training programs by incorporating multi-dimensional feedbacks has led to high levels of competence among the participants resulting in efficient handling of network O&M issues. This is reflected in sustained high levels of Switch MTTR. Following can be inferred from the TDI & MTTR correlation.
  - a. A positive impact of training delivery on employee competencies
  - b. Fulfilment of training needs
  - c. Training ROI
3. Answer-to-seizure ratio of international long distance calls has high correlation with MTTR and hence TDI. This shows that learning solutions developed taking into account the multi-dimensional training feedback has resulted in less downtime of the network and high amount of successful calls which results into enhanced MoU, ARPU and EBITDA.

**7.3 RELIABILITY STATISTICS****TABLE 4 - RELIABILITY STATISTICS**

Cronbach's Alpha	N of Items
.754	6

**INTERPRETATION:** Cronbach's (alpha) is a coefficient of reliability. Cronbach's alpha will generally increase as the inter-correlations among test items increase, and is thus known as an internal consistency estimate of reliability of test scores. Because inter-correlations among test items are maximized when all items measure the same construct, Cronbach's alpha is widely believed to indirectly indicate the degree to which a set of items measures a single uni-dimensional latent construct. Cronbach's Alpha values > 0.7 shows an acceptable level of internal consistency.

**7.4 FACTOR ANALYSIS****TABLE 5 - PRINCIPAL COMPONENT ANALYSIS**

Component	TOTAL VARIANCE EXPLAINED			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.644	60.731	60.731	3.644	60.731	60.731	2.554	42.565	42.565
2	1.014	16.897	77.628	1.014	16.897	77.628	2.104	35.063	77.628
3	.759	12.655	90.282						
4	.471	7.855	98.137						
5	.097	1.620	99.757						
6	.015	.243	100.000						

Extraction Method: Principal Component Analysis.

**INTERPRETATION:** Principal component analysis (PCA) seeks a linear combination of variables such that the maximum variance is extracted from the variables. It then removes this variance and seeks a second linear combination which explains the maximum proportion of the remaining variance, and so on. This is called the principal axis method and results in orthogonal (uncorrelated) factors. Factor analysis on the above mentioned components shows two principal factors that

account for more than 77 percent variability. In other words effective feedback has a direct positive impact on training, employee on-the-job competency development and telecom network productivity & performance.

## 8.0 SCOPE FOR FURTHER STUDY

- Current study was conducted with 100 samples on Core Switch domain. Study may further be extended to other areas of telecom network e.g. GSM & CDMA Wireless, wireline, Access, Transport network etc with a large sample size
- To findings of this study may be validated through analysis of secondary data from similar studies in other telcos

## 9.0 CONCLUSION

- The study conclusively establishes the positive impact of feedback on training delivery and employee on-the-job competency development
- Holistic feedback mechanism ensures better training delivery. Effective training delivery enhances employee competencies and translates to effective O&M practices those results in improved network availability & performance

## 10.0 THEORETICAL, PRACTICAL IMPLICATIONS & LIMITATIONS OF THE STUDY

Evaluating training effectiveness is important because it sheds light on four aspects. This includes:

- How well the training program met the learner's needs and objectives
- What knowledge and skills it has imparted to learners
- What desirable change it has brought in the learners' performance
- What organizational benefits it has yielded

Financial assessment of a training program is crucial in that it provides useful insights into the Returns on Investment (ROI). This assessment depends on evaluating how well the employees implemented the skills they have learnt in the training program.

Effective use of training feedback for reinforcement of learning solutions is a pre-requisite for employee productivity enhancement and competency development. The proactively use of a feedback mechanism:

- Helps employees to monitor their own improvement
- Builds morale, by demonstrating an interest in staff development
- To maximize the training ROI (return on investment)
- Helps to determine the form of future training programs
- Assists with identifying the effectiveness of different forms of teaching (such as classroom based or distance learning)

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## APPENDIX

TABLE 6 – MONTH WISE TDI &amp; TSI

Month	TDI	TSI
Apr-12	96.5	93
Mar-12	100	100
Feb-12	90.15	87.7
Jan-12	92.45	90.15
Dec-11	91.13	88.63
Nov-11	93	89.65
Oct-11	90.3	87.8
Sep-11	92.8	90.45
Aug-11	91.05	90.45
Jul-11	89.85	89.75

TABLE 7 – SWITCH MTTR

Month	Switch MTTR	Benchmark Non-Critical	Benchmark Critical
Apr-12	1.86	4	2
Mar-12	1.88	4	2
Feb-12	1.55	4	2
Jan-12	0.87	4	2
Dec-11	0.73	4	2
Nov-11	0.42	4	2
Oct-11	0.51	4	2
Sep-11	0.87	4	2
Aug-11	0.38	4	2
Jul-11	0.65	4	2

TABLE 8 – SWITCH AVAILABILITY

Month	Switch Availability
Apr-12	100
Mar-12	100
Feb-12	100
Jan-12	99.9995
Dec-11	99.9997
Nov-11	99.9998
Oct-11	99.9999
Sep-11	99.9998
Aug-11	99.9996
Jul-11	99.9985

TABLE 9 – ILD &amp; NLD ANSWER TO SEIZURE RATIO

Month	ILD ASR	NLD ASR
Apr-12	43.40	37.83
Mar-12	44.63	38.30
Feb-12	43.98	37.51
Jan-12	43.35	37.49
Dec-11	42.94	38.72
Nov-11	42.18	38.69
Oct-11	41.57	36.4
Sep-11	41.1	35.15
Aug-11	41.62	36.12
Jul-11	41.38	36.45

# IMPACT OF DEMOGRAPHIC VARIABLES ON FACTORS OF JOB SATISFACTION OF EMPLOYEES IN PUBLIC SECTOR: AN EMPIRICAL STUDY

**DR. RIZWANA ANSARI**

**PROFESSOR**

**NIMRA COLLEGE OF ENGINEERING & TECHNOLOGY  
JUPUDI**

**DR. T. N. MURTY**

**DIRECTOR**

**NIMRA COLLEGE OF BUSINESS MANAGEMENT  
JUPUDI**

**NILOUFER QURAISHY**

**RESEARCH SCHOLAR**

**BHAGWANT UNIVERSITY  
AJMER**

**S A SAMEERA**

**RESEARCH SCHOLAR**

**ACHARYA NAGARJUNA UNIVERSITY  
NAGARJUNA NAGAR**

## ABSTRACT

Human resources are the people at work who are utilizing their talent, skill, ability and competence for the achievement of the organizational and individual goals. The human resources are very important for the successful performance of the organization in which they work. Their services towards the growth and the development of the organization in co-ordination with the management are valuable and their ever-developing skills and aptitudes are instrumental for the effective functioning of the institution. Employee Welfare measures and good working environment would greatly reduce turnover and absenteeism and improve workers' Satisfaction and efficiency to a greater extent. Significance of the studies of this type gets greatly enhanced as they clearly show the lacunae and also what could be done to improve the situation. Keeping this in view to fill the gap, a modest attempt has been made to study demographic variables on the factors of job satisfaction in this paper. To conduct the above study a state owned power sector organization in Krishna District of Andhra Pradesh, India, is selected as there are hardly studies in power sector relating to job satisfaction of the employees. The present paper/ study have been aimed at the identification of both the organizational variables and personal factors influencing the job satisfaction among the employees. This paper concentrate more on the effect of demographic variables like gender, level of education, age, length of service, salary, nature of employment etc. on job satisfaction.

## KEYWORDS

job satisfaction, public sector.

## 1. INTRODUCTION

In the present competitive business environment, it has become an axiom that the only source of competitive advantage to any organization is its people. They are the well spring of all the knowledge used to leverage other resources that organisation employ to grow and thrive. The role of human resources has evolved from being viewed as 'factors of production' to people being viewed as 'talent investors' in an organization and building human capital as a core source of competitive advantage has become a key human resource activity.

Human resources are the people at work who are utilizing their talent, skill, ability and competence for the achievement of the organizational and individual goals. The human resources are very important for the successful performance of the organization in which they work. The legislations in India and other countries, place a duty on all employers "to ensure, so far as is reasonably practicable, the health, safety and welfare at work" of all their employees. Employers must also keep and revise a written record of health and safety policy and consult with employees on such policies. Thus, physical environment, safety and welfare of employees play a crucial role in work place performance and job satisfaction of employees in every organization.

## 2. REVIEW OF THE LITERATURE

The survey/ review of the literature has been done in order to assess the extent and quality of employee safety and employee job satisfaction, provided by various organizations in various industries. There have been a number of studies conducted so far in this area. However, a few studies of importance have been presented here.

1. Gerald (2010) conducted a study on the organizational benefits of investing in work place health and the results show positive behavior from employees.
2. Gunnar Aronsson (2010) found out in his study physical environment and employee health, a remarkable improvement of employee performance.
3. Sharon Clarke (2010) in his study called An integrative model of safety climate: Linking psychological climate and work attitudes to individual safety outcomes using meta – analysis, brought out employees perception and participation linkage with performance.
4. Ronald C Politnikoff (2009) conducted a research on relationship between workplace environment and physical activity and the results show positive relationship.
5. Maja Dijkic (2008) in his study on physical environment an expanded model of job satisfaction concludes with positive correlation.
6. Singh (2007) explains the main economic features of the Cotton Textile Industry in Kanpur and discusses the nature and scope of Industrial relations.
7. Rao (2003) has studied some aspects of personnel administration and union management relations in the Indian Railways in the post-independence period.
8. Saxena (2000) gives socio-economic background of workers in the five selected units in Meerut district and discussed promotion policies, training, transfers, welfare measures, bonus, remuneration and the functioning of the trade unions.

All these studies help the management, unions and governments to improve the existing state of affairs mainly by emphasizing on functional areas of Human Resources Management and existing job satisfaction of the employees in a single unit or two units or more with a comparative study in the same sector like



private or public or co-operative. Surprisingly, very few attempts have been made by the researchers to study the extent of job satisfaction of the employees in power sector units. By comparison across the sectors with what is existed, the study shows the gap and also furnishes the reasons between the practice and precept.

### 3. OBJECTIVES AND HYPOTHESIS OF THE STUDY

#### A. OBJECTIVES OF THE STUDY

1. to examine the demographic profile of workforce in the selected power unit,
2. to ascertain the influence of physical work environment, safety and welfare on employee satisfaction and commitment, and
3. to suggest the improvising measures in the physical environment, safety and welfare measures and job satisfaction of the employees in the selected power sector.

#### B. HYPOTHESIS OF THE STUDY

**Null Hypotheses (HO<sub>1</sub>)** : There is no significant difference among the popular factors which influence job satisfaction among the employees.

**Null Hypothesis (HO<sub>2</sub>)** : Employees do not differ in their opinion about job satisfaction.

**Null Hypothesis (HO<sub>3</sub>)** : The demographic variables of employees have no effect on their job satisfaction.

### 4. METHODOLOGY

The study is conducted by using both analytical and descriptive type of methodology. The study depends on primary and secondary data. By using Pilot Study, the filled up Questionnaires are collected from 46 respondents and Cronbach's Alpha Criterion is applied to test the reliability. The value determined is 0.914 proving the reliability of the instrument. Based on the pilot study, the questionnaire is modified suitably to elicit response from the sample group.

#### SAMPLING SIZE AND DESIGN

The primary data are collected through survey method. Survey is conducted using well formulated Questionnaire. Random Sampling is applied for generating data. Samples for the purpose of the study are selected systematically. The workforce in state owned public sector unit is 3771 employees. Totally 377 Questionnaires are distributed and 350 are collected, out of which 312 completed questionnaires are found usable.

#### SECONDARY DATA

The Secondary data are collected from Journals, Magazines, Publications, Reports, Books, Dailies, Periodicals, Articles, Research Papers, Websites, Company Publications, Manuals and Booklets.

#### TOOLS FOR ANALYSIS

The processing, classification, tabulation and interpretation and analysis of data are done with the help of SPSS software package. Following statistical and mathematical techniques have been employed depending on the nature of the data collected from the respondents:

1. Factor analysis by principal component method is applied to obtain employees perception.
2. One sample t-test and paired sample t-test are used to identify the predominant factors of employee satisfaction.
3. K-means cluster analysis is exploited to classify the employees into various groups based on the demographic factors.

### 5. RESULTS AND DISCUSSIONS

The prevalence of job satisfaction varies from person to person and from time to time within the same person. This is mainly due to the presence of various factors relating to both the job and the individual within the organization.

#### ASSOCIATION BETWEEN CLUSTERS OF THE PREDOMINANT SUB-FACTORS OF JOB SATISFACTION AND DEMOGRAPHIC VARIABLES

A. The classification of clusters of the predominant sub-factors of **Job Satisfaction** shows the following Ten factors :

1. Job requirement
2. Relations with staff
3. Company and management
4. Reasonable pay
5. Working conditions
6. Innovative learning
7. Empowerment
8. Grievances handling procedure
9. Opportunity for growth
10. Living conditions and finance

#### B. Demographic variables:

1. Gender
2. Level of Education
3. Age
4. Length of Service
5. Salary
6. Nature of Employment

This section deals with the association between the **demographic variables** like gender, level of education, age, length of service, salary and nature of employment and the clusters of predominant sub-factors of job satisfaction.

#### 1. GENDER

Most of the earlier studies on difference in job satisfaction of men and women employees do not predict any particular trend. However, a few studies on job satisfaction of women employees reported that they are found to be more satisfied than men. This is mainly due to the fact that women usually look at jobs quite differently from men and they are much more committed to work than men. It is evident that there are 273 male respondents (87.5 percent) and 39 female respondents (12.5 percent).

#### ASSOCIATION BETWEEN GENDER AND CLUSTERS OF PREDOMINANT FACTORS

The data pertaining to the frequency of male and female respondents present in each cluster is that the maximum number of male and female employees are distributed in the third cluster which is considered as a strong cluster in cluster analysis. In addition, the Non-parametric Chi-square test is applied with a view to check the significant association between the clusters and gender.

It is found that the Chi-square value is not statistically significant and hence, it is concluded that there is no association between the gender and clusters of predominant factors of job satisfaction. This implies that both male and female employees look at their job from the same angle. This is mainly due to the fact that the selected public sector organisation provides equal opportunity for the development of both male and female employees.

#### 2. LEVEL OF EDUCATION

Level of education and intelligence is another important demographic variable influencing job satisfaction and too much of education than the requirement of job may probably lead to job dissatisfaction. It seems that workers like their jobs when their education skills are commensurate with job demands. However, the findings of many studies are inconsistent and inconclusive and may not hold true as in literature. It is evident that 42.9% respondents are Post-graduates

and 28.2 percent respondents are Graduates. It is also known that 19.2 percent respondents are Matriculate and Diploma holders while 9.6 percent respondents are Professional degree holders.

#### **ASSOCIATION BETWEEN LEVEL OF EDUCATION AND CLUSTERS OF PREDOMINANT**

The data relating to the frequency of the respondents grouped on the basis of their level of education in each cluster is shown that employees possessing level of education upto matriculation / diploma level are distributed in the moderate cluster while all other respondents are distributed in the third cluster which is considered as a strong cluster in cluster analysis.

In addition to the above, the Non-parametric Chi-square test is applied with a view to check the significant association between the above noted groups.

It is evident that the Chi-square value is statistically significant and hence, it is concluded that there is a strong association between the level of education and clusters of predominant factors of job satisfaction. This implies that employees possessing educational qualification upto matriculation / diploma level are found to be less satisfied with the various predominant factors of job satisfaction than that of other employees possessing level of education beyond a certain level consisting of Graduates, Post-graduates and Professional degree holders.

#### **3. AGE**

Age is one of the inherent demographic variables constituting the job satisfaction. It is believed that the status enjoyed by the people is determined by the age and many studies have predicted a close link between age and job satisfaction. During the initial years of employment, job satisfaction is high among the young workers who are in their middle and late twenties or early thirties. In the later years of employment, job satisfaction is reported to climb steadily among the employees. It is clear that most of the respondents are in the age group of 40-45 (25 percent) and 35-40 (22.8 percent) respectively. Only 19.6 percent respondents are in the age group of (30-35) while 18.3 percent respondents are in the age group of above 45.

#### **ASSOCIATION BETWEEN AGE GROUP AND CLUSTERS OF PREDOMINANT FACTORS**

The data pertaining to frequency of the age level of the respondents in each cluster is that the maximum number of employees in the age group of 30-35 years is distributed in the second cluster which is the moderate cluster. On the other hand, the maximum number of employees in the other age groups is distributed in the strong cluster.

The Non-parametric Chi-square test has also been applied with a view to check the significant association between the above noted groups. Pearson Chi-square value and its significance is predicted in that the Chi-square value is statistically significant and hence, it is concluded that there is a strong association between the different age group of employees and clusters of the predominant factors of job satisfaction. This implies that age is one of the inherent personal character influencing job satisfaction and it is found that in the age group of 30-35 years, job satisfaction is neither too low nor to high. The study also reveals that job satisfaction goes high for all other group of employees due to the pleasant working environment prevailing.

#### **4. LENGTH OF SERVICE**

Many studies on job satisfaction have reported that the level of job satisfaction grow with the length of service. Generally men and women employees with longer years of service identify more and more with the organisation and they involve with efficiency to a greater degree than the newly appointed workers and workers completed with lesser years of service. It is known that 51.3 percent respondents have service of 10-20 years, 28.8 percent respondents have service of below 10 years and 19.9 percent respondents have more than 20 years of service.

#### **ASSOCIATION BETWEEN LENGTH OF EXPERIENCE AND CLUSTERS OF PREDOMINANT FACTORS**

The data relating to the frequency of the length of service of the respondents in various clusters are that the majority employees with less than 10 years of service are distributed in the moderate cluster while the employees of the other service groups are distributed in the strong cluster in maximum number.

The Non-parametric Chi-square test has been applied with a view to check the significant association between the above mentioned clusters. It is evident that the Chi-square value is perfectly significant and hence, it is concluded that there is a strong association between the length of service of the respondents and clusters of the predominant factors of job satisfaction. This reveals that employees with less than 10 years of service feel moderate level of job satisfaction and all other employees with service of 10 years and more have high degree of job satisfaction.

#### **5. SALARY**

Salary includes the total emoluments including Basic Pay, Dearness allowance and other allowances. It is noted that the amount of money earned is important in the determination of the workers job satisfaction. Many previous studies have shown that the degree of job satisfaction with the job goes up with increase in income. It is found that a sizable number 39.1 percent of respondents are getting Rs. 2 lakhs to 3 lakhs per year. Only 28.2 percent respondents are drawing Rs. 3 lakhs to 4 lakhs while 17 percent respondents receive Rs. 4 lakhs and above. It is also known that 15.7 percent respondents are getting less than Rs. 2 lakhs.

#### **ASSOCIATION BETWEEN THE SALARY INCOME AND CLUSTERS OF PREDOMINANT FACTORS**

It is observed that the maximum number of employees with salary of less than Rs. 2 lakhs per year are distributed in the moderate cluster and the other group of employees who are having a total salary of Rs. 2 lakhs and more per year are distributed in the strong cluster in large. The Non-parametric Chi-square test is applied with a view to check the significant association between the above noted clusters.

It is noted that the Chi-square value is relatively significant and hence, it is concluded that there is a strong association between the salary income of the respondents and clusters of the predominant factors of job satisfaction. The study reveals that the level of job satisfaction increases with the higher limits of salary. However, the job satisfaction is neither high nor low for the employees earning salary of less than Rs. 2 lakhs per year.

#### **6. NATURE OF EMPLOYMENT**

The classification of the workers has been done on the basis of conditions of employment and appointment of the respondents. There are two categories of workers namely Supervisor and Non-supervisors. It is seen that 59.3 percent respondents are from Non-supervisory cadre and 40.7 percent respondents are from Supervisory cadre.

#### **ASSOCIATION BETWEEN NATURE OF EMPLOYMENT AND CLUSTERS OF PREDOMINANT FACTORS**

The relevant data pertaining to the frequency of the nature of employment of the respondents in each cluster are that the maximum number of middle level employees who are in the non-supervisory group are distributed in the moderate cluster and the maximum number of supervisory employees are distributed in the strong cluster. The Non-parametric Chi-square test has been applied with a view to know the significant association between the above mentioned groups.

It is observed that the Chi-square value is statistically significant and hence it is concluded that there is a close association between the nature of employment and clusters of the predominant factors of job satisfaction. It is found that the supervisory level of employees seem to be satisfied with the predominant factors of job satisfaction as their needs are not wider than the non-supervisory employees. However, the job satisfaction has been declining to some extent in the case of non-supervisory employees.

#### **RELATIONSHIP BETWEEN AWARDS, MERIT AND COMMENDATION CERTIFICATES AND PREDOMINANT FACTORS OF JOB SATISFACTION**

Recognition means acknowledgement of work well done by the employees and the workers feel that the appreciation enable them to perform their work more efficiently. Recognition has been given to the workers in the form of awards, merit and commendation certificates and this appreciation promotes healthy competition among the employees. In this section, the relationship between the number of awards and merit certificates obtained by the employees and the predominant factors of job satisfaction is established by applying Karl Pearson's co-efficient of correlation.

The Para-metric correlation co-efficient between the above mentioned variables is presented in Table 1.1.

TABLE 1.1: CORRELATION BETWEEN AWARDS, MERIT AND COMMENDATION CERTIFICATES AND PREDOMINANT FACTORS OF JOB SATISFACTION

Predominant factors of job satisfaction	Correlation	co-efficient	Sig. (2-tailed)	N
Awards	1			312
Job requirement	119		0.036	312
Job attachment	154	*	0.007	312
Job informations	-0.076	**	0.182	312
Relations with staff	-0.012		0.833	312
Communication	-0.091		0.110	312
Feeling of recognition	- 0.030		0.598	312
Company and management	-0.046		0.417	312
Reasonable pay	-0.098		0.083	312
Competency	- 0.020		0.720	312
Transparency in reward system	-0.047		0.410	312
Working conditions	-0.095		0.095	312
Comfort and safety	-0.050		0.376	312
Innovative learning	-0.047		0.408	312
Training conditions	-0.053		0.348	312
Empowerment	-0.031		0.580	312
Grievances handling procedure	-0.001		0.989	312
Grievances evaluation	- 0.073		0.199	312
Opportunity for growth	- 0.044		0.440	312
Promotion and education	- 0.004		0.942	312
Living conditions and finance	- 0.079		0.165	312
Relations with family members	- 0.080		0.157	312

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

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

It is evident from the correlation matrix shown in Table 1.1 that the number of awards and certificates received by the employees is deeply correlated only with the two predominant factors of job satisfaction namely **Job requirement** and **Job attachment**. This implies that the employees are able to get most of the merit and commendation certificates and awards for their meaningful contribution towards the performance of their job.

### RELATIONSHIP BETWEEN THE TRAINING PROGRAMMES AND SUB-FACTORS OF TRAINING

Training improves the ability of the workers to do the job on which they are placed. The increasing technical nature of work demand systematic training and employees with adequate training definitely give better results in quality and quantity of output than the untrained employees. In this section, the link between the Training programmes attended by the employees and the two sub-factors of Training namely **Innovative learning** and **Training conditions** is established by applying Karl Pearson's co-efficient of correlation. The data pertaining to the correlation matrix is shown in Table 1.2.

TABLE 1.2: CORRELATION BETWEEN TRAINING PROGRAMMES AND PREDOMINANT SUB-FACTORS

Sub-factors	Particulars	Innovative learning	Training conditions
Innovative learning	Pearson Correlation	1	0.432 **
	Sig. (2-tailed)		0.000
	N	312	312
Training conditions	Pearson Correlation	0.432 **	1
	Sig. (2-tailed)	0.000	
	N	312	312
Training programmes attended	Pearson Correlation	0.153 **	- 0.078
	Sig. (2-tailed)	- 0.007	0.169
	N	312	312
Training programmes attended	Pearson Correlation	- 0.023	- 0.015
	Sig. (2-tailed)	0.681	0.798
	N	312	312
Seminar participated	Pearson Correlation	0.010	- 0.042
	Sig. (2-tailed)	0.858	0.458
	N	312	312
Seminar participated	Pearson Correlation	0.001	- 0.008
	Sig. (2-tailed)	0.979	0.892
	N	312	312

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

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

From Table 1.2, it is found that the two sub-factors of training namely **Innovative learning** and **Training conditions** are significantly correlated. This implies that the training conditions are highly conducive for the employees to know the innovative technological advancement in their job. Further, it is also found that the employees are highly motivated to attend the training programmes, workshops, and seminars on their own interest. From this one can understand the interest shown by the employees in knowing the latest innovative ideas in their working environment.

### FACTORS OF EMPLOYEE JOB SATISFACTION

The study has determined the popular environmental factors which have a great influence on the constitution of employee job satisfaction. The application of Factor analysis by principal component method shows the importance of such factors in job satisfaction studies and The data pertaining to the popular factors and sub-factors influencing job satisfaction are shown in Table 1.3

TABLE 1.3: FACTORS OF EMPLOYEE JOB SATISFACTION

Factors of Job Satisfaction	Sub-factors
Nature of work	i) Job requirement
	ii) Job attachment
	iii) Job informations
Inter-personal relationship	i) Relations with staff
	ii) Communication
	iii) Feeling of recognition
Company and management	i) Company and Management
Pay and allowances	i) Reasonable pay
	ii) Competency
	iii) Transparency in reward system
Working environment	i) Working conditions
	ii) Comfort and safety
Training	i) Innovative learning
	ii) Training conditions
Empowerment	i) Empowerment
Redressal of grievances	i) Grievances handling procedure
	ii) Grievances evaluation
Personal growth and development	i) Opportunity for growth
	ii) Promotion and education
Personal factors	i) Living conditions and finance
	ii) Relations with family members

With the help of one sample t-test, the identification of predominant sub-factors of job satisfaction has been carried out and the following findings are revealed regarding the superiority of various factors and sub-factors:

- Nature of work:** The t-test revealed that job requirement is the most important sub-factor of Nature of work followed by the two sub-factors namely job attachment and job informations to constitute job satisfaction.
- Inter-personal relationship:** It is found that relations with staff enjoys predominance over the other two sub-factors of Inter-personal relationship namely communication and feeling of recognition.
- Company and management:** This is a unique factor of job satisfaction in the sense that it has no sub-factor and hence, it is concluded that all the variables of this factor are equally important and do not vary substantially in the determination of job satisfaction.
- Pay and allowances:** It is found that there is a general feeling among the employees regarding the superiority of reasonable pay as a predominant sub-factor over the other two sub-factors of Pay and allowances namely transferency in reward system and competency.
- Working environment:** Regarding Working environment, it is found that the workers display more job satisfaction towards the sub-factor of working conditions prevailing in the Working environment followed by another sub-factor namely comfort and safety.
- Training:** It has been found that 2 sub-factors of training causing job satisfaction are innovative learning and training conditions and among them innovative learning occupies the position of predominance over the second sub-factor.
- Empowerment:** The study reveals that this factor has no sub-factors and Empowerment, a factor comprising of all variables, occupies a prime position in the area of job satisfaction.
- Redressal of grievances:** Grievances handling procedure and Grievances evaluation are the two sub-factors and the important variables of the first sub-factor namely Grievances handling procedure have made it as a predominant sub-factor of job satisfaction.
- Personal growth and development:** The predominant sub-factor of Personal growth and development is opportunity for growth available followed by the other sub-factor namely promotion and education.
- Personal factors:** Two sub-factors of Personal factors play a vital role in the constitution of employee job satisfaction. Among them, relation with family members occupies an important position in the employees job satisfaction followed by living conditions and finance.

Cluster analysis has revealed the classification of the samples selected into 3 clusters namely strong cluster, moderate cluster and weak cluster on the basis of the mean value scores of the various factors of job satisfaction. Factor-wise results of the formation of 3 clusters of employees have been found as under:

- Nature of work:** A strong cluster of 45.19% of respondents feels that the Nature of work is excellent. Another group of 42.63 % thinks that the job they perform gives them moderate satisfaction while the remaining 12.18 % need some change in their work schedule.
- Inter-personal relationship:** It is found that only 31.73 % of employees are of the opinion that the relations among the staff have been highly conducive in performing their work. For 50.96% of employees, the Inter-personal relationship gives moderate satisfaction while 17.31 % of employees think that the relationship needs some improvements.
- Company and management:** The study reveals that the strong cluster of 46.80 % of the respondents feel that they are very much proud to be an employee of the company. This implies that the image of the company increases the level of job satisfaction among the employees. Another group of 33.33% feels that they are moderately satisfied with the functioning of the company while the remaining 19.81% of employees need some change in the working pattern of the company.
- Pay and allowances:** It is further found that the strong cluster (40.38%) of this factor has high job satisfaction, moderate cluster (42.31%) possess medium satisfaction and the other group (17.31%) are placed in the cluster which require some revision in Pay and allowances.
- Working environment:** It has been found that the strong cluster of 18.27 % of respondents feel that the working conditions are excellent, moderate cluster of 62.82 % are of the opinion that the working environment gives them moderate satisfaction and the weak cluster of 18.91 % says that they need some improvement in the maintenance of the working environment.
- Training:** The study reveals that 42.31 % of respondents are grouped themselves in the strong cluster which means that they are fully satisfied with the training facilities offered. Another 42.31 % are of the opinion that they get moderate satisfaction and the weak cluster of 15.38 % insisted that they need systematic training and development in their organisation.
- Empowerment:** It has also been found that the process of empowerment is excellent for the strong cluster of 24.68 % of respondents and it is moderate for 50.97 % of employees who are placed in the moderate cluster. The remaining 24.36 % of respondents are grouped in the third cluster which emphasizes some encouragement in the empowerment process.
- Redressal of grievances:** It is found that the grievances redressal system has been functioning properly for 35.58 % of respondents and hence, they are found in strong cluster. A moderate cluster of 45.51 % feel that the system gives them moderate satisfaction and the remaining 18.91 % of respondents feel that the system of grievances redressal has to be strengthened enabling the early settlement of their grievances.



- i. **Personal growth and development:** A strong cluster of 23.08 % of respondents feel that their organisation has been providing excellent opportunities for their growth and a moderate cluster with 59.25 % of respondents are satisfied to some extent by the opportunities available. However, the third group representing 17.63 % of respondents think that has to take extra care in this regard.
- j. **Personal factors:** It has been found that 34.29 % are included in the strong cluster and they view that the personal factors are offering them high job satisfaction. Another cluster of 55.77 % feel that the personal factors provides moderate satisfaction while the weak cluster of 9.94 % think that the personal factors are to be given due recognition by their organisation.

## 6. FINAL RESULTS

- Ranking of the popular factors of job satisfaction by the respondents indicates the relative importance of the need gap of the employees. It is evident from the statistical values of the various predominant factors that factors like Job requirement, Relations with staff, Living conditions and finance and Working conditions are given the first, second, third and fourth highest ranking respectively followed by Reasonable pay, Innovative learning, Empowerment and Company and management. Two other factors namely Opportunity for growth and Grievances handling procedure get the lower ranking.
- The study reveals that the personal and demographic variables have a great influence on the job satisfaction among the respondents. The study has attempted to judge the influence of Gender, Age, Level of education, Length of service, Salary and Nature of employment on employee satisfaction. It is found that both male and female employees are equally distributed among all the three clusters of predominant factors. It is also found that the academic qualifications of the respondents have a great influence on the job satisfaction. The study has revealed that age is one of the important personal factors of job satisfaction and the application of Chi-square value shows that there is a general feeling among the respondents with different age group that age has a great influence on the constitution of employee satisfaction. The Length of service is also relevant to the employee job satisfaction. The Chi-square value is perfectly significant and hence, it is concluded that there is a strong association between the Length of service of the respondents and clusters of the predominant factors of job satisfaction. The Salary payable to the employees has a great bearing on employee job satisfaction and the study proves that there is a strong association between the salary and employee satisfaction. Finally, the Nature of employment also influences employee satisfaction and this personal factor has a great influence on the employee's job satisfaction.
- It is found that there is a perfect correlation between the awards and certificates received by the respondents and two predominant factors of job satisfaction namely Job requirement and Job attachment. This shows that the respondents are able to get most of their awards and certificates for their meaningful contribution towards the performance of their job.
- The study has determined that there is a perfect correlation between the two sub-factors of Training namely innovative learning and Training conditions. The Training conditions prevailing are conducive for the employees to know the innovative technological advancement in their job. The analysis also shows that the respondents are highly motivated to attend the training programmes, workshops and seminar on their own interest.
- It is also found that the predominant factors of job satisfaction have been further classified into two groups and Group I comprises of Job requirement, Relations with staff, Company and management Reasonable pay and Working conditions and Group II consists of Innovative learning, Empowerment, Grievances handling procedure, Opportunity for growth and Living conditions and finance. The above re-alignment of Job satisfaction factors into two major groups shows that the workers have job satisfaction either with the factors shown under Group I or with the various predominant factors mentioned under Group II.

## 7. TESTING OF HYPOTHESES

Testing of hypotheses through the use of statistical and mathematical techniques reveals the following:

**Hypotheses (HO<sub>1</sub>):** There is no significant difference among the popular factors which influence job satisfaction among the employees.

**Result:** It has been found that the Mean value scores of the various predominant factors pertaining to Job requirement, Relations with staff, Company and management, Reasonable pay, Working conditions, Innovative learning, Empowerment, Grievances handling procedure, Opportunity for growth and Living conditions and finance have significant difference. Besides, the application of Multivariate Discriminant Analysis on the three clusters of employees viz. Strong cluster, moderate cluster and weak cluster shows that there is a significant difference among the factors of job satisfaction.

Hence, it is concluded that there is no supportive evidence to accept the hypothesis that there is no significant difference among the various factors of job satisfaction. Hence, the hypothesis is rejected and this study shows clearly that there is a significant difference among the popular factors which influence job satisfaction among the employees.

**Hypothesis (HO<sub>2</sub>):** Employees do not differ in their opinion about job satisfaction.

**Result:** In this context, the respondents have been classified into different clusters on the basis of their opinion about job satisfaction through the application of K-means Cluster Analysis. This evaluation enables the researcher to group the employees on the basis of the similarity of their responses to the variables included in the questionnaire. It is found that the employees are classified into three groups and this grouping has been carried out on the basis of their opinion regarding the various determinants of job satisfaction.

Hence, the hypothesis that Employees do not differ in their opinion about job satisfaction does not appear to be true and hence rejected. Alternately, it is concluded that the employees differ in their opinion about job satisfaction.

**Hypothesis (HO<sub>3</sub>):** The demographic variables of employees have no effect on their job satisfaction.

**Result:** The study has revealed that the demographic variables of employees have a great influence on the determination of employee job satisfaction. The application of Non-parametric Chi-square test on the personal factors like Gender, Level of education, Age, Length of service, Salary and Nature of employment shows that these personal variables have a strong association with the three clusters of predominant factors of job satisfaction.

Hence, the hypothesis that the demographic variables of employees have no effect on their job satisfaction does not appear to be true and therefore rejected. Thus, it is concluded that the demographic variables of employees have effect on their job satisfaction.

## 8. SUGGESTIONS

The frustration regarding the personnel and company policies in the minds of the employees at lower level may be drastically reduced and suitable remedial action may be taken earnestly and sincerely as expected by most of the respondents.

Suitable action may be taken by towards the promotion of non-supervisory employees to the supervisory position as demanded by the majority of the respondents.

All sections of employees may be treated alike and clear instructions may be given to the workers regarding the results expected of them on their work. Some drawbacks in the organisation of work may be removed and suitable work programme and action plan for the work to be performed in each department may be revised.

Management of human resources is the greatest asset and the management should promote congenial relations and co-operation among the different groups of employees in order to meet the present day demands in industrial sector.

Government may try to implement the uniform service conditions to benefit the employees of all Public Sector Enterprises through a legislative measure as desired by most of the respondents.

Maintenance of good working conditions have the effect of increasing job satisfaction and hence, the management must try to achieve this goal by improving the safety management system and upgrading the technologies and expertise in various areas of activities involving production operations.

Though the functioning of Grievances redressal committee is found to be satisfactory, the employees think that the committee should divert more attention towards the early settlement of their complaints and grievances.

Studies on employee job satisfaction may be made at regular intervals of time and the results obtained should be implemented earnestly and sincerely as expected by most of the employees.

## 9. SCOPE FOR FURTHER STUDIES

The present study has aimed at the identification of the physical environment and popular factors influencing the level of job satisfaction among the employees of a specific Public sector organization in power sector in Andhra Pradesh. An individual's satisfaction on the job is related to his total self and therefore, it cannot be explained on the basis of any single factor. In this study, the researcher has concentrated more on the popular factors of job satisfaction prevalent. Similar studies in public and private sector undertakings. There is a scope to study here under.

- A similar study on job satisfaction may be undertaken in different industries.
- The other factors of job satisfaction which this study could not cover may be taken up separately and individually in both Public sector and Private sector Industries.

## 10. SOCIAL RELEVANCE OF THE STUDY

Society comprises of the workers, management, Government and general public. The present study is of much relevance from the point of view of the society. The perception and attitude of the employees' determine their work efficiency and in turn it influences the development of any organization.

## 11. CONCLUSION

On the basis of the results obtained in the study, it is found that the factors of job satisfaction prevailing have deep impact on workers psychology and the presence of such factors always motivate the workers towards their job in a laudable manner. Hence, it is concluded that the workers employed are satisfied with their job and their positive approach towards the management has been responsible for the overall growth of in the Indian corporate sector. Besides, it has also been found that the concept of Job satisfaction assumes immense importance in the present business scenario which requires highly skilled and competent human resources for the transformation of traditional economies into the modern and industrial economies.

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**SUBSCRIBERS' ATTITUDE TOWARDS DTH SERVICES**

**M. J. SENTHIL KUMAR**  
**ASSOCIATE PROFESSOR**  
**DEPARTMENT OF COMMERCE (UG)**  
**SRI KALISWARI COLLEGE (AUTONOMOUS)**  
**SIVAKASI**

**DR. N. R. NAGARAJAN**  
**DIRECTOR**  
**PG DEPARTMENT OF COMMERCE (FINANCE)**  
**SRI KALISWARI COLLEGE (AUTONOMOUS)**  
**SIVAKASI**

**ABSTRACT**

*Advancement in science and technology has brought out many types of equipment, machineries and apparatus, which made human life more comfortable and enjoyable. Direct to Home (DTH) is the recent addition and has become a major entertainment medium attracting the mind of everyone. Currently, there are 130 million TV households in the country, while there are only 7-8 million DTH households. Today, the concept of DTH has really become popular in India. People are highly looking forward to acquire one such service to bring entertainment and knowledge into their homes. In this regard, you can see quite a few companies who are endeavoring to provide the best services at some affordable rate. Subscribers' opinion about the DTH is paramount of importance. This paper highlights the subscriber preference, attitude and their problems. So a study of this kind will help the consumers to know which DTH products will suit their requirements.*

**KEYWORDS**

DTH, Cable TV, Dish TV, stereophonic sound.

**1.1 INTRODUCTION**

**D**TH (Direct - To - Home) television is one of the recent contributions of science, which is meant mainly for dissemination of information and it is a remarkable achievement of the human brain. DTH is defined as the reception of satellite programmes with a personal dish, in an individual home. DTH has become a powerful, useful and attractive mass media compared with cinema and cable TV. The role of DTH operations is effective and inevitable in our life. It is not only for showing cinemas but also for promoting education and pass information. The growth of DTH at the beginning was very slow in India. After the introduction of Doordharshan DTH, the DTH got a remarkable change in our country. When Sun TV entered into the Doordharshan's DD direct plus, the user level increased to a standard place. Each and every one knows pretty well about the DTH not only in the urban areas but also in the rural areas.

**1.2. REVIEW OF LITERATURE**

John Sinclair and Mark Harrison (1995) have studied on "Globalization and Television in Asia with special reference to India and China". The study had explained that Asian television is in a most volatile period of development. The advent of new subscriber services and the embracing of privatization and deregulation policies are major current development in the television industries.

Atpita Muharjee (2002) had studied India's trade potential in audio – visual services and the gats. The study observed that audio-visual service sector is one of the fastest growing service sectors in India and India's exports of audio – visual products have shown a rapid increase in the past decade. The study has examined India's trade potential in audio – visual services within the GATS frame work.

Minakhide (2004), had made a study on the "Indian satellite for education". She showed that satellite could establish the connectivity between urban educational institutions with adequate infrastructure imparting quality education and the large number of rural and semi urban educational institutions that lack the necessary infrastructure. She had also mentioned that EDUSAT is the first exclusive satellite for serving the educational sector. It covers 2400 Indian villages spread over six states.

**1.3 NEED FOR THE STUDY**

Sivakasi is a popular industrial town. Sivakasi is a well known small town in India and also in the foreign countries for its industrial production of match works, fireworks and printing works. These industries provide innumerable employment opportunities. TV is the best entertainments media to the Sivakasi people. The Sivakasi people also like to watch different channel with quality pictures. So they like subscribing DTH Services. In Sivakasi the number of DTH subscriber is high. Hence, there is a vast scope for research in this area. So a study on the subscriber attitude towards the DTH services has been undertaken.

**1.4. STATEMENT OF THE PROBLEM**

The history of Indian Television dates back to launch of Doordharshan, the country's national television network in 1959. At that time televisions was a luxury item that could be afforded only by a chosen few. In 1992 Cable TV industry was started. The Cable TV literally changed the way the average Indian watches the Television. Further liberalized Indian Economy leads to influx of foreign channels like Star TV and ZEE TC. This virtually destroyed monopoly held by Doordharshan. DTH offers better quality picture than cable TV. This is because cable TV in India is analog. Despite digital transmission, it is still analog. DTH offers stereophonic sound effects. Apart from enhanced picture quality, DTH also allows for interactive TV services such as movie-on-demand, internet access, video conferencing and e-mail. Now many branded DTH are available to the customers with varying features. The consumers mind can be thought as a geometric space where brands are plotted as points to represent consumer judgments. The task of the marketers is to mould consumer perception so as to occupy the desired position for his brand. This paper highlights the customers' perception towards the DTH services.

**1.5. OBJECTIVES OF THE STUDY**

The researcher has undertaken the study with the following objectives.

1. To findout the DTH Preference of the subscriber
2. To identify the reasons for preferring DTH Services
3. To examine the subscribers' level of satisfaction towards the DTH services.
4. To study the problems faced by the respondents with their DTH service and offer suitable suggestions.

## 1.6. HYPOTHESES

The study has been made with the following hypotheses and they have been tested then and there.

1. There is no relationship between the Advertisement and Subscriber attitude towards DTH.

## 1.7. RESEARCH METHODOLOGY

### 1.7.1. SOURCES OF DATA

To fulfill the objectives of the study, the researcher has collected both primary and secondary data.

#### 1.7.1.1 PRIMARY DATA

Primary data has been collected from the respondents by means of a pre tested interview schedule. After pre-testing, the interview schedule has been modified in the light of the experience gained and comments given by the experts.

#### 1.7.1.2. SECONDARY DATA

Secondary data has been collected from various studies, books, magazine, journals, internet, newspapers etc to supplement the primary data in present study.

#### 1.7.1.3. TOOLS USED

Data collected from diverse source have been put through various rigorous analyses using the Percentage, Rank correlation, and Chi-Square test.

## 1.8. SAMPLE DESIGN

A sample study is undertaken at Sivakasi as the number of respondents is invariably high. The researcher has collected the primary data from different categories of DTH Subscriber. Since the DTH Subscriber in Sivakasi are more in number, by adopting convenience sampling technique, 150 sample customers have been selected for the study.

## 1.9. RESULTS & DISCUSSION

### 1.9.1 REASONS FOR PREFERRING DISH

The DTH provides quality services to the subscriber like picture clarity, effective sound system, more number of channels etc. To ascertain the reasons for preferring DTH services, a study was made and the responses are analyzed by adopting Ranking technique. In order to reveal importance of the variables in the ranking process, weightage has been assigned for the five ranks. For the first rank 5 weightage, second 4 weightage and the like. The results have been given in table 1.9.1.

TABLE 1.9.1: REASONS FOR PREFERRING DTH SERVICES

S. No.	Reasons	I (5)	II (4)	III (3)	IV (2)	V (1)	Total Points	Rank
1.	More Channels	56 (280)	45 (180)	28 (84)	12 (24)	9 (9)	577	I
2.	Picture Clarity	24 (120)	36 (144)	41 (123)	19 (38)	30 (30)	455	III
3.	Low Cost	32 (160)	36 (164)	37 (111)	26 (52)	19 (19)	506	II
4.	Sound Effect	18 (90)	11 (44)	20 (60)	52 (104)	49 (49)	347	V
5.	Uninterrupted Services	20 (100)	22 (88)	24 (72)	41 (82)	43 (43)	385	IV
Total		150	150	150	150	150		

Source: Primary Data

It is vivid from the above ranking table 1.9.1 that most of the subscriber preferred the DTH services because it offers more number of channels in various languages and this reasons holds it got the first rank, followed by that cost of DTH service is low than the cable TV and it got the second rank, Picture clarity has got the third rank and Uninterrupted Services and Sound Effects hold the fourth and fifth rank respectively.

### 1.9.2. BRAND PREFERENCE OF DISH

In the Market, various brands DTH are available. So the consumers are finding it difficult to choose a particular brand from the numerous brands available in the market. The researcher has also collected the details of dish brand which is mostly preferred by the respondents. The results are presented in the following table 1.9.2.

TABLE 1.9.2: BRAND PREFERENCE OF DISH

S.No.	Brand Name	Number of Respondents	Percentage
1	DD Direct Plus DTH	16	10.67
2	Airtel	12	8.00
3	Videocon	8	5.33
4	Sun direct	65	43.33
5	Dish TV	16	10.67
6	Reliance Big TV	15	10.00
7	Tata sky	18	12.00
Total		150	100

Source: Primary Data

It is obvious from the table 1.9.2 that 10.67 per cent of the respondents prefer DD Direct Plus DTH and 8 per cent of the customer prepare Airtel Dish, 5.33 per cent of the informants like Videocon services 43.33 per cent of the respondents are using Sundirect and 10.67 per cent of the respondents are using only Reliance Big and 12 per cent of the respondents are using Reliance Big TV and another 12 per cent of the informants are choosing Tata Sky. It is inferred that a majority of the respondents are using Sun-Direct.

### 1.9.3 AWARENESS ABOUT THE DISH

Before purchasing the DTH the consumer will try to collect Pre-purchase information through various sources. Based on the knowledge gained through various source of information, the consumer will decide to buy a new brand. The following table 1.9.3 shows the mode of getting awareness about the dish



TABLE 1.9.3: AWARENESS ABOUT THE DISH

S.No.	Educational Status	Number of Respondents	Percentage
1.	Advertisement	56	37.33
2.	Friends	22	14.67
3.	Relatives	44	29.33
4.	Colleague	28	18.67
Total		150	100

Source: Primary Data

The table 1.9.3 clearly depicted that 37.33 per cent of the respondents were influenced by the advertisement and 14.67 per cent of the informants are getting information from friends and 29.33 per cent of customers are told that they received the information from Relatives and the remaining informants are influenced by the 28 respondents (18.67 %) are that the got the information from their coworker.

**TESTING OF HYPOTHESIS**

There is no relationship between the Advertisement and Subscriber attitude towards DTH. To test the hypothesis, the researcher has used Chi square test.

TABLE 1.9.3 (A): CHI SQUARE TABLE

Degree of Freedom	Level of Significant	Calculated Value	Table Value	Inference
3	5%	19.06	7.81	Rejected

For 3 degree of freedom at 5% level of significance, the table value is 7.81. Since the calculated value (19.06) is higher than the table value, the hypothesis is rejected.

**RESULT**

It is evident from the above hypothesis tested that, there is a significant relationship between the Advertisement and Subscriber attitude towards DTH.

**1.9.4. SATISFACTION LEVEL OF SUBSCRIBERS' TOWARDS THE DTH SERVICES**

Every customer likes to maximize his satisfaction level. The customer satisfaction leads to brand loyalty. So the researcher collected the information about the subscribers' level of satisfaction towards the DTH service providers. The distribution of the respondents on the basis of their opinion on the satisfaction of Dish Service Provider services are presented in Table 1.9.4.

TABLE 1.9.4: SATISFACTION LEVEL OF RESPONDENT

S. No.	Satisfaction of service provider	Level of Satisfaction					Total
		Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied	
1.	Number of Channels	42	36	32	14	26	150
2.	Picture Clarity	34	26	42	35	13	150
3.	Sound Effect	26	37	36	29	22	152
4.	Price	21	28	36	44	21	150
5.	Other Facilities	27	36	42	23	22	150

Source: Primary Data

The above table 1.9.5 table indicates that most of the respondents are highly satisfied with the number of channels offered and picture clarity, the subscriber also satisfied with the sound effect and the level of satisfaction is neutral in the subscription rate and they are dissatisfied with the subscription rate. The survey reveals that most of the customers are satisfied with the DTH Service provider services.

**1.9.6. PROBLEMS**

The survey further reveals the nature of problems faced by the subscribers after purchasing the DTH. Table 1.9.6 has been designed to present these data.

TABLE 1.9.6: NATURE OF PROBLEMS AFTER INSTALLATION

S.No.	Problems	Number of Respondents	Percentage
1.	Installation Problems	12	8.00
2.	Technical Problems	26	17.33
3.	Recharge Problems	35	23.33
4.	Signal Problems	41	27.34
5.	Picture Clarity	36	24.00
Total		150	100

Source: Primary Data

It is lucid fact from the above table 1.9.6 that 8 per cent of the respondents are facing Disk installation problems 17.33 per cent of the respondents face technical issue problems, 23.33 per cent respondent sustain the problem of paying the renewal subscription fee, 27.34 per cent of the informants are facing the Signal problems and the remaining 24 per cent the subscribed are affected by the picture clarity problems.

**RECOMMENDATIONS**

1. The initial entry cost should be reduced by the DTH service provider. Even though it affects the profitability of the business in short run, it is a good move to acquire formidable market share.
2. To differentiate their service from the competitors product the DTH service providers introduce add on services like Movie on Demand, Interactive programme Guides and good quality of Build in Game to attract more customers.
3. Service level is the key differentiators in DTH. Although the technical glitches such as rain fade cannot be fully solved. It can be reduced by providing better antenna with water proof coating and by increasing the transmission power.
4. The effective customer service like handle disgruntled customer call with a faster and valid response is must to attract the new customer and to retain the customers.
5. The company must adopt different promotional strategy for rural and urban market as both have different reasons for selecting DTH.
6. Offer different package structure for urban and rural market.
7. To attract the city people provide with more HD channel and introduce more foreign channels.

**CONCLUSION**

India is the home of entertainment hungry populace. India has a total television population of close to 135 million, out of which about 108 million have access to cable and satellite. The total DTH subscribers are close to 22 million. The DTH has a market share of approximately 20%. The DTH is the only source to reach the people those who live in the hill station and the remote area. So there is a vast scope for the DTH service providers. Alternatively proceed and feature rich package targeted at the critical mass is the mantra for sustaining the growth rate.

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# ISSUES AND CHALLENGES INDIAN BUSINESS: VISION 2020 WITH THE REFERENCE OF MICRO, SMALL AND MEDIUM ENTERPRISES (MSMEs) IN INDIA

**DR. M. L. GUPTA**

**DEAN**

**FACULTY OF COMMERCE & BUSINESS ADMINISTRATION**

**C. C. S. UNIVERSITY**

**MEERUT**

**DR. SHWETABH MITTAL**

**READER**

**DEPARTMENT OF COMMERCE**

**M. M. H. COLLEGE**

**GHAZIABAD**

**PRIYANKA GUPTA**

**ASST. PROFESSOR**

**DEPARTMENT OF MANAGEMENT**

**SHREE GANPATI INSTITUTE OF TECHNOLOGY**

**GHAZIABAD**

## ABSTRACT

*Micro, Small and Medium Enterprises (MSMEs) have played a significant and pivotal role in the entire economic development process in the world including developing & developed countries both. Since last three decades, this sector had played a critical & remarkable role in developing Indian economy through creation of employment opportunities, income generation, equitable distribution of income, developing the spirits of entrepreneurship hence contributing towards poverty alleviation. But with the expectation that the India will be transformed a developed country in 2020 (Vision-2020), so the role and responsibility of this sector has increased multi-fold and multi-faceted. In the coming decade rapid rise in levels of education, high rates of technological innovation and application, cheaper communication that dissolves physical and social change throughout world, easier information access, opening global markets, changing supply chain systems, changing human demographics, from manufacturing to the services sector and from capital resources to human and knowledge resources, technology, organization, information, education and productive skills will, therefore play a critically decisive role in governing the future course of development of the Micro, Small and Medium Enterprises (MSMEs) with the fulfillment of Vision 2020. This Vision-2020 cannot be achieved with the completion of inclusive growth, environmentally sustainable growth, regional co-operation and integration, good governance, infrastructure development and partnerships. Micro, Small and Medium Enterprises (MSMEs) would play a very critical, vital and dominant character in this scenario. However, this sector is passing through a number of challenges and issues in domestic and global market competition, though, varieties of opportunities in today's highly competitive and dynamic economic environment. A particular concern of this paper is to identify issues and challenges and opportunities for Indian MSMEs to contribution to attain Vision- 2020.*

## KEYWORDS

Micro, Small and Medium Enterprises (MSMEs), Vision-2020, Inclusive growth and environmentally sustainable growth etc.

## 1. INTRODUCTION (VISION-2020)

Every country needs a vision which stirs the imagination and motivates all segments of society to greater effort. It is an essential step in building a political consensus on a broad national development strategy, which encompasses, inter-alia, the roles and responsibilities of different agents in the economy, such as Central, State and local government, the private corporate sector, the micro, small and medium enterprises (MSMEs) sector, people's organizations etc. It must identify the potential risks and bottlenecks and their possible solutions in order to mobilize efforts in a focused manner. It is clear, therefore, that to meet these objectives, a vision has to operate at several levels of generality and specificity. The vision will reflect people's aspirations, the full potentials of growth and development, and lay out the efforts needed to fulfill this vision. Our vision-2020 of India's future should be both comprehensive and harmonious. It must encompass all the myriad aspects that constitute the life of the country and its people. This vision-2020 may not fulfill all these criteria to our full satisfaction, but it can serve as a useful starting point and foundation for contemplating future possibilities and our destiny as a nation. It can serve to indicate the broad lines of policy and strategy by which India can emerge as a far stronger, more prosperous and more equitable nation in the coming years. An essential requirement for envisioning India's future in the new century is to recognize that the parameters which determine national development have changed in recent years and will change further in future. This will open up greater possibilities than ever before. A powerful set of catalytic forces is accelerating the speed of social change throughout the world. They include a rapid rise in levels of education, high rates of technological innovation and application, ever faster and cheaper communication that dissolves physical and social barriers both within countries and internationally, greater availability and easier access to information, and the further opening up of global markets. These trends are representative of a relative shift in the engines that drive development from manufacturing to the services sector and from capital resources to human and knowledge resources. Technology, organization, information, education and productive skills will, therefore, play a critically decisive role in governing the future course of development. The growing influence of these factors, acting on the foundation of India's increasingly dynamic and vibrant economic base, lend credence to the view that India can achieve and sustain higher than historical rates of economic growth in the coming decades. Although the growth of the private organized sector will contribute significantly to the growth of the economy, its contribution to employment generation will be quite modest, since total employment in this sector at present represents only 2.5 per cent of all jobs. The largest number of new jobs will be created by micro, small and medium enterprises (MSMEs), which contribute the vast majority of private sector jobs in more advanced economies such as the USA, Japan and Korea. International experience confirms that MSMEs are better insulated from the external shocks, more resistant to the stresses, and more responsive to the demands of the fast-changing technology adoption, globalization and entrepreneurial development. Employment has nearly tripled in India's small and medium sector over the past 20 years. A repetition of this performance would generate an additional 150-200 million jobs by 2020. A comprehensive package of venture capital, credit, liberalization of controls, technology, training, marketing and management measures is needed to ensure continuous expansion of this sector. Our vision of India in 2020 is predicated on the belief that human resources are the most important determinant of overall development the knowledge and skill of our workforce will be a major determinant of India's future rate of economic growth as well as the type and number of jobs we create. Vision- 2020 conceives of India evolving into an information society and knowledge economy built on the edifice of

information and communication technology (ICT), a key component of rural development is the provision of roads for connectivity, access being essential for social and economic well-being. Greater reliance on renewable energy sources offers enormous economic, social and environmental benefits. India's progress over the next 10 years will be intimately linked to events within the region and around the world. India is in the midst of transforming an agrarian economy into a modern multi-dimensional economic enterprise and a traditional stratified society into an egalitarian society, while simultaneously fashioning and transforming itself into a modern democracy through consultative politics. The challenges to peace are numerous and they come from all directions—from outside our borders and within, as well as from within our minds. Our capacity to preserve and build a lasting peace for all Indians will depend on the strength of our democracy and economy to generate increasing employment and income opportunities for our citizens, the strength of our educational system to cultivate the knowledge and skills of our youth, the strength of our legal and judicial system to safeguard the rights of individuals and communities, the strength of our scientists and engineers to both develop and harness technologies for the benefit of the people, as well as the wisdom and determination of our political leaders to remove injustices and to direct the collective energies of the nation for greater achievement in every field of Endeavour.

**Our vision of India in 2020 is of a nation bustling with energy, entrepreneurship and innovation.**

Realization of this vision will depend on many things, but most importantly on our self confidence, self-reliance and determination to make it a reality. For that, we need first of all to abandon the sense of dependence and the urge to imitate other nations blindly. We need also to rediscover the well-springs of our own native strength, the rich endowments of our shared culture and spiritual tradition.

**We must reawaken the dormant Spirit of India.**

## 2. INTRODUCTION (MSMEs WITH VISION-2020)

In the post liberalization and opening up of the economy business era, ease in international trade barriers, economic liberalization, globalization, privatization, disinvestments and deregulation have thrown several challenges to Micro, Small and Medium-Sized Enterprises (MSMEs) in the fast developing economies like India. Compressed product development cycles, cut throat domestic and global competition, economic downturns, rapidly changing customer demands and volatile financial markets have all increased the pressure on MSMEs to come up with effective and competitive capabilities to survive and succeed. Up to mid-1990s, MSMEs sector in India had operated under a much-protected economic regime characterized by limited competition and a highly regulated business environment. This business atmosphere had resulted in limited focus on process efficiencies, centralized control structures, highly formalized business settings and lack of professional business practices (Ranganathan and Kannabiran, 2004). However, following the economic liberalization and opening up of the economy to foreign Multi-National Companies (MNCs), Indian MSMEs have been forced to adopt modern business practices and strategies, which in turn can provide MSMEs a cutting edge over its competitors. This structural shift in the Indian economy greatly expose MSMEs to face fierce national, regional and international competition from large enterprises, particularly, translations companies (TNCs) and multi-nation companies (MNCs), whilst required to improve competitiveness and operating efficiency so as to withstand business turbulence. Small and Medium Enterprise (MSMEs) constitute over 90% of total enterprises in most of the economies and are credited with generating the highest rates of employment growth and account for a major share of industrial production and exports. In India too, the MSMEs play a pivotal role in the overall industrial economy of the country. MSMEs are thus important for the national objectives of growth with equity and inclusion. Having realized the need to preserve, protect and promote MSMEs, the Indian government is also committed to the growth and development of the SMEs and to enhance their competitiveness. The government seeks to fulfill its mission by formulating policies and designing/implementing support measures in the field of credit, technological up gradation, marketing, entrepreneurship development etc. and undertaking effective advocacy for these purposes. In a bid to enhance competitive advantage, Indian MSMEs can seek ways to reduce costs, improve efficiency and customer services through efficient supply chain management. ECA (2000) admitted that, their flexibility and adaptability promise their success in global trade, SMEs can achieve that if only they are competitive in terms of price, quality of goods and are able to meet delivery requirements. MSMEs are weak and unable to stand at ease with MNCs and TNCs in national, regional, and global competitive markets. Policy and approaches of harmonizing, cult rising, and diversifying. Small and Medium Enterprises (MSME) sector would emerge as a major contributor to employment generation in the country. Small Scale sector had received policy support from the Government in the past considering the employment generation and favorable capital-output ratio. This segment had, however, remained vulnerable in many ways. Globalization and opening up of the economy to international competition has added to the woes of this sector making bankers wary of supporting the sector. It is expected that the SME sector will emerge as a vibrant sector, contributing significantly to the GDP growth and exports.

## 3. OPPORTUNITY FOR (VISION-2020)

Driven by a nominal annual growth rate of 13 per cent, GDP is set to quadruple over the next ten years to reach Rs.205 trillion (US\$ 4.5 trillion) by 2020. The gross domestic savings are expected to grow by 3.8 times from Rs.19 trillion in 2009 to Rs.72 trillion by the end of the next decade. The increased savings are expected to lead to a huge surge in domestic consumption expenditure which is set to triple from Rs.30trillion in to Rs.130trillion in 2020. The change in the economic pattern of the country by 2020 is expected to reduce inequality among the various population classes of India a substantial growth in consuming class population could serve as a self-igniting phenomenon for the Indian economy. The magnitude of the Micro, Small and Medium Enterprises (MSMEs) sector comes to the fore with Rs 20 lakh crore of goods and services they produce—contributing in Indian economy .India is the fourth largest economy in the world (in PPP terms) and the second Although its GDP growth rate dropped due to the global financial crisis to 6.7 per cent largest in developing Asia. By 2012, it is expected to overtake Japan to become the third-largest economy. India accounts for 22 per cent of GDP, 33.8 per cent of population and 32.5 per cent of potential workforce in developing Asia. In the next 10 years the country will add 120 million to the region's workforce, accounting for 53 per cent of the incremental addition. Its growth story is in 2008-09, India's economy emerged quite rapidly from the crisis. The economic recovery was aided by the inherent strength of India's domestic demand that was complemented by the Reserve Bank of India's monetary management and the central government's fiscal stimulus measures. With its GDP likely to grow India will be among the fastest growing economies. evident from the increased investment in infrastructure, abundant job opportunities in big and small cities, healthy balance sheets of companies and the heightened growth of consumerism. As much as 40% to Gross Domestic Product (GDP) of India. Together, they make the engine of incessant growth, providing livelihood to millions of people and creating value for the entire global community. India's economic growth has been led by the services sector in the last decade, particularly owing to the growth in information technology (IT) and business process outsourcing (BPO) industries. The manufacturing sector's importance has grown in the recent years with the advancement in its output. The sector offers huge potential for employment creation. Moreover, the importance of Micro, Small and Medium Enterprises (MSMEs) in the growth process is considered to be a key engine of economic growth in India. The MSME sector accounts for about 45 per cent of manufacturing output, 95 per cent of the industrial units and 40 per cent of exports. Besides, the sector provides employment to almost 60 million people, mostly in the rural areas of the country, making it the largest source of employment after the agriculture sector. Development of this sector, thus, holds key to inclusive growth and plays a critical role in India's future. The growing influence of these opportunities on India's increasingly dynamic and vibrant economic base lends credence to the view that the country can achieve and sustain higher historical rates of than economic growth in the coming decade.

## 4. MSMEs IN INDIA

In the Indian context, the micro, small and medium enterprises (MSMEs) sector is broadly a term used for small scale industrial (SSI) units and medium-scale industrial units. An SSI unit should neither be a subsidiary of any other industrial unit nor be owned or controlled by any other industrial unit. This definition, however was changed according to the changing economic scenario and thus has separate definitions to it. For instance, an MSME definition for manufacturing enterprises is different from what an MSME definition for service enterprises has to say. An MSME is known by different ways across the world. In India, a standard definition surfaced only in October 2, 2006, when the Ministry of Micro, Small and Medium Enterprises, Government of India, imposed the Micro, Small and Medium enterprises Development (MSMED) Act, 2006.



In accordance with the provision of Micro, Small & Medium Enterprises Development (MSMED) Act, 2006 the Micro, Small and Medium Enterprises (MSME) are classified in two Classes:

#### (A.) MANUFACTURING ENTERPRISES

The enterprises engaged in the manufacture or production of goods pertaining to any industry specified in the first schedule to the industries (Development and regulation) Act, 1951). The Manufacturing Enterprise is defined in terms of investment in Plant & Machinery.

#### (B.) SERVICE ENTERPRISES

The enterprises engaged in providing or rendering of services and are defined in terms of investment in equipment.

The limit for investment in plant and machinery / equipment for manufacturing / service enterprises, as notified, vide S.O. 1642(E) dtd.29-09-2006 are as under :

**TABLE1: SOURCE: MINISTRY OF MSMEs**

Enterprises	Investment in plant & machinery
Micro Enterprises	Does not exceed twenty five lakh rupees
Small Enterprises	More than twenty five lakh rupees but does not exceed five crore rupees
Medium Enterprises	More than five crore rupees but does not exceed ten crore rupees

#### SERVICE SECTOR

**TABLE 2: SOURCE: MINISTRY OF MSMEs**

Enterprises	Investment in equipment
Micro Enterprises	Does not exceed ten lakh rupees
Small Enterprises	More than ten lakh rupees but does not exceed two crore rupees
Medium Enterprises	More than two crore rupees but does not exceed five crore rupees

### 5. KEY ISSUES AND CHALLENGES FOR THE MSMEs

Micro, small and medium scale enterprises (MSMEs) face unique problems, which affect their growth and profitability and hence diminish their ability to contribute effectively to sustain the Vision-2020. In addition, the sector also adopts a reactive strategy approach where the sector reacts according to the current economic situation of the country. The productivity and growth becomes limited for the moment and growth falls back again. Therefore, the sector needs to adopt a proactive strategy approach where the government should prepare a medium to term strategy to sustain themselves in the changing economic scenario and Indeed, in some cases these problems are so challenging that MSMEs are unable to address them at all, which in turn threatens their survival, growth and competitiveness. In other cases, it is the inappropriate handling of these obstacles that causes MSMEs to fail. The constraints that hinder MSME performance and competitiveness are in some cases

Internal to the institution and require locally based solutions instigated by the business owners with support from other sector players. In other instances, the constraints are external in nature emanating from the prevailing policy, regulatory and institutional environment and are often out of the control of the business entrepreneurs. These issues are discussed in this and try to phase out solution in this study.

**In order to realize developed India by 2020 (Vision-2020), these are key areas have been identified for an integrated action**

#### (A.) RELATED TO ACCESS AND COST OF FINANCE AS FIXED AND WORKING CAPITAL

The current domestic market the MSMEs sector in Net Bank Credit (NBC) in the form of working capital has declined the MSME sector for raising low cost funds. To improve the flow of credit there is a need to provide low cost finance to the MSME sector, which has limited working capital and is dependent exclusively on finance from public sector banks. The cost of credit in the Indian MSMEs sector is higher than its international counterpart. A transparent credit rating system, simplification/reduction in documentation for accessing finance, providing interest rate subvention to the MSME sector must be taken into consideration in order to maintain the growth of the MSME sector. The most important issue hindering the growth, however, is the timely and adequate availability of finance to MSMEs. According to the Prime Minister's Task Force on MSME report, although bank credit to the sector has significantly increased from Rs. 70,787 crore in March 2000 to Rs. 2,69,153 crore in March 2009, access to credit needs to further increase given the size of the MSME sector. The Government is taking proactive steps to ensure better access to credit. Bank lending to the sector will grow at a rate of 20 per cent on a year-on-year (y-o-y) basis, along with 10 per cent annual growth in number of micro enterprise accounts, with 60 per cent of the share of MSME credit directed towards micro enterprises. These and other such measures will ensure that credit flow to the sector, especially micro and small enterprises, is adequate. The major chunk of financing for this firm is their internal sources and alternatives funding source and a very little part from Capital market. Alternative funding sources including friends and family, trade credit etc. Alternative sources are typically far more expensive and are dependent on prevailing market conditions rarely guaranteed source. This clearly implies that MSMEs face very high interest cost due to the lack of availability of adequate credit. This can be countered well through a methodical induction of equity capital. Over the last decade, there have been private equity investments, of all types and across a myriad of industries we are just entering an era where increasing number of industries. Family business owners will be looking to partially or fully divest their ownership in firms they or a family member founded. Additionally, despite the increasing awareness of the need for a seed capital scheme and venture capital, the institutional framework of these cannot be considered to be well developed. Regardless of the stage of development of the economy, a number of factors determine the accessibility of SMEs to organized finance, such as the structure of financial institutions, the terms and conditions of credit and the diversity of the financial instruments offered. Generally, these are geared to serve the financial needs of large enterprises and the better established public sector enterprises with which SMEs lack both the managerial resources and informational advantage to compete effectively.

#### (B.) RELATED TO MARKET ACTIVITIES

To confidently confront competition from large enterprises within and outside, MSMEs need to respond promptly to the evolving marketing strategies and innovations. The sector seeks to be provided better market access facilities in order to sustain and further enhance its contribution towards output, employment generation and exports. MSMEs contribution should be seen not only in terms of output, employment, income, investment or exports but also in terms of qualitative indicators such as the synergies they promote with large industries, their contribution towards balanced regional growth, participation in nurturing entrepreneurial spirit, innovation and in providing a nation-wide pool of skilled and trained manpower. Even today, most small businesses in India are set up by first generation entrepreneurs. They often have a product or service idea and some fervor to work hard However the limited market access namely capital access brand promotion solutions, marketing support, logistics and sales support, and information and communication technology (ICT) support stalls the fervor to take the enterprise to next level.

It additionally pointed out that since the majority of India's MSMEs, especially the small businesses, generate a large proportion of their revenue from the local market; they still rely on traditional media like telephone directories and newspapers to reach their customer base. Therefore, there arises a need for the sector to build capacities to develop ICT and other tools in order to cater the growing marketing needs. An understanding of the market, competitors, technology, marketing tools and business environment are determinants of success of the MSME sector. Some of the evolved marketing strategies like Aggressive marketing, penetrated marketing, niche marketing, database marketing, cluster specific marketing, guerilla marketing and relationship marketing are vital for flourishing the business without any significant hit to the financial health. These marketing strategies if implemented can give the MSMEs a platform to go beyond the generic marketing applications, create greater acceptance, strengthen the brand, devise a focused approach and compete globally. With successful product strategies, marketing efforts and operational efficiencies, the brand has today created a strong foothold in the market. There is high dearth of Segmentation, Targeting and Positioning (STPs) in the marketing flavor of Indian MSMEs.

**(C.) PROMOTING VERTICAL AND HORIZONTAL LINKAGES**

The main forms of linkages relevant for SMEs are the following:

(i) Horizontal linkages: MSME-to-MSME cooperation and joint ventures

(ii) Vertical linkages: backward linkages between MSMEs and large enterprises (LEs), including TNCs. SMEs as ancillaries or subcontractors or service providers.

(iii) Vertical linkages: forward linkages between MSMEs and LEs, including TNCs, MSMEs as buyers, franchisees.

While horizontal linkages between MSMEs have become more common and are necessary to match the global mergers and acquisitions drive between the large TNCs, it is the vertical linkages, in particular backward linkages, which have been most useful for MSMEs in developing countries. Ancillarization involves an intensive kind of cooperation under which the parent unit assures off-lift of a substantial portion of the ancillary production over an extended period of time at a fair, mutually acceptable price. It also extends an umbrella of protection and support in the form of technical know-how, the provision of drawings and training. The ancillary unit then becomes largely geared to the parent unit's requirements as regards quality and delivery schedules. More common is the subcontracting arrangement where indigenous MSMEs provide parts and supplies to domestic LEs or TNCs in global and regional production networks. The ability to harness the dynamism of MSMEs is largely dependent on the degree of economic and inter-industry linkages in the concerned country. Since the levels of possible backward linkages vary from one industrial field or product to another, this may have a policy implication. The sectors that are capable of a high degree of linkage are engineering, automobiles and other vehicles, electronics and even textiles and garments... Although SMEs in such industries face the threat of a structural change, whereby the large industry becomes vertically integrated and squeezes out the small unit producers, such a threat is inherently minimal where ancillarization is based on sound economic considerations, one of which is often the large difference in wage levels between small and large firms.

**(D.) RELATED TO INFRASTRUCTURE**

Industries form the backbone for national development and are one of the important components for the growth of national economy and growth of the MSME sector at a healthy rate is crucial for the overall growth of the industry. However, lack of proper infrastructural facilities can cause serious damages to an enterprise's value chain process, like production, consumption and distribution of introduce objective of the products. Besides, lack of finance, inadequate marketing facilities, technological obsolescence, etc that are being already faced by MSMEs.

Hence, there is a need of infrastructural development of the industries in general and MSMEs in particular which should include all types of infrastructural facilities like railways, waterways, roadways and airways, proper channels of telecommunication, adequate supply of power and other supporting facilities like Tool Rooms, Testing Labs, Design Centers, etc.

**A. NEED FOR PROPER INFRASTRUCTURE**

There is a need for common infrastructure projects for MSMEs. MSMEs, through coming together and sharing the costs of infrastructure, which are otherwise prohibitive for individual MSMEs, could benefited from economies of scale, synergy and collective bargaining by collaborating with requirements. In addition many industrial clusters also set up Group Captive Power Plant to provide quality power to their member units.

**B. WORK SPACE**

There is lack of ample work space for industrial clusters to compete in international markets. In order to get better economies of scale without disturbing prevailing industrial structure the Govt. should programs for integrated work space with establishing new MSME clusters and up-gradation of existing ones. There is a need for setting-up of industrial clusters (or up-gradation of existing one) through various SPVs formed by group of entrepreneurs in PPP mode with facilities such as power plants, CETPs, laboratories, training Raw material, banks, common marketing facilities, warehouses, administrative blocks, warehousing and sizing units and processing units, etc.

**C. POWER**

After introduction of Electricity Act 2003, many MSMEs individually not capable to make substantial investments, hence they joined hands and formed SPV to set up captive power plant to meet their power requirements. In addition many industrial clusters also set up Group Captive Power Plant to provide quality power to their member units. Though Electricity Act 2003 was introduced to encourage setting up of captive power plant to ease the power supply position as well as to make them eligible for resultant incentives, it has been working negatively unless amendment are prepared in the larger interest of power supply position.

**D. WATER SUPPLY**

Every manufactured product uses water during some part of the production process. Industrial water use includes water used for such purposes as fabricating, processing, washing, diluting, cooling, or transporting a product; incorporating water into a product; or for sanitation needs within the Manufacturing facility. Some industries that use large amounts of water produce as food paper chemicals refined petroleum or primary metals. Therefore ample water supply is essential for industrial clusters. Public at large considers water is either available free from natural sources or government should provide it at very low But, In case of some industries (like paint, dyeing, come together to establish a Special Purpose Vehicle (company to act as an Implementing Agency (IA). Since technically it is preferable to have effluent of similar nature, this concept works best in industrial cluster where similar industries operate in small geographic location. Prices etc.) Use of water is a key activity in entire value chain of the industry. Hence, good quality water is backbone of entire value chain for that industry.

**E.) WASTE MANAGEMENT**

The general problem of industrial waste is rapidly becoming serious and it is important for industries to reduce their cost of environmental compliance. In this respect, the concept of Common Effluent Treatment Plant (CETP) is an excellent example for MSMEs in collaborating with each other to manage the effluent and water waste. In prevailing practice, polluting industries having similar effluent characteristics come together to establish a Special Purpose Vehicle (company to act as an Implementing Agency (IA). Since technically it is preferable to have effluent of similar nature, this concept works best in industrial cluster where similar industries operate in small geographic location.

**(E.) RELATED TO HUMAN RESOURCES**

Such a visible growth environment, tremendous efforts are being made by MSMEs (Micro, Small and Medium Enterprises) to make their presence felt and to convert their growth plans into reality. In essence, last few years have seen the exponential growth of SMEs. While big players enjoy economies of scale to control prices, MSMEs enjoy agility in bringing the product faster to the market. However, we still find many SMEs struggling to achieve expected growth and grappling with inherent challenges of culture and scale. The promoters and entrepreneurs are exploring ways to minimize this inertia and increasingly realizing that HR and its different facets play an important role to address the growth issues that MSMEs face. Human Resource is one of the most essential growth indicators for organizations today. Large firms who are targeting high growth rates scour the market for talent and MSMEs can never outplay large companies in terms of salary. The other challenge faced by MSMEs is to preserve the horizontal structure that was prevalent when they were young. As the organization grows, the cohesiveness MSME present at the start slowly starts to fade away.

**A. HUMAN RESOURCE CHALLENGES IN MSMEs**

MSMEs will need to ensure that they undertake effective HR planning and ensure that the plan supports a growth aspiration be geared to firm's flexibility and responsiveness and help the company develop its change management capabilities. However, there are certain challenges faced by MSMEs in achieving the above mentioned HR plan objectives.

**B. TALENT RETENTION**

The biggest constraint for MSMEs in talent attraction is the lack of ability to pay competitive compensation packages and no adequate employer branding. The MSMEs often lose out to MNCs in attracting best talent, which typically invest substantially in their recruitment and retention strategies. Another key concern for MSMEs is to find talent with leadership qualities. As per Grant Thornton 'India Market Attrition and Retention Study', organizations are finding it difficult to find talent with leadership qualities across all sectors.

**C. TALENT RETENTION**

Often MSMEs lose talent as they are unable to communicate the goal/ vision of the organization and fail to present a clear career path to employees. This leaves employees directionless and disengaged. Sound induction and orientation processes and constant dissemination of the organizations' short term and long term goals is the solution to this problem. Lack of job rotation is another key reason for attrition in MSME present at the start slowly starts to fade away. MSMEs.

**D. COMPETENCY AND SKILL DEVELOPMENT**

MSMEs generally lack the understanding and ability to determine the competencies that are required by an employee to fulfill his role and gain competencies and skills. These skill gaps exist at various levels. For example: As per National Skill Development Corporation, a production supervisor at a car manufacturing plant has sound knowledge of production techniques but has inadequate communication skills resulting in lack of ability to solve conflict among employees which generally leads to loss of lead time.

**(F.) ACCESS TO INFORMATION AND MARKETS**

Access to reliable, up-to-date information to enable selection of target markets, product development, packaging, distribution and sales promotion is an important contributor to business success. But, TheMSMEs have limited access to sources of information on markets and opportunities outside their immediate vicinity. Quite often, information is received through word of mouth.

**(G.) MANAGEMENT SKILLS**

The management problems of MSMEs stem from factors such as poor record keeping, insufficient training and decision-making not informed by sound analysis. Furthermore, most of these enterprises operate without systems in line with good management practice such that the owner-worker-manager is the sole decision maker and his/her absence leads to a halt in decision making. The enterprises also do not operate with established systemic checks and balances. The management of a number of MSMEs is carried out according to experience and observation with little or absolutely no formal management systems. This denies the enterprises professionalism in their operation, for example they do not usually separate ownership from management, and affects their performance.

**(H.) RELATED TO TECHNOLOGY AND ENVIRONMENTAL CONSTRAINTS**

Technology plays a vital role in an economy, particularly in its development phase. In this era of globalization, the MSME sector needs to compete not just at the local or the national level but also at the global level. Access to modern technology is acting as a serious threat to the growth of the sector. The technology transfer issues pertaining to MSMEs in developing nations are very different from those being faced in the developed countries like the US and. The absence of an enabling ecosystem which is much required for facilitating an active interaction in the technology transfer process is a major inhibitor for the sector. Other issues such as 'limited interaction' between technology providers and technology seekers, minimal knowledge about upcoming technologies, and the cultural and the regional differences in the developing nations adversely affect the productivity of the MSME sector. The competitiveness of any economy depends on how efficiently all the resources in the process of production are utilized and how efficiently these are marketed, hence the entire chain of production has to be efficient. This means that the process of production has to be cost efficient and meets quality needs of the consumers. This improvement can come through the use of latest technology. In addition of this MSMEs in India face significant problems in accessing appropriate technology. Moreover, most technology adopted by many small enterprises is not appropriate to their requirements. Most MSMEs are excluded from the benefits of modern upgraded technologies as they have limited access to information on relevant product and process technology. Even when the appropriate technologies are available, the MSMEs lack the resources to purchase it.

**(I.) RELATED TO ENVIRONMENTAL PERFORMANCE OF MSMEs**

MSMEs form a strong basis of the economy in developed countries and transition economies, but unlike their larger counterparts, they often find it hard to comply with the environment legislations. Also, availability of limited knowledge and high cost of acquiring efficient technologies challenges MSMEs. Segments like food, drink, tobacco, printing, textiles, leather, timber, metal articles, etc., have a significant impact on the environment as they face major concerns regarding clean water, handling/ storage of toxic waste, reservation of forests, air pollution, ozone depletion, recycling of materials and many such issues. The environmental performance of MSMEs continues parts of the region and it is believed that the environmental damage caused by MSMEs will grow unless innovative strategies are devised. MSMEs need to realize the benefits of environmental management and how it materializes into greater efficiency, profitability, and competitiveness for the enterprises.

MSMEs currently face a number of barriers which are hindering them from accepting and initiating the use of environment-friendly technical know-how. The main concern faced by enterprises is the lack of awareness and knowledge, which make them ignorant of the existing technologies and techniques and further supporting instruments that contribute to the success of the implementation of policy while providing advantages to MSMEs in terms of cost-sharing and supply chain management. Also, applying partnerships for inter-city technical cooperation and through initiatives by the existing industrial associations would not only mobilize the resources needed for the MSMEs' environmental performance but create opportunities for eco-businesses increase their reliance on old and outdated technologies for their sustenance. In the recent years, there have been numerous media campaigns and marketing initiatives to stimulate the markets and the target segments in order to educate and promote awareness of the existing products and techniques alongside the environmental hazard aspect. Secondly, acute shortage of funding for MSMEs further deteriorate the situation since acquiring the environment-friendly technologies becomes a financially non-feasible endeavor. Further, the shortage of funds does not promote the enterprise to take part in further research and development activities. Lack of resources, namely time and human resources, has been seen as a constant hurdle by MSMEs in order to accept and implement environment-friendly techniques and initiatives. Another barrier faced by enterprises is the resistance to change in terms of perception and ambiguity towards the adoption and implementation of new techniques and environmental initiatives.

**(J.) ISSUES RELATED TO LEGAL AND REGULATORY ENVIRONMENT**

The legal and regulatory environment is the key among constraints to enterprises. In spite of various policy reforms over the last two decades, the policy framework for the MSMEs sector is not developed yet. Even when opportunities have been created, MSMEs have not been able to draw the full advantage due to absence of appropriate policy support. There still exists an overly bureaucratic government system that often results in unnecessary delays in compliance and is excessively costly. This includes a complex system of documentation, lengthy procedures and outdated rules and procedures. Enforcement of many laws and regulations is centralized for example registration of a business, land transactions, payment of stamp duty, among others. For firms in upcountry districts, this poses a major challenge etc. Firms believe that these requirements force enterprises to operate informally, which greatly limits their opportunities for growth, or to go out of business. The regulatory Compliance Report states that many MSMEs are informal entities and prefer to have very limited interaction with the central government.

**(K.) ISSUES RELATED TO TAX STRUCTURE REFORMS**

Indian tax rates are currently among the highest in emerging economies. In today's fast-globalizing world, where all countries reduce import tariff India still has inter-state trade taxes. Moreover, indirect taxes are inherently regressive and affect productivity adversely.

**(L.) RELATED TO CORPORATE GOVERNANCE**

Weak Governance may prevent many MSMEs from exploiting economic opportunities. The complex challenges created by rapid economic growth have increased demands on public institutions' capacity to design and to implement better policies and strategies. The state must establish institutions and policies that maximize opportunities for growth and poverty reduction. The economic success of many MSMEs will depend on this kind of institutional progress, along with a policy and regulatory environment that fosters trade, investment, and technology development. The key role of state institutions also often raises the related governance challenge of corruption, which many MSMEs face to varying degrees.

**6. KEY RECOMMENDATIONS FOR THE OF EFFECTIVE AND EFFICIENT ORIENTATION OF MSMEs****(A.) RELATED TO ACCESS AND COST OF FINANCE AS FIXED AND WORKING CAPITAL**

A special exchange can be designed for MSMEs for raising the funds and where the scrip's may be listed and traded. There are several such exchanges operating as parts of the larger stock exchanges – one such example is the Alternative Investment Market (AIM) which is part of the London Stock Exchange (LSE). AIM is the



most successful growth market in the world and was formed to help smaller and growing companies in raising capital for expansion. This not only will help bring the investor community closer to the entrepreneurial community, but also address the immediate need for finance. To conclude, it can be suggested that apart from government measures as part of the task force, adequate and timely finance needs to be available for the MSME sector. Some key recommendations to assist the growth of MSMEs are:

1. Encourage private equity investments – this not only unlocks value for the company but also allows the company to better structure themselves for growing rapidly;
2. Creation of a MSME exchanges – this shall be a big boon for the Indian economy resulting in both direct and indirect benefits;
3. Pro-active measures by the Associations – this is extremely crucial since the associations can play a pivotal role in forums; and
4. Cluster finance – these types of mechanisms would result in reduction of transaction costs and access to timely finance and information

#### **(B.) RELATED TO MARKET ACTIVITIES**

Technology tools like SMS, digital newsletter and electronic direct mail can be used efficiently to target segmented population. Broadly classified as push marketing, these media tools are cost efficient and easily accessible. To add to this, websites, yellow pages, directory listings help pull the prospective buyer with rational efforts. Trade fairs form another important platform for MSMEs to venture into new territories and strategies, implemented, develop businesses the sector is required to look beyond India and innovate to businesses. Market their products internationally. MSMEs possess enormous potential required to expand to international market. To acquire a competitive edge, MSMEs must tap opportunities in the international arena in the fields of technology and research and development and engage themselves in international trade. International trade fairs are an important source of market intelligence, technological advancements and innovations. It is imperative for MSMEs to ensure that their business offerings are in sync with the cultural, political, economic and environmental dynamics. This can be achieved by creating an in-depth study of product feasibility and viability along with competition mapping and facilitates MSMEs to re-engineer their products and services accordingly.

#### **Innovative Marketing Approach and ICT exposure**

In the MSME space, digital marketing plays a highly significant role by performing the lead function of acquisition, business development and communication. Internet plays an important role in reaching out to the prospective customers irrespective of the remoteness and boundaries, and showcasing the products and Services in the virtual world. Internationally web marketing tools are being extensively used by MSMEs to reach out and generate leads. These include social networks, website syndication tools, gadgets and RSS feeds. B2B sites have also emerged as viable platform for promoting and doing business in a much evolved and effective way. They serve as a medium for the wholesalers, distributors, suppliers, manufacturers and retailers to conduct business in the e-arenas. Low investment online marketing tools include sponsored links as they establish an instant connect with laser-targeted prospects, though in-depth research and suitable ad words are required to identify industry trends and to keep the campaign effective.

#### **(C.) RELATED TO HUMAN RESOURCES**

##### **A. TALENT ATTRACTION**

MSMEs need to be able to distinguish themselves, create their niche brand and use it to attract talent. Organizations need to highlight to the potential hires that MSMEs are growing organizations and provide platform to the new incumbents to grow with the organization. It is imperative for MSMEs to make potential employees aware of the fact that the exposure and the level of responsibility in a small firm is much larger than that in a big firm. Recruitment channels such as referral, internal transfers and graduate recruitment need to be implemented. It is important that MSMEs keep the recruitment process transparent and clearly communicate the key criteria for hiring a person and the key success factors for his or her role.

Organizations in this cadre need to focus on more flexible and innovative benefits/rewards that cater to individual needs. MSMEs need to adopt long-term incentive schemes to ensure that employees have a vested interest/ share in achieving the long-term vision/ goal of the organization

##### **B. TALENT RETENTION**

In order for the MSMEs to retain talent they will need to become more performance based. This can be achieved by ensuring that the culture of the organization is meritorious where employees are guaranteed more responsibility strictly on the basis of performance.

Strong performance management systems need to be put in place to ensure the same. MSMEs' leadership bodies will need to ensure that they are able to judge the potential of an employee and can harness that potential towards the fulfillment of organization goals.

##### **C. COMPETENCY AND SKILL DEVELOPMENT**

It is important that the organization clearly communicates their targets and aspirations for the year to help HR determine what competencies or skill gaps exist at various levels in the organization and what training needs to be conducted internally or by externals to plug those skill gaps.

#### **(D.) RELATED TO TECHNOLOGY**

There has been a visible transformation in the role of technology from being an enabler of productivity and quality to a more strategic role as a key influencer of for the competitive advantage MSMEs today are increasingly focusing on adopting appropriate and affordable technologies and taking the path of innovation to build their global competitiveness. Unless the sector equips itself with the latest technologies, processes and machinery, it will not be in a position to meet the stringent quality standards set by the international buyers. With the current level of exposure to the international technologies, Indian MSMEs are expected to find it the competitiveness of any economy depends on how efficiently all the resources in the process of production are utilized and how efficiently these are marketed, hence the entire chain of production has to be efficient. This means that the process of production has to be cost efficient and meets quality needs of the consumers. This improvement can come through the use of latest technology. difficult to explore new markets for service and meet the innovative designs and features desired by the customers in those market .Though India has a vast pool of technical talent with a well developed intellectual infrastructure, the country still scores low in the matter of developing and adapting new technologies in the MSME sector. The MSME sector today needs an effective information system to support and deliver information to different users. Such information systems will be used to provide effective interface between users and computer technology and will also provide information for managers on the day-today operations of the enterprise.

#### **(E.) ENVIRONMENTAL PERFORMANCE OF MSMEs & IMPROVEMENT STRATEGIES**

The government, alongside commercial banks and lending institutions, has begun programmes that provide financial services and lending programmes to MSMEs, thereby reducing costs and risk exposure faced by these enterprises as well the lending institutions through commercial mechanisms. Also, various R&D programmes conducted and managed by reputed R&D organizations, along with industrial partners dedicated to specific or general needs, would further aid the enterprises. Bringing in consulting services would also help these organizations to acquire knowledge of systematic operating procedures, problem identification and problem solving. In order to overcome this obstacle, industrial clustering and networking is seen as a promising measure. Partnerships and institutional arrangements for waste treatment facility and waste exchange centers are crucial as supporting instruments that contribute to the success of the implementation of policy while providing advantages to MSMEs in terms of cost-sharing and supply chain management. Also, applying partnerships for inter-city technical cooperation and through initiatives by the existing industrial associations would not only mobilize the resources needed for the MSMEs' environmental performance but create opportunities for eco-businesses. Thus, a policy has been constituted by the government regarding the implementation of the Environmental Management Systems (EMS) tool by enterprises across. This would lay down the regulatory framework regarding environmental safety practices and techniques wherein government agencies play the leading role in the implementation while private consultants and NGOs, as collaborators, play an active part in working closely with MSMEs to systematically develop the EMS in their firms. With increased participation by various organizations contributing to the implementation of the various strategies and initiatives discussed above, the MSME segment would soon be able to overcome the hurdles and barriers in the course of making its operations greener and environment friendly.

#### **(F.) RELATED TO GOVERNANCE**

Public sector institutions, including those in the financial system, must adjust and reform to meet the demands of dynamic, open, and market-driven economies, as well as citizens' calls for greater efficiency and transparency in managing public resources and public service delivery. Countries must do more to protect intellectual property rights and to uphold the rule of law. Fragile policies, governance and situations would benefit greatly from good governance and higher



levels of transparency—improvements that could jump-start their economic development. Achieving measurable and sustainable progress on these challenges would represent important contributions to both regional and to global welfare.

#### **(G.) RELATED TO MANAGERIAL SKILLS/ ORGANIZATIONAL STRUCTURE**

Improving the Managerial Skills/Organizational Structure In vision-2020, Management will consider the organizational arrangements that best support country ownership with professional excellence, overcome internal weaknesses, and increase synergies among MSMEs operations. To meet the diverse needs of clients more effectively and to make the best use of its resources, Management will give each department more flexibility in determining its own organizational structure. Furthermore, MSMEs strategic focus on environment, particularly climate change, will require Management to consider an organizational structure that better caters to the fast-rising demand for MSMEs products and services in this area. Other changes that might arise over the longer term include further decentralization of the organization, taking into consideration the capacity of resident missions, and streamlining the knowledge units where appropriate.

#### **(H) INSTITUTIONALIZED PUBLIC-PRIVATE PARTNERSHIPS**

Addressing these challenges affecting MSMEs is not the work of government or the private sector alone but would require institutionalized public-private partnerships involving government and business associations to implement the following:

##### **A. STRENGTHENING BUSINESS ASSOCIATIONS**

MSMEs associations should improve their credibility, through adopting principles of good corporate governance, address internal weakness and ensure their relevance to members and sustainability through provision of useful services to members.

##### **B. PROMOTING THE ADOPTION OF THE PRINCIPLES OF CORPORATE GOVERNANCE**

There is need for promoting the adoption of the principles of corporate governance in MSME business operations and therefore encouraging them to operate professionally. This will build their credibility and consequently improve their access to financing, to international markets...

##### **C. PROMOTING CLUSTERING AMONG BUSINESSES**

Businesses working in clusters are better able to address supply and demand constraints and remove inefficiencies in the value chain. Indeed, clustering enables businesses to become more specialized, productive and innovative by increasing local competition while at the same time creating closer linkages with supporting industries and institutions. By clustering businesses will be able to develop strategies and targets for addressing their challenges and improving the competitiveness of their sector.

##### **D. PROMOTING BUSINESS DEVELOPMENT SERVICES**

The government should work with service providers and associations to develop markets for MSMEs dealing with information, training and other business services in order to increase the range of services available to MSMEs and the outreach to all parts of domestically and world-wide.

##### **E. PROMOTING RESEARCH AND LINKAGES WITH SUPPLIERS OF APPROPRIATE TECHNOLOGY**

The government should actively promote the adoption, transfer of technologies that will improve the productivity and competitiveness of MSMEs by strengthening the relevant institutional framework for technology development, and the linkages between public and private sector stakeholders.

##### **F. IMPROVING INFORMATION DISSEMINATION ON AVAILABLE INITIATIVES**

The relevant institutions and project that provide assistance to MSMEs should more aggressively disseminate information on the services they provide to the sector.

#### **(I) ESTABLISHING THE MSME AUTHORITY AND INTER-INSTITUTIONAL COORDINATION**

It is clear from the findings that the existence of supporting institutions does not guarantee the effectiveness of the whole support system. Indeed, evidence from the field surveys shows that even where there is a range of support institutions, effective financial and non-financial support is often not available. It is also well understood that the responsibility for effective support does not lie with government alone, but government is a key actor, particularly where markets do not yet provide effective support services. In view of the above considerations the following strategies are recommended to enhance the quality of institutional support for MSMEs development:

a. Establishment of the MSME Authority

b. Inter-institutional Coordination

##### **a. Establishment of the MSME Authority**

The establishment of the MSME Authority would create a powerful single-point administrative structure which cuts across administrative and financial barriers and fully implement policy and other actions affecting MSMEs. It should have powers to formulate policy, expedite approvals from other government agencies and resolve issues encountered during implementation of agreed actions. In operational terms, the Authority should be an independent body and should function as a "one stop shop" which could coordinate and facilitate information delivery to MSMEs. States set up by law to support the development of MSMEs.

The objectives of the proposed MSME Authority would be to:

- encourage and foster the establishment of industrial and commercial enterprises within the MSMEs sector.
- recommend to the Minister, national policy and strategy for MSMEs Development.
- Co-ordinate with government, semi-government, non-government, private sector organizations and donor agencies engaged in MSME development which constitutes the integrated institutional system.
- implement short, medium and long term Action Programmes agreed upon.
- identify the core competencies of institutions working for the development of MSMEs.
- conduct, promote and co-ordinate research in relation to MSME development and to publish reports and information with respect to MSMEs.
- create and maintain a "Special Fund" for MSME development and
- review and monitor financing schemes and donor funding programmes for MSME
- Development in order to ensure best utilization of available funds.

##### **b. Inter Institutional Coordination**

MSMEs development may be a key component in Vision 2020. However, the Vision should be supported by clear strategies for its achievement as well as the people, skills, technology and financial resources to enable implementation of the strategies in a timely, efficient and effective manner. Coordination among several ministries and local governments is necessary to achieve the outcomes of a well thought out strategy. The strategy would have to be integrated into the national policy in other sectors for example education, labor, trade and industry and district planning, among others. The MSME Policy Unit as interim measure should be strengthened to facilitate effective coordination. It should carry out any agreed action programmes until the proposed Authority is established under a separate Act of Parliament.

#### **(J.) IMPLEMENTATION VEHICLES**

Many of the schemes, especially the ones designed on Public Private Partnership (PPP) framework, envisage creation of Special Purpose Vehicles (SPVs) to act as implementing agencies. Creation of consortium and networks is Relatively a long-term process, which may involve minimum level of trust among The stakeholders. There is a need to involve network experts to create such networks with the provision for the financing such experts as a part of scheme itself. Association may perform handholding work in the recruitment and training of Such experts.

#### **(K) RELATED TO INFRASTRUCTURE**

In the present competitive and global environment, the MSMEs have to be competitive to survive and thrive. To ensure competitiveness of the MSMEs, it is essential that the availability of infrastructure is in tune with the global trends and it compensates for small scale through provision of common facilities. MSMEs located in clusters provide an effective mechanism and environment to address Operational manual, safety manual and training manual. Successfully which is a major achievement such competitiveness constraints wherein benefits can reach to large number of MSMEs. Clusters are an effective medium to augment both physical infrastructure as well as knowledge infrastructure for infusion of technology, development of skilled workforce, etc. A national programme for renewal of industrial infrastructure may be undertaken[on the lines of Jawaharlal Nehru National Urban Renewal Mission (JNNURM)] to upgrade infrastructure for

existing industrial estates, such as roads, drainage, sewage, power distribution (within industrial areas), capacity commitment and equity participations should be allowed to be satisfied collectively by the members of the cooperative society. The State Governments should formulate policy for incentivizing private sector for setting up of new Industrial Estates water supply distribution, etc.

## 7. SWOT ANALYSIS

### a. STRENGTH

- (i.)Solid History in software development
- (ii.)English Proficiency
- (iii.)Government Support
- (iv.)Cost Advantages
- (v.)Strong Tertiary Education
- (vi.)Process Quality Focus
- (vii.)Skilled Workforce / Demography
- (viii.)Expertise in new technologies
- (ix.)Entrepreneurship
- (x.)Reasonable technical innovations
- (xi.)Reverse brain drain
- (xii.)Existing Long Term Relationship

### b. WEAKNESS

- (i.)Positioning & Brand Management
- (ii.)Infrastructure
- (iii.)Cultural Differences
- (iv.)Sales & Marketing
- (v.)Leverage expertise for higher-value education
- (vi.)Fear/Uncertainty from Pakistan
- (vii.)Legal System
- (viii.)Bureaucracy
- (ix.) Poor globalization skill

### c. OPPORTUNITIES

- (i.)Creation of global brands
- (ii.)BPO & Call center offerings
- (iii.)Resource Based Sectors
- (iv.)Chinese domestic & export market
- (v.)Leverage relationship in Middle East markets
- (vi.)Indian Domestic Market Growth

### d. THREATS

- (i.)Internal competition for resources
- (ii.)Over promise / Under delivery
- (iii.)Regional Geo-political uncertainty
- (iv.)Rising Labor cost
- (v.)Competition from other countries
- (vi.)Blinding Nationalism
- (vii.)Corruption / Piracy / trust
- (viii.)Political & religious instability

## 8. CONCLUSION

Identifying potentials and anticipating the challenges to our future progress in MSMEs of the national economy play a very vital role in constitute a vision of the country's future. That will determine whether we regard the following vision of what India can become in 2020. India 2020 will be bustling with energy, entrepreneurship and innovation. A productive revolution in MSMEs, coupled with diversification is completed the vision in reality. These in turn will stimulate demand for consumer goods and services, giving a fillip to the urban economy and the informal sector as well as rapid expansion of the services sector. The evolution of MSMEs, widening the field of India's international competitiveness and generating a large number of employment opportunities for the educated you and, will ensure jobs for all by 2020. India will be much more integrated with the global economy and will be a major player in terms of trade; technology again fulfilling vision-2020MSMEs requires a new development approach, innovative thinking, and cooperative actions. Acknowledging the need for change, vision 2020 repositions MSMEs within the evolving international aid architecture, defines its operational focus, and sets strategic operational and institutional goals. Under Strategy 2020, and with access to the necessary financial and other institutional resources, MSMEs will strive to achieve excellence in its investment and knowledge-based assistance, delivering more aid more effectively with greater results and impact. The main external constraints that affect Ugandan SMEs include availability of electricity, cost of financing, quality of transportation and access to telecommunications. These constraints could be symptoms of low government investment over several decades and inadequate attention to long-term planning in the critical development sectors. Efforts to improve the business climate and competitiveness of the MSME sector will require progress in several areas including: infrastructure development, institutionalization of the principles of corporate governance, providing a conducive fiscal and monetary policy with reasonable interest rates, and providing a conducive business operating environment. Vision 2020 will enable MSMEs to realize its full potential in benefiting the region and the international community.

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## ENHANCING JOB SATISFACTION OF SOFTWARE PROFESSIONALS: THE RELEVANCE OF EMOTIONAL QUOTIENT

**V. ANOOPKUMAR**

**RESEARCH SCHOLAR, FACULTY OF MANAGEMENT, BHARATHIAR UNIVERSITY, COIMBATORE; &  
ASST. PROFESSOR**

**P. A. COLLEGE OF ENGINEERING & TECHNOLOGY  
POLLACHI**

**DR. R. GANESAN**

**PRINCIPAL**

**SRI VENKATESWARA GROUP OF INSTITUTIONS  
ETTIMADAI**

### ABSTRACT

*The success of any business organization depends on the people who work for it. Job satisfaction is a key aspect in keeping employees happy and in creating a positive work environment. Software industry is no exception to this. Nowhere are human resources as critically important as in the software sector. Therefore, attracting, training, retaining and motivating the professionals are the critical success-determinants of this industry. The present research study conducted reveals that the software professionals working at Bangalore are in more comfortable zone than the nearby IT city of Cochin. This comparative study on the Job Satisfaction of Software Professionals done as part of academic program evaluates the levels of job satisfaction among software professionals working in these two metros. It also emphasizes the relevance of emotional intelligence (EI) at work place for the success of an organization and ultimately in creating a satisfied employee. A few researches believe that EI is an inborn characteristic, while majority of others believe that it can be learned and strengthened. The advantages are many fold. Various studies reveal a correlation between high levels of emotional quotient and superior levels of job satisfaction. Also, better productivity. On the personal side, increased career success, effective leadership and better health are the other by products.*

### KEYWORDS

Emotions, intelligence, motivation, satisfaction, software.

### INTRODUCTION

The success of a business depends on the people who work for the organization. Job satisfaction is a key aspect in keeping employees happy and in creating a positive work environment. Software industry is no exception to this. It is acknowledged as an important engine of economic growth for many developing and under developed countries. Software development is a service that is both labour and knowledge-intensive. Nowhere are human resources as critically important as in the software sector. Therefore, attracting, training, retaining and motivating the professionals are the critical success determinants of this industry. Their competence and enthusiasm plays a great role in the success of this sector.

The Indian software industry has burgeoned, showing a nearly 50% compounded annual growth rate over the recent years. Being a knowledge based industry, a high intellectual capital lends competitive advantage to a firm. Intellectual capital comprises human capital and any created bit of knowledge or expertise or competence. With global explosion in market opportunities in the software industry, the shortage of skilled manpower with required qualities is a prime challenge for HR managers.

Companies want to make sure that the people working with them will enjoy a profound sense of job satisfaction. Their physical, mental, emotional and spiritual needs will find ample scope for fulfillment under their corporate umbrella, thereby creating an adaptive organization at all levels.

The term Emotional Intelligence (EI) is fastly gaining momentum in the corporate circles day by day. In the domestic and global scenario, things and situations are changing with high velocity. This tremendous speed of change in the prevailing situations poses difficulty and strained relationships in all walks of life including in software industry.

Emotional intelligence is a major factor in bringing cordial and healthy relationships with all stakeholders of the organization. It was found that the power and inclination to empathize with these stakeholders and sincerely listen and care about their unique needs, priorities and challenges is the stepping stone for conducive industrial climate. Hiring and retaining people with good emotional intelligence may be the success secret of many outstanding organization in the software sector.

Various studies reveal a correlation between high levels of emotional quotient and superior levels of job satisfaction. Also, the importance of emotions at work place and it's successful management was found to be of prime concern with many top players in the sector. EI motivates us to realize our needs, desires, objectives and tasks. This gives us a more powerful way to look into future, and it regulates our deeds and thoughts. Here provides an analysis of the impact EI brings into the professional, personal and social life of an individual - which is very vital in creating a satisfied employee.

### IMPORTANCE OF THE STUDY

The profile of a forward looking software company is changing day by day. Also that of professionals working with them. A study into their career graph, executive health, adaptability to new environment, family bindings, social outlook, peace of mind, further plans etc will reveal the degree of satisfaction these people enjoy. Software companies operating in Bangalore and Cochin were covered in this study.

Employee job satisfaction is not focused to money alone. Various intrinsic and extrinsic factors such as responsibility, achievement, recognition, supervision, pay, company policies, working conditions, job security, co-workers etc. seem to be related to job satisfaction. Variables such as education, family background and cultural environment can affect the importance of needs for individuals. This study approached job satisfaction as a multi dimensional attitude, it is made up of attitudes towards pay, promotions, co-workers, supervision, work culture, incentives and above all the employee himself or herself.

### OBJECTIVES

The following were the main objectives of the study.

1. To analyze the socio-economic profile of the software professionals in the IT sector.
2. To analyze the factors that affect job satisfaction among the software professionals in the IT sector.
3. To ascertain the conducive level of the working environment in the IT sector.
4. To analyze the satisfaction level of software professionals of the IT sector towards career development and promotional aspects.
5. To measure the level of stress and tension of the software professionals of the IT sector.
6. To give valuable suggestions for improving the satisfaction level of employees.



**RESEARCH METHODOLOGY**

Explorative research design was adopted in this research to achieve the objectives of the study. The major emphasis in this design is on the discovery of ideas and insights. This design helps to discover the level of job satisfaction among the software professionals.

**DATA COLLECTION**

The primary and secondary data were collected from different sources. The primary data collected from the software professionals and management/supervisory cadre staff working in the IT Industry at Cochin and Bangalore.

The secondary data were collected from the records, books, journal and magazines. In addition to these sources internet web resources was also used to collect relevant reviews of literature.

**GEOGRAPHICAL AREA OF THE STUDY**

The geographical area of the study was limited to the city and suburbs of Cochin in Kerala State and the city and suburbs of Bangalore in Karnataka state.

**POPULATION AND SAMPLING**

The Target Population to this study was the software professionals working in the IT sector of the geographical area of the study. The sample size was 5% of the total software professionals working in the IT sector at Bangalore and Cochin. A total number of 9500 (6100 software professionals working at Bangalore and 3400 at Cochin) software professionals were working in the selected geographical area. The actual sample taken was 400 software professionals. Stratified random sampling method was adopted to collect data in this research.

**TOOLS OF THE STUDY**

Standardized scales were used to measure the level of job satisfaction in this study. The occupational stress inventory developed by Dr. M. I. Joseph and Dr. B. Dharmangadan and the Job satisfaction scale of Mr. Paul E. Spector (Department of Psychology, University of South Florida, U.S.A) were used in this study.

**DATA ANALYSIS**

The collected data were coded and entered into a master chart and analyzed with the use of computer software SPSS 11.5 (Statistical Package for Social Sciences). The following statistical tests were performed to find out the reliable results of the data collected. T. test, ANOVA, Chi-Square Test etc. were administered.

**FINDINGS**

The major findings are classified into sub heads as per the objectives.

**1. THE SOCIO ECONOMIC STATUS OF THE SOFTWARE PROFESSIONALS AT BANGALORE AND COCHIN**

The male employees come to 57% of the total sample. The women employment is high at Cochin (47.5%) compared to Bangalore (38.5%). The mean age of software professionals are less at Cochin (25 years) than Bangalore (28 years). The entire software professionals at least have a bachelor degree. Among total sample, 26.5% have PG Degree and another 34.5% have technical education. The educational status is more or less same both at Cochin and Bangalore.

The least income professional gets rupees 0.96 lakh/annum. It goes up to 16.8 lakh/annum high return group. The mean annual income is rupees 345216/-. The range of income is high at Bangalore compared to Cochin. The mean annual income of Cochin professionals is rupees 288348/- and rupees 402072/- is at Bangalore.

The work experience in this industry ranges from 3 months to 96 months. The number of less experienced professionals is high at Cochin compared to Bangalore. The mean value of Cochin is 21 months and Bangalore is 37 months.

**2. THE COMPARISON OF THE JOB SATISFACTION IN DIFFERENT SUB SCALES**

The study results show that the satisfaction level of software professionals from Bangalore is significantly high than the Cochin people with respect to nature of job, wages and other perks. The mean value of the pay is high at Bangalore (17.14) than Cochin (13.88) and it is statistically significant ( $P < .05$ ). The results on the nature of work also shows the level of satisfaction is high at Bangalore (18.55) than Cochin (17.13) but statistically it is not significant ( $P > .05$ ).

The result shows that there is a significant difference in the satisfaction level with regards to supervision and cooperation from coworkers among the software professionals of Bangalore and Cochin ( $P < .05$ ), even though there is a slight difference in the mean value. The mean value of Supervision is high at Bangalore (19.86) than Cochin (16.40).

When we analyzed the level of satisfaction software professionals towards career development and promotional aspects, it is comparatively high among the Bangalore (16.84) than Cochin (16.55) but statistically it is not coming to a significant level ( $p > .05$ ).

**3. THE LEVEL OF STRESS AND TENSION**

The level of stress and tension of the software professionals of the IT sector is also compared with the stress inventory developed by Dr. M. I. Joseph and Dr. B. Dharmangadan. The study analyzed the stress level of software professionals under 23 sub heads. The results of the study with the uses of stress inventory reveals that a moderate level of stress occupied by these software professionals working at Bangalore and Cochin. The mean score of stress at Bangalore is 308.32 and 325.72 at Cochin. The study reveals that the stress factors of the software professionals working at Bangalore and Cochin is significantly varied ( $P < .05$ ). The results show that the sub factors such as *Work Pressure at home, Transfer Policy, Emergency Situation, Job Security, Problem Court, Lack of control, Group Pressures, Lack of Participation, Role Ambiguity and Quantitative Overload* has significantly varied among the professionals working at Bangalore and Cochin. The P value of all these factors comes less than .05. The other sub scales such as *Qualitative Overload, Role Conflict, Autonomy, Lack of Challenges, Interpersonal Relationships, Promotions, Victimizations, Alienation, Perceived Status, Strong Working Condition, Grievance Redressal, Rigid Rules, Inadequate Pay, and Schedule of Working time* has not statistically significant among Bangalore and Cochin people ( $P > .05$ ).

**4. THE LEVEL OF JOB SATISFACTION: BANGALORE AND COCHIN**

The study reveals that there is a significant variation in the job satisfaction level of software professionals of Cochin and Bangalore ( $P < .05$ ). The mean score of 9 sub scales also supported the same (Bangalore = 156.26 & Cochin = 137.13). The people from Bangalore is highly satisfied than Cochin. The sub scales such as Pay, Fringe Benefits, Contingent Rewards, Operating Conditions and Communication also supported to the same ( $P < .05$ ).

**SUGGESTIONS**

Even though many suggestions are there, the major one is discussed here under. It is found that the satisfaction level at both Cochin and Bangalore is somewhat satisfactory (Bangalore better than Cochin). Still there is room for improvement. More desirable changes will occur if companies recruit people with better Emotional Intelligence (EI) and taking care to develop their EI through training and creating necessary ambience. This is analyzed in detail here.

**RATIONAL OF THE SUGGESTION**

Organizations need continuous commitment from their employees to develop and fulfill their objectives. The relationship between job satisfaction, employee motivation, corporate performance and emotional intelligence has been the subject of abundant research in several fields, including strategic Management, Organizational Behavior and Human Resource Management.

Various studies show that a correlation between high levels of EQ and high levels of performance exist. People with high EQ are more grounded, resilient and satisfied in their career. In fact, they are having good self awareness, high levels of inter personal skill and empathy. Being adaptable, they experience less stress, cope with pressure, enjoys better health and well being than low scorers (Bardzil and Slaski, 2003). Such a workforce is actually needed in sensitive sector like software where human resources are critically important. Interaction at various levels by the investigator also gave the same feedback.

## WHAT IS EMOTIONAL INTELLIGENCE?

Daniel Goleman (1995) conceptualized the idea of emotional intelligence. But the term can be traced back to Darwin's early works, giving emphasis to emotional expressions, essential for adaptation and survival. Goleman portrays emotional intelligence as encompassing the following 5 constituents.

- Knowing one's emotions (self-awareness) - recognizing one's own feelings as they occur.
- Managing emotions – Handling one's feelings so that they are appropriate.
- Motivating one-self- Harnessing one's emotions to achieve goals.
- Recognizing emotions in others (empathy) –being attuned to the signals that indicate what others need or require.
- Handling relationships – Dealing constructively with the emotions of others.

Emotional intelligence (EI) refers to the ability to perceive, control and evaluate emotions. Some researchers suggest that emotional intelligence can be learned and strengthened, while others claim it is an inborn characteristic.

Since 1990, Peter Salvoes and John D. Mayer have been the leading researchers on emotional intelligence. In their influential article "Emotional Intelligence," they defined emotional intelligence as, "the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (1990).

Emotional intelligence is the ability to understand your own emotions and those of people around you by having a self-awareness that enables you to recognize feelings and helps you manage your emotions (Muchinsky, 2000).

FIGURE 1



## THE FOUR BRANCHES OF EMOTIONAL INTELLIGENCE

Peter Salvoes and John D.Mayer proposed a model that identified four different factors of emotional intelligence: the perception of emotion, the ability to reason using emotions, the ability to understand emotion and the ability to manage emotions.

1. **Perceiving Emotions:** The first step in understanding emotions is to accurately perceive them. In many cases, this might involve understanding nonverbal signals such as body language and facial expressions.
2. **Reasoning with Emotions:** The next step involves using emotions to promote thinking and cognitive activity. Emotions help prioritize what we pay attention and react to; we respond emotionally to things that garner our attention.
3. **Understanding Emotions:** The emotions that we perceive can carry a wide variety of meanings. If someone is expressing angry emotions, the observer must interpret the cause of their anger and what it might mean. For example, if your boss is acting angry, it might mean that he is dissatisfied with your work; or it could be because he got a speeding ticket on his way to work that morning or that he's been fighting with his wife.

**Managing Emotions:** The ability to manage emotions effectively is a key part of emotional intelligence. Regulating emotions, responding appropriately and responding to the emotions of others are all important aspect of emotional management.

According to Salvoes and Mayer, the four branches of their model are, "arranged from more basic psychological processes to higher, more psychologically integrated processes. For example, the lowest level branch concerns the (relatively) simple abilities of perceiving and expressing emotion. In contrast, the highest level branch concerns the conscious, reflective regulation of emotion" (1997).

## EMOTIONAL INTELLIGENCE IN ACTION

Emotional intelligence can be learned and strengthened, but only when an employee understands how emotional intelligence is observable and useful in the workplace. As discussed earlier, Peter Salvoes and John D. Mayer, recognizes four aspects of emotional intelligence: "the perception of emotion, the ability to reason using emotions, the ability to understand emotion and the ability to manage emotions."

Examples of skills that a person with emotional intelligence might display in these aspects include:

- Awareness of and ability to read body language and other nonverbal communication that includes facial expressions,
- The capacity to listen so intently that he or she can hear the words not spoken by paying attention to tone of voice, inflection, pauses, and other cues,
- The ability to control and handle frustration, anger, sorrow, joy, annoyance, and other emotions,
- Recognizing and reacting to the impact that his or her words and actions are having on coworkers, whether they inform the manager of the impact, or not,
- Understanding the underlying emotion of a communication from a staff member and responding as effectively to the emotional aspects of the communication as to the stated needs, and
- Effectively interpreting the cause of the emotion expressed by a coworker. That sad, dejected posture can indicate a significant issue at home as well as an unresolved work issue.

## INCREASING EMOTIONAL INTELLIGENCE

Managers who are able to relate with emotional intelligence, whether because of nature, and / or practice, bring an extra dimension of understanding and relationship building to their work assignments.

- **Practice deep and focused listening when communicating** with another employee. Instead of rehearsing your response while the other person is speaking, focus your mind and attention on asking questions to clarify and understanding what the person is saying.

- **Summarize and feed back what you think you** heard the individual say to you. Ask if your summary is an accurate portrayal of the communication content.
- **Ask questions to identify emotions and feelings.** Ask the employee how he or she feels about the information provided to you. Ask for their gut feeling about how things are progressing. If you have difficulty reading how the employee is reacting to a situation emotionally, ask to discover. Most employees are only too willing to disclose an opinion when their manager indicates interest. You will further develop your emotional intelligence, too.
- **Practice noticing body language or nonverbal communication.** Stop your hurry long enough to recognize when body language is inconsistent with the words spoken. Get used to interpreting body language as a means to understand an employee's complete communication. With practice, you will get better.
- **Observe your own reactions to an employee's communication.** Make sure that you react on two levels. You need to react to the facts and to the underlying emotions, needs, dreams, and so forth that are expressed in most communications, if you are observant. Again, if you don't **get** the second level, that involves emotions, ask until you understand.
- **Notice whether the employees with whom you relate most effectively are just like you.** Explore whether you are receiving shared communication or just making assumptions that the employee will feel and react in a particular way, based on your experience. Ask questions, and notice responses.

An employee with highly developed emotional intelligence is already analyzing your reactions and understands what you want to hear. This employee is skilled at building the relationship side of your connection - for good and for ill.

- **Pay more attention to your own emotions.** Analyze how you respond in emotional situations. Seek feedback from employees whom you trust to react with some degree of unbiased, unprejudiced response. Seek additional feedback from a boss or mentor who can describe your impact on others in a meeting, for example.

You can develop your emotional intelligence, but it will take persistent focus and practice. Seek and use feedback to round out your own perceptions of your actions and behaviors.

Emotional intelligence is a hallmark of an effective manager or leader. They understand and appropriately react to both the content of a message and the underlying emotional and meaningful components that make a message live and breathe in an organization.

They are able to build sustainable relationships with peers and reporting staff. Without emotional intelligence, a leader is handicapped severely in his or her ability to perceive and react to the emotional component of communication and interaction with other employees. This inability will kill their effectiveness.

**AT WORK PLACE** Various studies shows that a correlation between high levels of EQ and high levels of job satisfaction. People with high EQ are more grounded, more resilient and more satisfied in their career. In fact, they are having good self-awareness, high levels of interpersonal skills and empathy. Being adaptable, they experience less stress, cope with pressure, enjoys better health and wellbeing than low scorers (Bardzil and Slaski, 2003).

Handling emotions at workplace and its worth has been proved by many researchers. EQ, which is a multi-dimensional construct which links emotion and cognition with the aim of improving human relations in their behavior, teamwork and performance, is well established. Goleman (1998) recognizes the EQ into 2 dimensions, **personal competence**- how we manage ourselves, and **social competence**- how we manage our relationships with other people. Studies reveal that an organization which focuses on EQ will exhibit increased employee co-operation, motivation, productivity and superior performance. Employee commitment, teamwork, development of talent, innovation quality of service and retains customer loyalty. On the personal side, increased career success, effective leadership and better health are some of the salient features.

You can make their day or break their day. Other than the decisions individuals make on their own about liking their work, you are the most powerful factor in employee motivation and morale.

As a manager or supervisor, your impact on employee motivation is immeasurable. By your words, your body language, and the expression on your face, as a manager, supervisor, or leader, you telegraph your opinion of their value to the people you employ.

Feeling valued by their supervisor in the workplace is key to high employee motivation and morale. Feeling valued ranks right up there for most people with liking the work, competitive pay, opportunities for training and advancement, and feeling "in" on the latest news.

Building high employee motivation and morale is both challenging and yet supremely simple. Building high employee motivation and morale requires that you pay attention every day to profoundly meaningful aspects of your impact on life at work.

## GUIDELINES FOR PROMOTING EMOTIONAL INTELLIGENCE IN THE WORKPLACE

A paper chiefly constructed by Cary Cherniss and Daniel Goleman featuring 22 guidelines which represent the best current knowledge relating to the promotion of EQ in the workplace, summarized as:

### PAVING THE WAY

- Assess the organization's needs
- Assessing the individual
- Delivering assessments with care
- Maximizing learning choice
- Encouraging participation
- Linking goals and personal values
- Adjusting individual expectations
- Assessing readiness and motivation for EQ development

### DOING THE WORK OF CHANGE

- Foster relationships between EQ trainers and learners
- Self-directed change and learning
- Setting goals
- Breaking goals down into achievable steps
- Providing opportunities for practice
- Give feedback
- Using experiential methods
- Build in support
- Use models and examples
- Encourage insight and self-awareness

### ENCOURAGE TRANSFER AND MAINTENANCE OF CHANGE (SUSTAINABLE CHANGE)

- Encourage application of new learning in jobs
- Develop organizational culture that supports learning

### EVALUATING THE CHANGE - DID IT WORK?

- Evaluate Individual And Organizational Effect

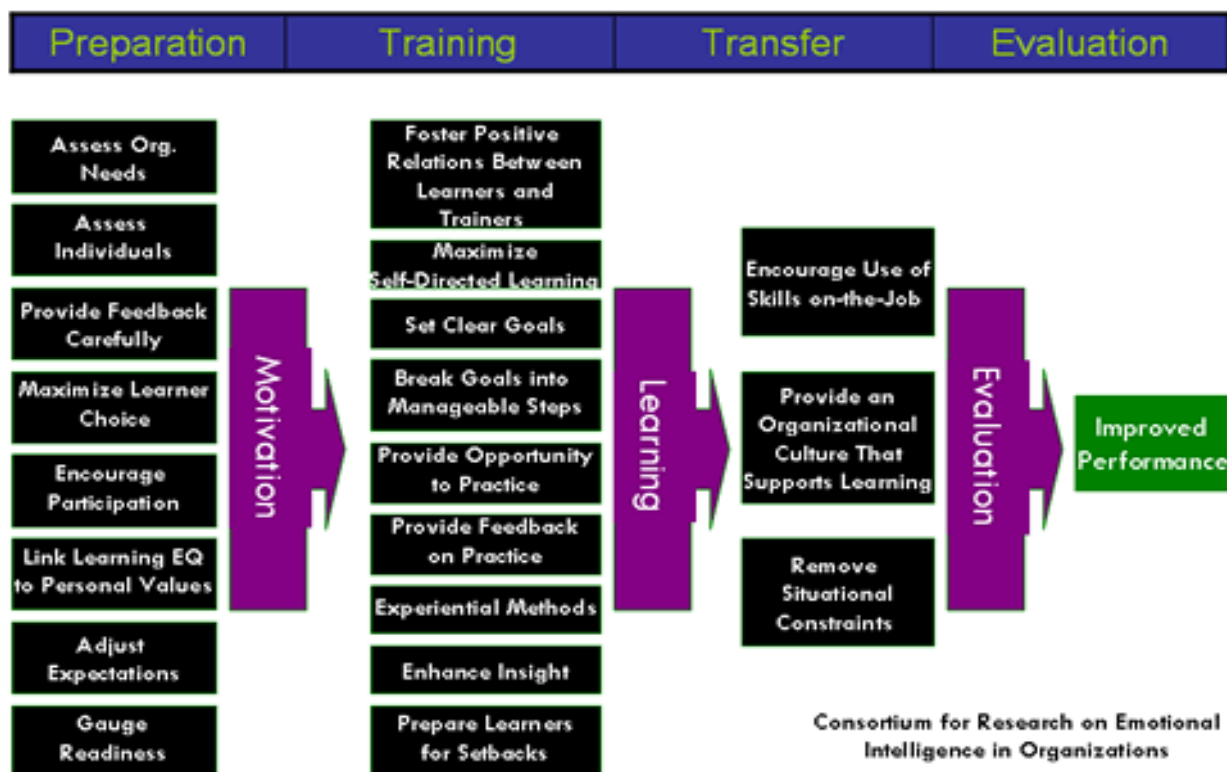
## GUIDELINES FOR EFFECTIVE SOCIAL AND EMOTIONAL LEARNING: AN OVERVIEW

The guidelines for social and emotional training are presented schematically in Figure 1. They are arranged in the form of a flow chart that describes the optimal process for helping individuals to increase their emotional competence in personal and interpersonal contexts.



The flow chart suggests that there are four basic phases to the training process. The first occurs even before the individual begins formal training. This initial phase, which is crucial for effective social and emotional learning, involves preparation for change. This **Preparation** occurs at both the organizational and individual levels. The second phase, **Training**, covers the change process itself. It includes the processes that help people change the way in which they view the world and deal with its social and emotional demands. The third phase, **Transfer and Maintenance**, addresses what happens following the formal training experience. The final phase involves **Evaluation**. Given the current state of knowledge about social and emotional learning, the complexity of programs designed to promote such learning and the great unevenness in the effectiveness of existing programs, evaluation always should be part of the process.

CHART 1: THE OPTIMAL PROCESS FOR DEVELOPING EMOTIONAL INTELLIGENCE IN ORGANIZATIONS



## CONCLUSION

This comparative study on the 'job satisfaction of software professionals' shows that the satisfaction level of software professionals from Bangalore is significantly high than the Cochin people with respect to nature of job, wages and other perks. The mean value of the pay is high at Bangalore than Cochin and it is statistically significant. The results on the nature of work also show the level of satisfaction is high at Bangalore but statistically it is not significant. The study reveals that there is a significant variation in the job satisfaction level of software professionals of Cochin and Bangalore. The mean score of 9 sub scales also supported the same. The people from Bangalore is highly satisfied than Cochin. The sub scales such as Pay, Fringe Benefits, Contingent Rewards, Operating Conditions and Communication also supported the same. The study reveals that the stress factors of the software professionals working at Bangalore and Cochin is significantly varied. The results shows that the sub factors such as Work Pressure at home, Transfer Policy, Emergency Situation, Job Security, Problem Court, Lack of control, Group Pressures, Lack of Participation, Role Ambiguity and Quantitative Overload has significantly varied among the professionals working at Bangalore and Cochin. The other sub scales such as Qualitative Overload, Role Conflict, Autonomy, Lack of Challenges, Interpersonal Relationships, Promotions, Victimization, Alienation, Perceived Status, Strong Working Condition, Grievance Redressal, Rigid Rules, Inadequate Pay, and Schedule of Working Time has not statistically significant among Bangalore and Cochin people. This explorative study results provide a wide range of possibilities to the IT Industry. They have to adopt new and innovative ideas and concepts through analyzing the study results well. As an emerging and booming industry both governments have to refer these study reports to develop right policy decisions. There is no doubt the study results will be an asset to the IT sector as well as to the aspiring and working software professionals. Also, by implementing the suggestion cited here, reasonable positive outcome can be expected.

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**A SURVEY ON CONSUMER ATTITUDE TO CHOOSE AND USE VARIOUS TELECOM SERVICES**

**V. BALAKUMAR**  
**JTO (CUSTOMER RELATIONSHIP MANAGER)**  
**EB CELL**  
**BSNL**  
**MADURAI**

**DR. C. SWARNALATHA**  
**PROFESSOR & HEAD**  
**DEPARTMENT OF MANAGEMENT STUDIES**  
**ANNA UNIVERSITY OF TECHNOLOGY**  
**MADURAI**

**ABSTRACT**

*With the introduction of Liberalization, Privatization and Globalization (LPG) concept in the telecom sector in India, service quality and customer satisfaction has become a yardstick to achieve business success. More focus has been laid on the customer requirement and fulfilling them under single window solution. Faced with the stiff competition in the market, telecom companies are adopting various imperative business strategies to survive in the market. Customers are also in a demanding position, asking for their requirement. This study analyses the consumer attitude in choosing and using of various telecom services. Based on the type of service, it has been categorized into three service area, viz. Landline services, Mobile services and Internet services. This study represents the findings of quantitative and qualitative research into consumer attitude towards the choosing and usage of telecom services in India. The very purpose of the research is to provide an insight into the understanding of the consumer demand according to the telecom market. The main objectives of the study are to identify the level of usage of various telecom services, the factors that motivate the customer to choose the particular service, the perception and the decision of the customer to choose the service and the influence of various factors like age, gender, economic status, household structure, life style and locality in the service usage.*

**KEYWORDS**

Consumer Attitude, LPG, Marketing, Survey, Telecom Service.

**INTRODUCTION**

Telecom sector in India has witnessed tremendous growth in the past two decades. From Mechanical and Electro-mechanical switches, rapid development has paved the way for newer technology telecom switches and equipment. With the introduction of auto-exchanges and the low cost switches which are tailor-made for Indian conditions, the tele-density in the country has seen a vast and unparalleled rise. Based on the New Telecom Policies, the sector was opened for private operators which introduced stiff competition and level playing field in the market. With the introduction of wireless technology in India, the gates were wide open to deepen the tele-density and penetration to the sub-urban and rural parts of the country. Today, Cell phones have become an integral part of basic amenities for almost every individual and the cost per call is very much reduced compared to the fixed line services. In the country, the number of mobile connections has already exceeded that of the wired services. Ease of establishment of front end connection and the advanced technologies which could accommodate bulk of customer base and switching activities at the back end led to the major rise. When mobile services almost reaching the saturation point, Next Generation Networks (NGN) has started emerging which works on data transmission and reception. In NGN, every information whether voice or data is sent in the form of digitized packets across globally. When internet ruling the world today, entire globe has become a small village and the access and sharing of information across the world is inevitable. So the provision of Internet services to the demanding mass community is the need of the hour. Broadband and Internet Leased Line (ILL) services provide internet services through the wired technologies where as Mobile 2G, 3G services and WIMAX provide internet through wireless technologies. The three different telecom services, landline, mobile and internet are the broad categories which attracts the customer market. Focus has to be given by the telecom operators to attract new customers and to satisfy the existing ones. So a consumer attitude analysis regarding the willingness to take up these services and the usage pattern need to be done to meet out the customer demands.

**REVIEW OF LITERATURE****NATIONAL TELECOM POLICY 1994**

In 1994, the Government announced the National Telecom Policy which defined certain important objectives, including availability of telephone on demand, provision of world class services at reasonable prices, improving India's competitiveness in global market and promoting exports, attractive FDI and stimulating domestic investment, ensuring India's emergence as major manufacturing / export base of telecom equipment and universal availability of basic telecom services to all villages. It also announced a series of specific targets to be achieved by 1997.

**TELECOM REGULATORY AUTHORITY OF INDIA (TRAI)**

The entry of private service providers brought with it the inevitable need for independent regulation. The Telecom Regulatory Authority of India (TRAI) was, thus, established with effect from 20th February 1997 by an Act of Parliament, called the Telecom Regulatory Authority of India Act, 1997, to regulate telecom services, including fixation/revision of tariffs for telecom services which were earlier vested in the Central Government. TRAI's mission is to create and nurture conditions for growth of telecommunications in the country in manner and at a pace, which will enable India to play a leading role in emerging global information society. One of the main objectives of TRAI is to provide a fair and transparent policy environment, which promotes a level playing field and facilitates fair competition. In pursuance of above objective TRAI has issued from time to time a large number of regulations, orders and directives to deal with issues coming before it and provided the required direction to the evolution of Indian telecom market from a Government owned monopoly to a multi operator multi service open competitive market.

According to "Enhancing competition in telecommunications: protecting and empowering customers – 2008", policy and regulations in the telecom sector has been connected with the consumer interest including consumer protection and empowerment. Legislation, Policy and Statements always give importance to the welfare of the customers. Regulation of telecommunication services has covered a range of services including the regulation of licensing to permit the market entry, Interconnection, Numbering policy, Universal service, Local loop unbundling, Quality of service and Number portability.

International Journal of Business Research and Management states that "The Indian Telecom Industry has an overall teledensity of 72.09 in April 2011 and the mobile segment teledensity of 69.19" and the customer analysis is done by means of software statistic tools. The telecom industry in India has witnessed a transformation from a monolithic regime, through an age of de-regulation and privatization; it has seen the rapid rise of market players who offer innovative products and services. This change has been commensurate with the growth of the industry, now ranked the fifth largest in the world and soon expected to be

second largest. Faced with a growing market and increasing competition, companies in the telecom business are adopting to new technological imperatives in order to outperform their competitors.

## RESEARCH METHODOLOGY

### OBJECTIVES

The main objectives of the research are as follows:

1. To identify the levels of choosing and usage of various telecommunications services by consumers.
2. To explore consumer attitudes and behaviours towards these services, such as:

What motivates consumers to take up particular services?

Why do consumers use particular services?

How do consumers decide which services to purchase?

What do consumers perceive to be critical telecommunications services?

3. To ascertain how factors such as age, gender, occupation and locality influence consumer take-up and use of telecommunications services.

### SURVEY DESIGN

The questionnaire was designed and prepared by the research scholar with the guidance of the supervisor. The questionnaire was informed by the qualitative phase and was designed to explore consumer attitude and behaviour. Many questions and terms within the questionnaire were not defined, which allowed the respondents to self-interpret or assess questions; this is highlighted in the research report where relevant.

### DATA ANALYSIS

The quantitative survey was analysed by socio-economic and demographic factors, including by geographic location to identify any areas with significant differences. Only results with significant differences were reported in this research.

### LIMITATIONS OF THE METHODOLOGY

As an overview of consumer choosing and using a particular telecom service which is carried out within the focus groups showed there is no uniform consumer profile. Consumer behavior segments has been categorized as Enthusiastic Embracers who belong to young age group, Mainstream followers of middle age group and Techno non-adopters who are of old age group.

### RESEARCH DESIGN

For the research analysis, the following format was prepared for collecting the response from the consumers. Questions were asked about customer using which of the services, landline, mobile, internet or combination of these three. Multiple choice answers were allowed for the question. Today's business environment forces the individual customer to have more than one mobile. A Question was framed for analyzing the nature of the customer having multiple mobile services. Among the mobile user segment, age wise analysis has also been done.

The salient feature of the research was to list out the benefits of choosing the particular service, either landline or mobile for both voice and internet purposes. Landline telephone has the general benefits such as cheaper calls, ease and convenient to use, shorter calls and better reception were listed and the consumers were asked to list out their order of preference. For Mobile services, the general benefits listed are mobility in usage, ease of handling, any time contact and the availability of using text messages. An option of no benefits has also been listed in both the questions to give the consumer the accurate level of selection.

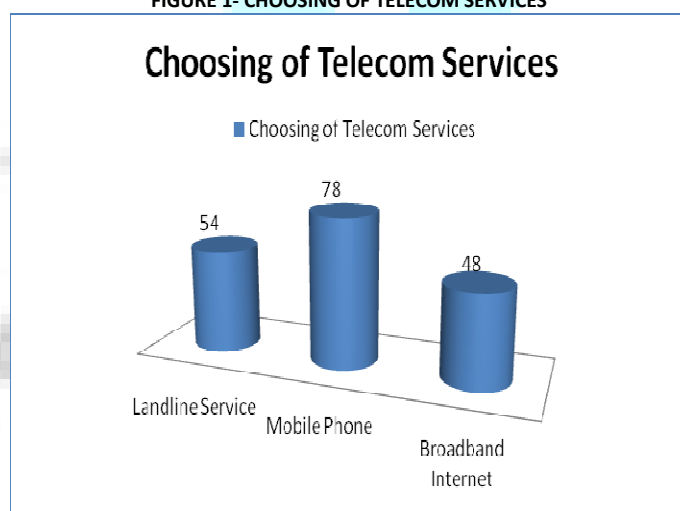
Today's world has been moving very fast and the percentage of people who are in mobility is increasing drastically. A question has been framed for finding the group of people who still believe the importance and advantages in the landline services. Internet connectivity in telecom services is becoming very vital and the questionnaire analyzed how the consumer was accessing the internet whether through wired or through wireless medium. Also, the usage of the internet services according to frequency. Finally from the financial point view, the amount spent for the internet usage per month has also been summarized.

## RESULTS AND DATA ANALYSIS

Based on the response from the participants, the following tabulation and graphical representation were demonstrated, which depicted the exact consume attitude towards the choosing and usage of the telecom services.

TABLE 1- CHOOSING OF TELECOM SERVICES	
Landline Service	54
Mobile Phone	78
Broadband Internet	48

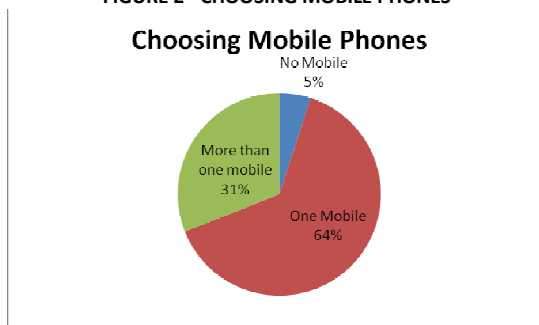
FIGURE 1- CHOOSING OF TELECOM SERVICES



While choosing the telecom services, most of the respondents were interested in choosing the mobile services (more than 75%) where as landline services were preferred by 54% of the sample. The usage of internet among the consmers was around 48%. The internet usage was either through broadband or mobile services. (Table -1 and Figure -1)

TABLE 2 - CHOOSING MOBILE PHONES	
No Mobile	5
One Mobile	64
More than one mobile	31

FIGURE 2 - CHOOSING MOBILE PHONES

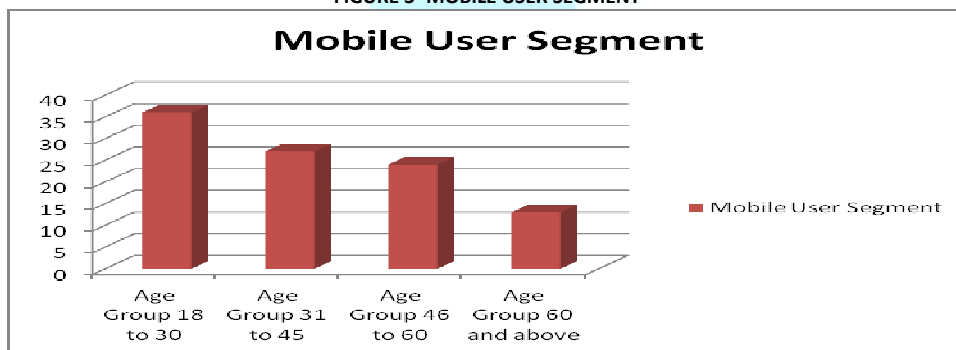


Among the respondents, around 64% of the people are having one mobile for their telecom usage. The increasing trend of consumers using more than one cell showed the deep penetration of the mobile market. The consumers distinguished the purpose of usage whether the mobile should be used for official or personal usage. Around 5% of respondents were not using mobile phones at all. (Table -2 and Figure -2)

TABLE 3 -MOBILE USER SEGMENT

Age Group 18 to 30	36
Age Group 31 to 45	27
Age Group 46 to 60	24
Age Group 60 and above	13

FIGURE 3 -MOBILE USER SEGMENT

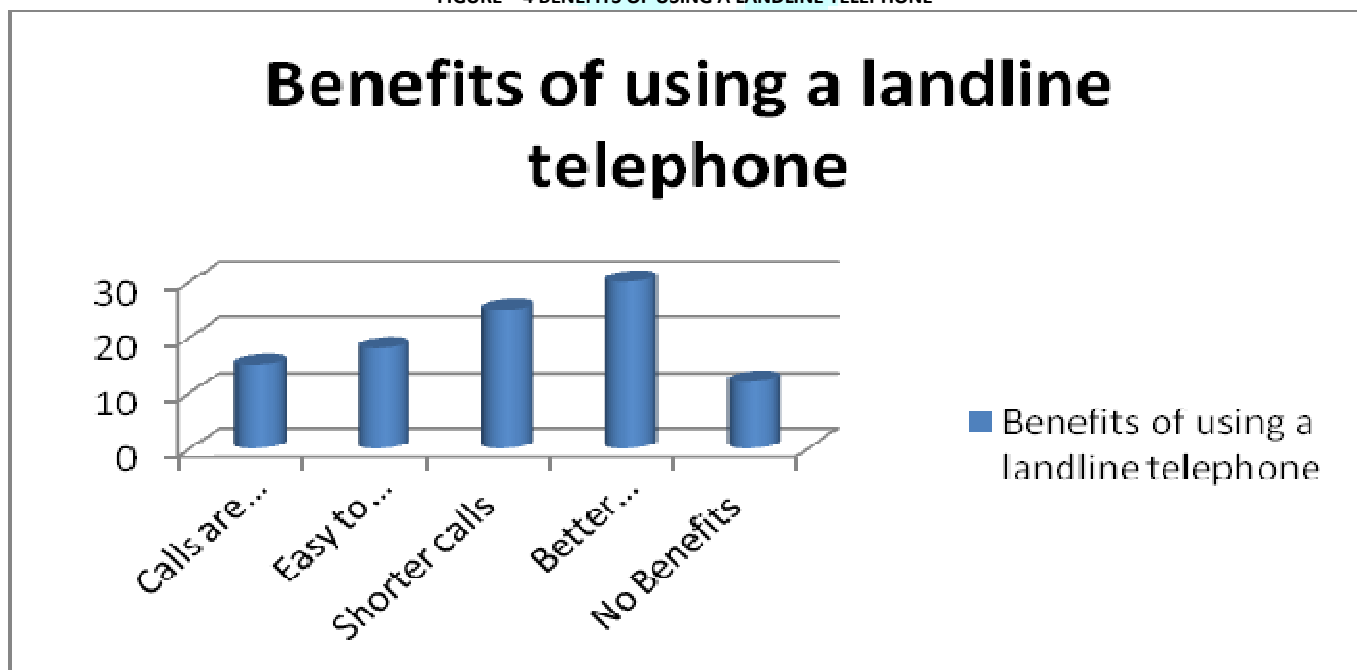


The age wise analysis clearly demonstrated the most attracted age group for the mobile market. Enthusiastic Embracers who belong to young age group are the majority (36%) in choosing mobile phone for their telecom service followed by Mainstream followers of middle age group and Techno non-adopters who were of old age group. (Table -3 and Figure -3)

TABLE - 4 BENEFITS OF USING A LANDLINE TELEPHONE

Calls are cheaper	15
Easy to handle / Convenient	18
Shorter calls	25
Better Reception	30
No Benefits	12

FIGURE - 4 BENEFITS OF USING A LANDLINE TELEPHONE

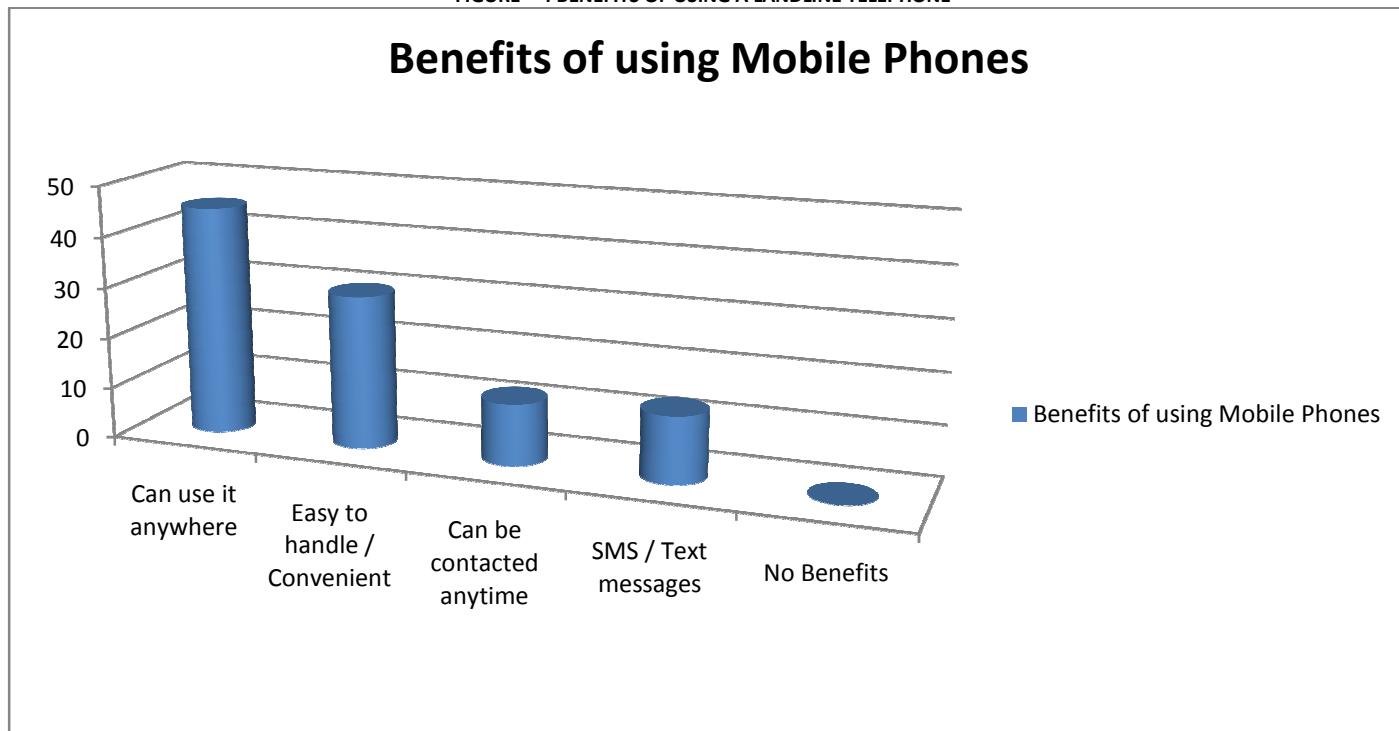




While listing the benefits of using the landline telecom service, the respondents were attracted towards the better reception quality. Landline services have become the tool for official calling purpose and the call durations were bound to be short which was one of the major benefits. There were some minor portion (12%) even stated that there were no benefits in landline services. (Table - 4 and Figure - 4)

TABLE 5 - BENEFITS OF USING MOBILE PHONES	
Can use it anywhere	45
Easy to handle / Convenient	30
Can be contacted anytime	12
SMS / Text messages	13
No Benefits	0

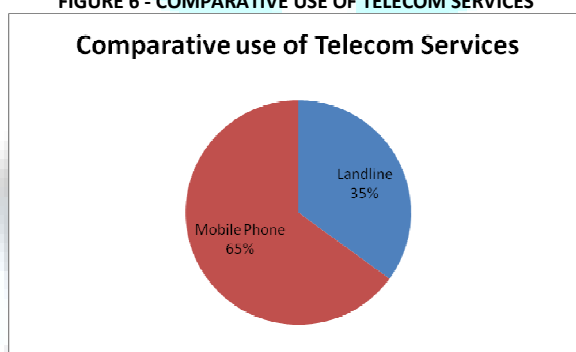
FIGURE – 4 BENEFITS OF USING A LANDLINE TELEPHONE



The foremost benefit of Mobile services was it could be used anywhere. Also people found that it was very easy to handle and it was convenient. The unique feature of SMS text was also found to be the next major benefit. (Table -5 and Figure -5)

TABLE 6 - COMPARATIVE USE OF TELECOM SERVICES	
Landline	35
Mobile Phone	65

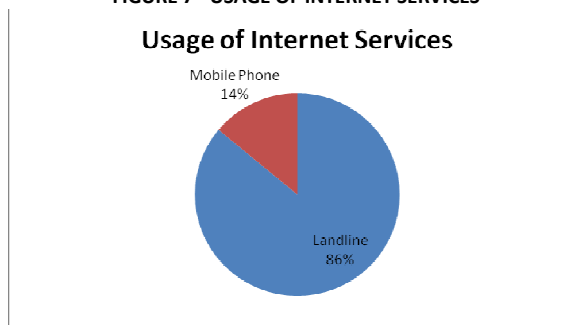
FIGURE 6 - COMPARATIVE USE OF TELECOM SERVICES



The world has been turning towards mobility and thus showed in the research also. Around 65% of the respondents preferred mobile phone service over landline services (Table -6 and Figure -6)

TABLE 7 - USAGE OF INTERNET SERVICES	
Landline	86
Mobile Phone	14

FIGURE 7 - USAGE OF INTERNET SERVICES

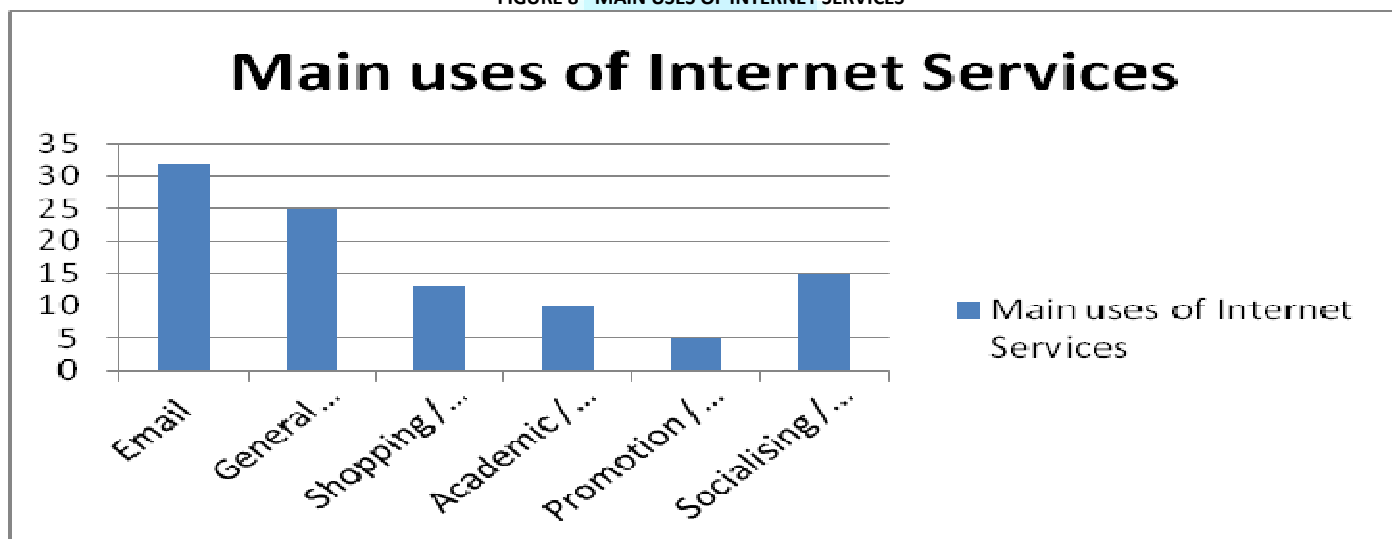


For Internet usage purpose, people still preferred Landline services over Mobile phone. Broadband connectivity yielded best recognition countrywide and people found high speed internet was very much possible using wired services. People who preferred internet browsing while in mobility used 2G/3G services for internet and thus preferred mobile phone choice (14%). (Table -7 and Figure -7)

TABLE 8 - MAIN USES OF INTERNET SERVICES

Email	32
General Browsing	25
Shopping / Paying Bills	13
Academic / Business Research	10
Promotion / Publishing	5
Socialising / Entertainment	15

FIGURE 8 - MAIN USES OF INTERNET SERVICES

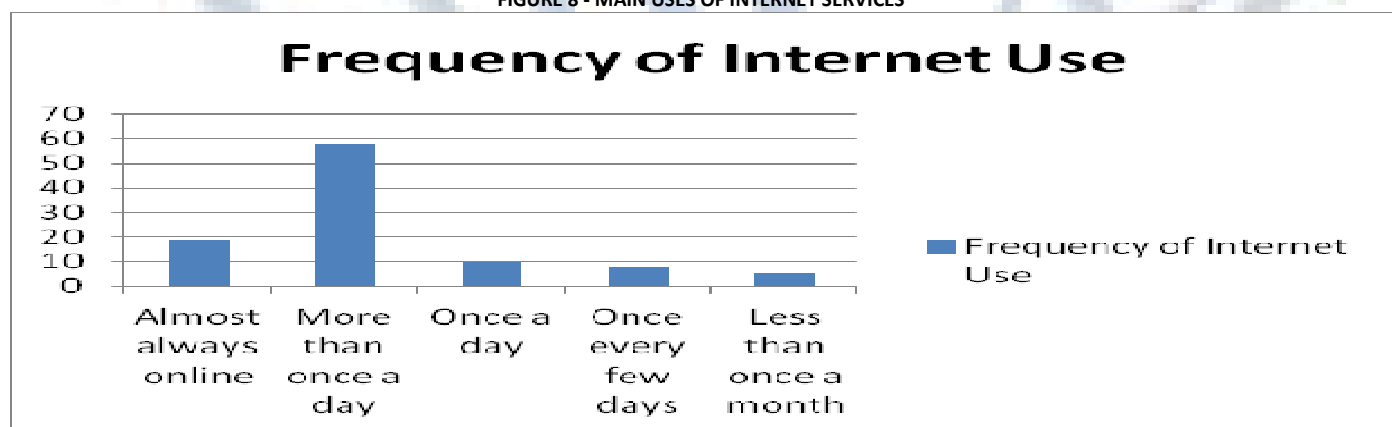


To understand how the people used internet service, a question was framed. Various uses of internet were listed. Among the list, around 32% of the people used it for Email purpose only followed by general browsing (25%). Promotion of their business through internet is yet to be popularized. (Table -8 and Figure -8)

TABLE 9 - FREQUENCY OF INTERNET USE

Almost always online	19
More than once a day	58
Once a day	10
Once every few days	8
Less than once a month	5

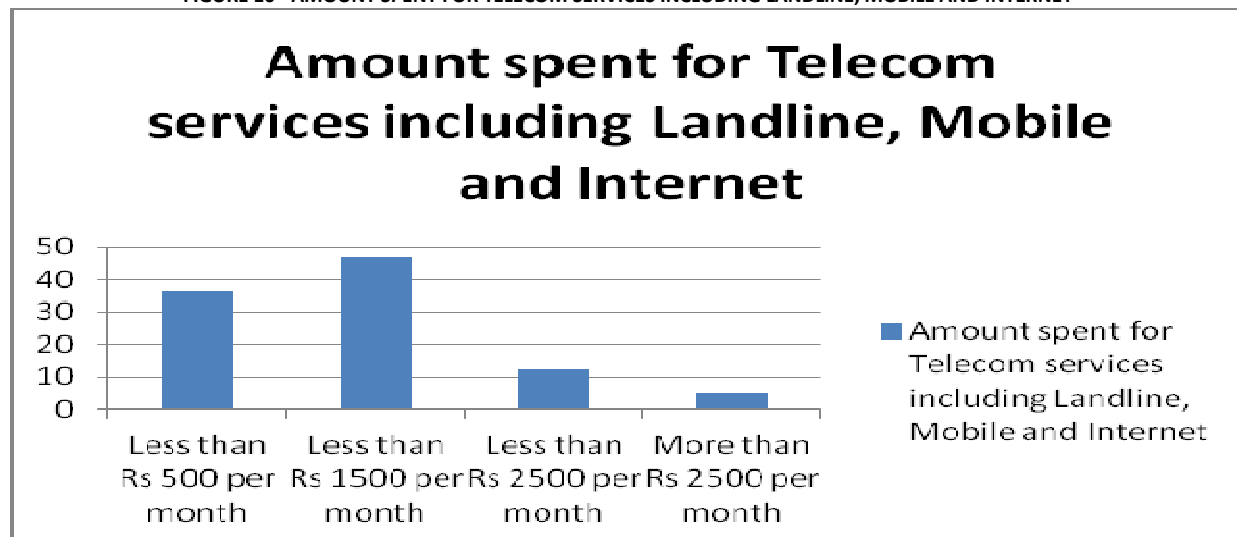
FIGURE 8 - MAIN USES OF INTERNET SERVICES



Regarding the frequency of internet usage, 19% of the people were almost always online where as majority of the people (58%) were used to see the internet more than once a day. Around 5% of the people were using internet less than once in a month. (Table -9 and Figure -9)

TABLE 10 - AMOUNT SPENT FOR TELECOM SERVICES INCLUDING LANDLINE, MOBILE AND INTERNET	
Less than Rs 500 per month	36
Less than Rs 1500 per month	47
Less than Rs 2500 per month	12
More than Rs 2500 per month	5

FIGURE 10 - AMOUNT SPENT FOR TELECOM SERVICES INCLUDING LANDLINE, MOBILE AND INTERNET



The question for finding how much respondents were spending for the telecom services, majority of the respondents (47%) were spending Rs 1500 per month where are 36% of them were spending less than Rs 500 per month. (Table -10 and Figure -10)

## CONCLUSION

Today, telecommunication services have become an integral part in the lives of Indian consumers. Most of the people are accessing to both the type of services, landline and mobile. While usage of telecommunications services is generally high, there is no single profile of consumers' choosing and usage of telecommunications, with use of services varying according to age, income and perceptions of cost and benefits. Many older respondents were relying on their landline telephone and less likely to have an internet connection or a mobile phone; they did not see the benefit of these services or perceived cost as a barrier. The influence of children in the household also had a vital role in choosing and usage of telecom of services. The research showed parents choose to take up services for their children and felt that broadband internet was required for education and schooling. Parents also felt that mobile phones were a useful security tool so that family members can be in touch with each other. Thus for the continuously growing telecom market, need of the customer has to be met by the telecom service providers and the advanced technology services are to be effectively marketed to the consumers.

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**COUNTERPRODUCTIVE WORK BEHAVIOUR (CWB) AND LOCUS OF CONTROL (LOC) AMONG MANAGERS****DR. RISHIPAL****HEAD****DEPARTMENT OF BUSINESS ADMINISTRATION****INDUS INSTITUTE OF ENGINEERING AND TECHNOLOGY****KINANA****PAWAN KUMAR CHAND****ASST. PROFESSOR****DEPARTMENT OF BUSINESS ADMINISTRATION****INDUS INSTITUTE OF ENGINEERING AND TECHNOLOGY****KINANA****ABSTRACT**

Research study was conducted to enquire the relationship between Counterproductive Work Behaviour (CWB) and Locus of control (LOC) among Government, Semi-government and Private sector organization's junior, middle and senior level managers of Haryana, India. Total 270 managers were chosen on availability basis from various Government (90), Semi-government (90) and Private sector (90) organizations. Selected 90 subjects from each sector were further consisting of 30 managers each from junior, middle and senior level management. Data was collected by questionnaire method and analysed using descriptive statistics and Karl Pearson's correlation method. On comparison of all the three groups of managers taken from Government organizations i.e. Junior Manager (JM), Middle Level Manager (MM) & Senior Manager (SM), the tendency of CWB among JM was found higher, where as it was comparatively low among MM & SM. Similar, comparison for different groups of managers i.e. JM, MM & SM under the Semi-government category revealed that means values for CWB was higher among SM and lower for JM & MM. Comparison of means values for all the three groups of managers from Private sector organizations i.e. JM, MM & SM have shown higher tendency of CWB among JM and lower among MM & SM. There was no significant difference in the means values of LOC among groups of managers like JM, MM & SM taken from Government organizations. There was no significant difference in the mean values of LOC among various groups of managers such as JM, MM & SM chosen from Semi-government organizations. The means values of LOC among Private sector organization's managers have shown significant difference in the means values of SM in comparison to JM & MM. The Correlations between CWB & LOC among various groups of managers like JM, MM & SM taken from Government organizations were positive but non-significant. The correlations between CWB & LOC among different groups of managers like MM & SM chosen from Semi-government organizations were positive but non-significant. But, the correlation was negative and non significant for JM of Semi-government organizations. The correlations between CWB & LOC among groups of managers like MM & SM for Private sector organizations were positive and non-significant but it was negative and non-significant in the case of JM.

**KEYWORDS**

Counterproductive Work Behaviour, Locus of Control, Government Organization, Semi-government Organization, Private Sector Organization.

**ABBREVIATIONS**

JM – Junior Manager, MM – Middle Level Manager, SM – Senior Manager, CWB – Counterproductive Work Behaviour and LOC – Locus of Control.

**INTRODUCTION****COUNTERPRODUCTIVE WORK BEHAVIOUR (CWB)**

Counterproductive Work Behaviour (CWB) may be defined as any deliberate or unintentional activity on the part of an individual which can hamper the performance of self, others or organization. Counterproductive Work Behaviour may also be understood as the behaviour which can harm or intended to harm self, people and organizational resources. The Counterproductive Work Behaviour is an act which may be directed towards both the organization and individuals. Counterproductive Work Behaviour may include anger, aggression (physical and verbal), violence, sabotage, theft, damage, encroachment, withdrawal and wilful wastage of personal, other's and organizational resources. According to Sackett, Paul; Berry, Christopher; Wiemann, Shelly; Lacz, Roxanne (2006) Counterproductive Work Behaviour (CWB) is the behaviour that goes against the goals of organization. Counterproductive Work Behaviour behaviours may be intentional or unintentional and result from a wide range of underlying causes and motivation. One of the larger typologies propounded by Gruys, M. L., & Sackett, P. R. (2003) included a total of eleven categories of CWB: (1) theft of property; (2) destruction of property; (3) misuse of information; (4) misuse of time and resources; (5) unsafe behaviour; (6) poor attendance; (7) poor quality of work; (8) alcohol use; (9) drug use; (10) inappropriate verbal action; and (11) inappropriate physical action. Research of Dalal, R. S. (2005) has pointed to simpler dimensional views of CWB according to which self-control has been evaluated as a significant explanation of CWB. Like, conscientiousness, self-control, or internal control, is seen as a stable individual difference that tends to inhibit deviant behaviours. According to Fodchuk, K. M. (2007) the identification of self-control as a factor in deviant behaviours flows from work in criminology, where self-control is seen as the strength of one's ability to avoid short-term gain for long-term costs. One of the studies of Marcus, B., & Schuler, H. (2004) has compared the effects of 25 characteristics such as self-control, justifiable factors, equity factors, positive effect, levels of autonomy, and a variety of other individual characteristics on CWBs. The study showed that self-control was the best predictor of CWBs and that most of the other factors had negligible predictive value. In the study of Rishipal (2012) different levels of managers have been compared for managerial effectiveness and Counterproductive Work Behaviour. Findings revealed that different level of managers differ significantly in their mean values with respect to their psychological characteristics of CWB and managerial effectiveness as well as there is significant correlation between the tendency of CWB and managerial effectiveness among the different levels of managers.

**LOCUS OF CONTROL**

Locus of control is a theory of personality psychology referring to the extent to which people believe that either self or environment can control events that affect them. Understanding of the concept was developed by Julian B. Rotter in 1954, and has since become an important aspect of personality studies. One's "locus" (Latin for "place" or "location") can either be internal (meaning the person believes that they control their life) or external (meaning they believe that their environment, some higher power or other people control their decisions and their life). In simple words Locus of Control may be explained as a human tendency by virtue of which an individual fixes the responsibilities for the consequences of their actions and deeds either on self or environment. When the consequences are fixed on self, it is called internal locus of control, when environment is fixed responsible then it is called external locus of control. Individuals with a high internal locus of control believe that events result primarily from their own behaviour and actions. For example, if a person with internal locus of control does not perform well on a test, they would blame it on lack of preparedness on their part. Or if they performed well, then they would think that it was



because they studied enough. Those with a high external locus of control believe that powerful others, fate or chance primarily determine events (Carlson, N.R., et al., 2007). Using the test performance example again, if a person with external locus of control does poorly on a test, they would blame the test questions being too difficult. Whereas if they performed well on a test, they would think the teacher was being lenient or that they were lucky (Carlson, N.R., et al., 2007).

### NEED OF STUDY

Because of dynamic technological change, development and advancement throughout the world, endeavours have been put forward almost by all the countries to upgrade the technology and ameliorate the managerial effectiveness to meet out the demand of production. In continuum to world, India is also putting its substantial effort to cope with the technological change, development and advancement by developing and managing latest and modern technology, building basic infrastructure and improving its managerial competencies. All these changes and developments in the business environment have mounted pressure on managers to give their best for the optimal results and also to restructure their managerial skills. Some of the managers are playing very good role as change executor and also a change catalyst. But, others are reluctant to meet the change requirement and find themselves advancing toward Counterproductive Work Behaviour (CWB) e.g. lateness, absenteeism, withdraw, incivility, bullying, narcissism, Machiavellianism, aggression, violence, abuse as matter of fact their performance fall down. Domain of Counterproductive Work Behaviour (CWB) is complex as similar to understand human behaviour. Human behaviour has number of psychological dimensions and tendencies out of which Counterproductive Work Behaviour and Locus of Control are two. It is to be notable, researcher around the world have carried good number of research related to CWB and Locus of Control in European and American continent as well as in other developed countries, but very negligible research have been conducted in Asian sub-continent like India. It is worth useful to mention here that human tendencies and traits may change with the change in culture and work environment. There are differences in the organizational culture and climate of Indian subcontinent's organization with rest of the world. Therefore, there is need to understand the Counterproductive Work Behaviour and its relationship with Locus of Control among Indian managers. Present study has been conducted for the objectives mentioned below. Achievement of these objectives will help the academia and managerial community to understand the relationship and fact of CWB and LOC and also to utilize findings for the purpose of developing the better system and strategy to create and enhance managerial effectiveness.

### OBJECTIVES

- 1) To measure the degree of Counterproductive Work Behaviour and Locus of Control among different level of manager's i.e. junior, middle and senior level, working in Government, Semi-government and Private sector organizations.
- 2) To find out the relationship between Counterproductive Work Behaviour and Locus of Control among different level of managers working with Government, Semi-government and Private sector organizations.

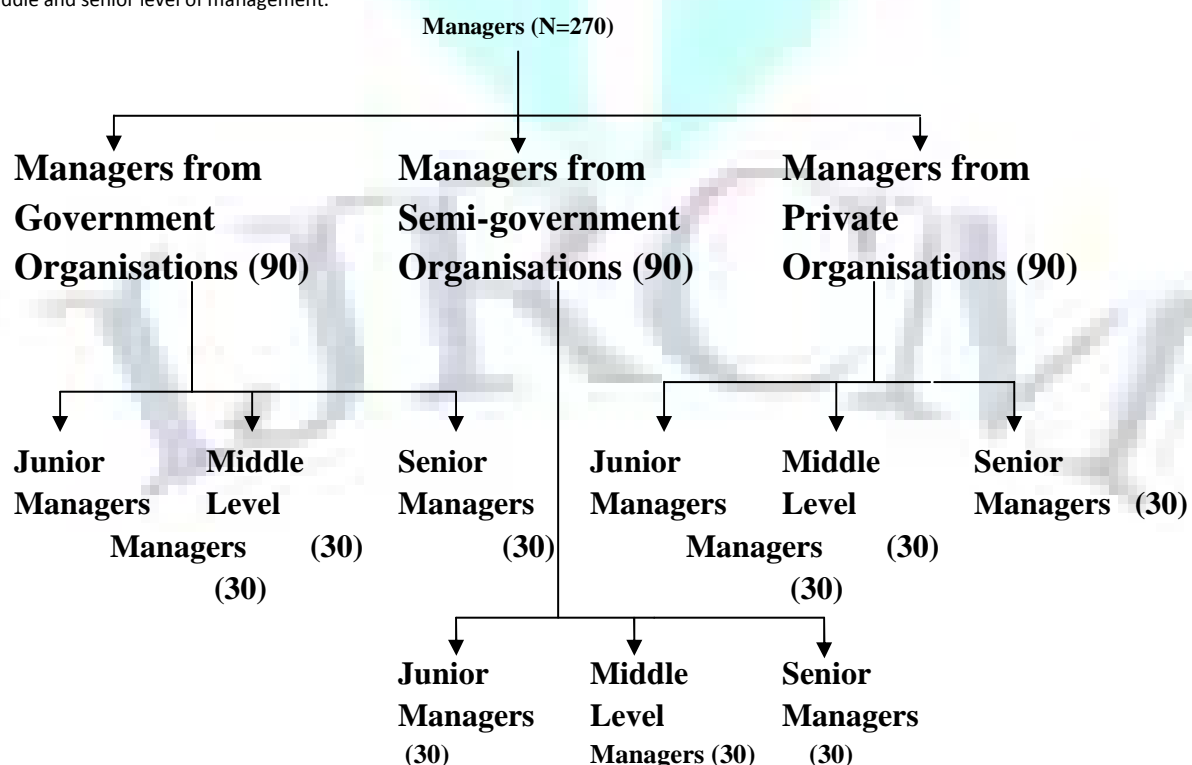
### RESEARCH METHODOLOGY

#### RESEARCH DESIGN

Present research was an empirical type of study for which data was collected by using questionnaire method. Research consists of a 3x3 group design. Details of research design in the form of line diagram are given hereunder. Total 270 managers were chosen on availability basis from various Government (90), Semi-government (90) and Private sector organizations (90) as subjects. These 90 subjects chosen from each Government, Semi-government and Private sector organizations were further consist of 30 managers each from junior, middle and senior level of management. Research was conducted to investigate and understand the relationship between Counterproductive Work Behaviour and Locus of Control among managers in Haryana, a Northern state of India. Chosen subjects were tested for Counterproductive Work Behaviour and Locus of Control by using the standardized tests. Collected data was analysed by using descriptive statistical techniques of central tendency, standard deviation and Karl's Pearson's correlation etc. Managers examined were of age group in between 24 to 60 years. They were divided into 3x3 groups i.e. managers from 1) Government 2) Semi-government 3) Private sector organisations and from three different levels such as 1) Junior 2) Middle 3) Senior level. The entire set of 3x3 groups was examined to test the co-relationship between Counterproductive Work Behaviour and Locus of Control.

#### SAMPLE

Universe of the sample for present study was managers working in the Government, Semi-government and Private sector organizations of Haryana state in India. Out of this universe a sample of total 270 managers consisting of 90 subjects each from Government, Semi-government and Private sector organizations were taken. These 90 subjects chosen from each Government, Semi-government and Private sector organization were further consist of 30 managers each from junior, middle and senior level of management.



## METHOD OF DATA COLLECTION

Data was collected from 270 managers working in the Government, Semi-government and Private sector organizations of Haryana state in India by using questionnaire method, details of the tools are given hereunder:

### TOOLS USED

1. The full 45-items version of the Counterproductive Work Behaviour Checklist (CWB-C) to investigate counterproductive work behaviour (e.g., aggression, absenteeism, withdrawal) was used developed by Spector, P. E., Fox, S., Penney, L. M., Bruursema, K., Goh, A., & Kessler, S. (2006). The reliability index of CWB-C tested by Cronbach's alpha is  $\alpha = 0.86$ .
2. The 16-items version of work Locus of control scale developed by Paul E. Spector in 1988 was used to examine the level of locus of control. The reliability value of this test by Cronbach's alpha test lies in between 0.80 to 0.85.

## RESULT AND DISCUSSION

To obtain the results and findings data was collected by using questionnaire method. Collected data was analyzed with the help of various statistical methods and techniques. Obtained descriptive statistical values are shown in Table No. (1) to (3)

Table (1) exhibits the statistical value of mean, range, standard deviation and degree of scores for Counterproductive Work Behaviour (CWB) among Government, Semi-government and Private sector organization's managers of different level managers such as junior, Middle and Senior level.

**TABLE NO. 1: DESCRIPTIVE STATISTICAL VALUES FOR COUNTERPRODUCTIVE WORK BEHAVIOUR (CWB) AMONG GOVERNMENT, SEMI-GOVERNMENT AND PRIVATE SECTOR ORGANIZATION'S JUNIOR, MIDDLE AND SENIOR LEVEL MANAGERS**

Organization	Government organization's Managers			Semi-government organization's Managers			Private sector organization's Managers		
Group	JM*	MM**	SM***	JM*	MM**	SM***	JM*	MM**	SM***
N	30	30	30	30	30	30	30	30	30
Mean	56.42	59.64	59.60	57.02	56.68	61.40	58.37	57.40	56.10
Range	50	68	68	50	52	52	54	53	31
SD	6.50	6.43	9.61	9.78	8.23	5.90	2.54	7.07	6.64
Min. Score	48	45	45	50	42	46	46	45	47
Max. Score	98	113	113	100	98	98	100	98	78

\* JM = Junior Manager \*\*MM = Middle level Manager \*\*\*SM = Senior Manager

According to Table (1) the means values for Counterproductive Work Behaviour (CWB) among Government organization's managers of different levels were, JM=56.42, MM= 59.64 and SM= 59.60. There was significant difference in the means values of CWB among group of managers of JM and MM as well as JM and SM under the Government organizations category, whereas means value of MM & SM did not differ significantly. Higher value of means represents higher tendency for CWB. The means values have shown the higher tendency of CWB among JM whereas it was comparatively lower among MM & SM.

The means values of Counterproductive Work Behaviour (CWB) among Semi-government organization's managers of various level were JM=57.02, MM= 56.68 and SM= 61.40. There was significant difference in the means values of CWB among the group of managers of JM and SM as well as MM and SM under the Semi-government organizations category, whereas means values of JM and MM did not differ significantly. The values of means for CWB have depicted the higher tendency of CWB among SM whereas it was lower among JM & MM.

The means values of Counterproductive Work Behaviour (CWB) among different group of Private sector organization's managers were JM=58.37, MM=57.40 and SM=56.10. A comparison of all these three groups of managers i.e. JM, MM & SM has shown no significant difference among all these groups. The values of means clarified that the tendency of CWB among JM was higher whereas it was somewhat lower among MM & SM.

Table 2 depicts the descriptive statistical value of mean, range, standard deviation etc. for personality trait of Locus of Control (LOC) among different level of managers such as JM, MM and SM working with different types of organizations like Government, Semi-government and Private sector organizations.

**TABLE NO. 2: DESCRIPTIVE STATISTICAL VALUES FOR LOCUS OF CONTROL (LOC) FOR GOVERNMENT, SEMI-GOVERNMENT AND PRIVATE SECTOR ORGANIZATION'S JUNIOR, MIDDLE AND SENIOR LEVEL MANAGERS**

organization	Government organization's Managers			Semi-government organization's Managers			Private sector Organization's Managers		
Group	JM*	MM**	SM***	JM*	MM**	SM***	JM*	MM**	SM***
N	30	30	30	30	30	30	30	30	30
Mean	60.62	62.24	58.20	58.42	60.95	59.40	63.00	61	65.50
Range	52	47	21	37	30	39	46	36	36
SD	6.49	5.11	5.10	6.31	6.08	6.46	6.79	5.14	6.49
Min. Score	35	40	49	47	47	35	47	40	48
Max. Score	87	87	70	84	77	74	93	76	84

\* JM = Junior Manager \*\*MM = Middle level Manager \*\*\*SM = Senior Manager

According to Table (2) means values of Locus of Control (LOC) among Government organization's managers, were JM=60.62, MM= 62.24 and SM= 58.20. Higher value for mean score was considered as higher the tendency of LOC. There was no significant difference in means values of Government organization's JM and SM as well as JM and MM but managers of JM and MM groups differ significantly from the managers of MM group for their psychological trait of Locus of Control (LOC).

The means values of Locus of Control (LOC) among Semi-government organization's managers were JM=58.42, MM= 60.95 and for SM= 59.40. The means values of LOC for all these three groups did not differ significantly for their psychological trait of Locus of Control (LOC), whereas group of MM have higher tendency of LOC in comparison to the groups of managers of JM and SM.

The means values of locus of control (LOC) among Private sector organization's managers for different groups were JM=63.00, MM= 61 and SM= 65.50. There was significant difference in the means values for LOC among JM and SM as well as MM and SM. A comparison among all the groups i.e. JM, MM and SM in Private sector organizations, the group SM have higher tendency for LOC.

Table (3) presents the statistical values of correlation and F-value for the comparison of relationship between Counterproductive Work Behaviour (CWB) and Locus of Control (LOC) among the various levels of managers i.e. JM, MM and SM taken from Government, Semi-government and Private sector organizations.

**TABLE NO. 3: INFERENCE TABLE IN BETWEEN COUNTERPRODUCTIVE WORK BEHAVIOUR (CWB) AND LOCUS OF CONTROL (LOC) FOR GOVERNMENT, SEMI-GOVERNMENT AND PRIVATE SECTOR ORGANIZATION'S JUNIOR, MIDDLE AND SENIOR LEVEL MANAGERS**

Organization	Government organization's Managers			Semi-government organization's Managers			Private sector Organization's Managers		
Group	JM*	MM**	SM***	JM*	MM**	SM***	JM*	MM**	SM***
N	30	30	30	30	30	30	30	30	30
r(CWB& LOC)	0.20	0.33	0.31	-0.12	0.06	0.43	-0.13	0.18	0.114
f- value (CWB& LOC)	1.25	1.3	1.63	1.19	1.2	1.23	1.16	1.05	1.95
P value (CWB& LOC)	0.323	0.284	0.002	0.33	0.33	0.33	0.366	0.44	0.28

\* JM = Junior Manager \*\*MM = Middle level Manager \*\*\*SM = Senior Manager

According to Table (3) there was positive but non-significant relationship between CWB & LOC among government organization's group of JM as the degree of correlation was ( $r = 0.20$ ,  $p < 0.32$ ). These findings were also supported by F-value ( $F = 1.25$ ,  $p < 0.323$ ). Degree of correlation between CWB & LOC among Government organization's group of MM was ( $r = 0.33$ ,  $p < 0.28$ ). This relationship was positive but non-significant which was further verified by the F-value ( $F = 1.3$ ,  $p < 0.284$ ). Correlation between CWB & LOC among Government organization's SM was ( $r = 0.31$ ,  $p < 0.002$ ), the relationship was positive but non-significant. Findings were also supported by F-value ( $F = 1.63$ ,  $p < 0.002$ ). These findings have shown that in all the three groups of managers i.e. JM, MM & SM there was positive but non-significant relationship among their psychological traits of CWB & LOC. Aggregate mean value of LOC among all types of managers of government organization i.e. JM, MM and SM was  $M = 60.35$  which was almost above the middle value of the standard score of the scale used to measure LOC and higher the score higher the tendency for internal locus of control. This value shows that all the managers of different groups i.e. JM, MM and SM had a higher tendency of internal LOC. People with higher tendency of LOC are considered to be better performer, constructive, supportive etc. This research finding justifies the non-significant relationship between CWB & LOC among different level of managers of government organization. In the study by Endrawes, M., Endrawes, G., Matawie, K. (2006) has investigated the relationship between Locus of Control and student's performance, the results revealed a significant positive relationship between performance and internal locus of control score. This reaction was better explained when the culture variable was introduced as a mediator variable. This study also showed the impact of culture on student's performance.

As per Table (3) the correlation between CWB & LOC among Semi-government organization's group of JM was ( $r = -0.12$ ,  $p < 0.33$ ) which was negative but non-significant. Findings of correlation were also supported by F-value ( $F = 1.19$ ,  $p < 0.33$ ). Correlation between CWB & LOC among Semi-government organization's group of MM was ( $r = 0.06$ ,  $p < 0.33$ ), the relationship was found positive but non-significant and it was also supported by F-value ( $F = 1.2$ ,  $p < 0.323$ ). Correlation between CWB & LOC for Semi-government organizations group of SM was ( $r = 0.43$ ,  $p < 0.0$ ) the relationship was found positive and non-significant. Findings of positive correlation were also supported by F-value ( $F = 1.23$ ,  $p < 0.33$ ). The groups of managers such as MM & SM of Semi-government organization had a positive but non-significant relationship among their psychological traits of CWB & LOC. But, it was found to be negative and significant in case of JM group of Semi-government organizations.

According to Table (3) the correlation between CWB & LOC among Private sector organization's group of JM's was ( $r = -0.13$ ,  $p < 0.36$ ) the relationship among these two variables was found negative but non-significant. These findings were also supported by F-value ( $F = 1.16$ ,  $p < 0.366$ ). Correlation between CWB & LOC among Private sector organization's group of MM was ( $r = 0.18$ ,  $p < 0.44$ ), there was positive but non-significant relationship and findings were also supported by F-value ( $F = 1.04$ ,  $p < 0.44$ ). Correlation between CWB & LOC among Private sector organization's group of SM was ( $r = 0.04$ ,  $p < 0.02$ ), the relationship was found positive but non-significant and findings were also supported by F-value ( $F = 1.95$ ,  $p < 0.28$ ). The above findings may be concluded as the groups of managers of Private organizations such as MM & SM, had positive but non-significant relationship among their psychological traits of CWB & LOC, but it was found to be negative and significant in the case of JM of Private sector organizations.

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**CORPORATE GOVERNANCE FAILURES IN INDIA - A REVIEW**

**KAISETTY. BALAJI**  
**RESEARCH SCHOLAR**  
**SCHOOL OF MANAGEMENT STUDIES**  
**VIGNAN UNIVERSITY**  
**VADLAMUDI**

**DR. Y. VENU GOPALA RAO**  
**HEAD**  
**DEPARTMENT OF MANAGEMENT**  
**SCHOOL OF MANAGEMENT STUDIES**  
**VIGNAN UNIVERSITY**  
**VADLAMUDI**

**ABSTRACT**

*Corporate governance is defined as “the system by which companies are directed and controlled”. The separation of ownership and control in corporations with dispersed ownership structure highlights the agency issue due to conflict between agents (managers) and principals (shareholders). Corporate governance issues in India are, however, due to a different agency problem that arises on account of the conflict between dominant and minority shareholders. Therefore, the corporate governance mechanism in India should focus on safeguarding minority shareholders from expropriation by dominant shareholders. This research identifies the issues responsible for corporate governance failure. A case study is done for some selected companies to identify the key issues for governance failure.*

**KEYWORDS**

Corporate Governance, shareholders

**INTRODUCTION**

The concept of corporate governance is deeply embedded in corporate law and jurisprudence. Corporate governance is often defined as “the system by which companies are directed and controlled” (Financial Reporting Council, 1992). Shareholders are owners of the corporation and efficacy of a corporate governance mechanism depends upon how the shareholder wealth and rights are protected. The development and refinement of corporate governance standards has often followed the occurrence of corporate governance failures that have highlighted areas of particular concern.

Corporate governance has drawn world attention when the big companies such as Enron in United Kingdom and WorldCom in United States collapse in 2001 and 2002 respectively. With regards to this matter, researchers began to explore the corporate governance field from many perspectives and authorities started to implement rules and regulations to overcome this issue.

Roe (2005) traces the recurring breakdowns in American corporate governance to two core and enduring instabilities in the American governance context: (1) the separation of ownership and control, with ownership resting with distant and diffuse shareholders while control is exercised by hired managers; and (2) a decentralized and porous regulatory system, in which multiple regulators with partial authority contribute to a flexible, specialized, and comprehensive regulatory framework while there is no single, unified regulatory agency that oversees the disparate regulatory efforts and resolves potential conflicts and inconsistencies across regulatory agencies. These two core attributes of the United States governance framework have obvious strengths, but they are also beset by weaknesses that come to the fore each time U.S. corporations and stakeholders experience a governance crisis.

For instance, the separation of ownership and control are acknowledged as facilitating significant economies of scale in the operation of large firms, the hiring and retention of highly qualified managerial talent, the ease of entry into and exit from markets, and the availability of capital to meet the financing needs of entrepreneurs and start-up firms, and so on.

In contrast to the problems that underlie the governance context in the United States, the governance failures witnessed in developing nations like India and China stem not from the separation of ownership and control, but from the concentration of ownership and control within state-owned, public-sector units, or family owned businesses, and from the pyramidal ownership structures that dominant shareholders use to achieve greater control of the firm (Rajagopalan & Zhang, 2008).

In both countries, the fundamental problem of concentration of ownership and control in the same hands is further exacerbated by: (1) the lack of incentives for firms and their managers to implement governance reforms, (2) underdeveloped external monitoring systems and weak regulatory agencies, and (3) a shortage of qualified independent directors. While India's formal financial reporting standards essentially meet international standards for accountability and transparency, and its principal regulator—the Securities and Exchange Board of India—is set up to be independent of the government (“Bank Incentives,” 2009), enforcement of governance laws is often weak and characterized by significant loopholes. Political connections also often undermine the independence and will of enforcement agencies (“Did SEBI,” 2009). In other words, while the United States governance context needs to deal with the challenges posed by a decentralized and porous regulatory system, developing countries lack a regulatory structure with the political will and judicial support to enforce reforms that are enacted.

**REVIEW OF LITERATURE**

Dr Saleem Shaikh & William Rees talks about perspective of corporate governance, role of ‘exit and voice in corporate governance, expectations from corporate governance, ownership and accountability in corporate governance. They also talk about corporate governance and corporate control.

According to Allen the whole basis of the granting by the state of privileges of incorporation needs to be re examined there is a need for a redefining of the nature of company, of its ownership and of its control. In broader terms, the responsibilities and obligations which a company owes to its shareholders, workers, creditors, consumers, and public at large need to be examined at length

Bryan and Farrell's research work discusses about nature of corporate governance in the developing global economy and pitfalls of this new economic structure. Their paper also discusses about the role of Corporate Governance in the global economy.

John L. Collyey, Jr. Jacqueline L. Doyle , George W. Logan , Wallace Stettinius in their book titled ‘ What Is Corporate Governance’ deals about various aspects of Corporate Governance . This book provides a deep insight to the topic. It also talks about duties and responsibilities of top management towards the stake holders and society in general.

Robert A.G. Monks and Nell Minow in their book on Corporate Governance is based on the trends and practices of Corporate sector. This book talks about the practical applicability of Corporate Governance. It also explains the importance of Corporate Governance with the help of various real corporate examples.



Corporate failures have reasons first and for most are the bad business plans and poor managerial decisions in some instance the government's pressure and regulatory forbearance is a contributing factor. Second reason of the corporate collapse is fraud or dissimulation by management.

Historical developments that impact the overall scope of the corporate governance in different countries is discussed by Randall K. Morck, Lloyd Steir (2005) who observed that financial disasters tainted French confidence in financial securities early on, and set corporate governance in that country on a different parity from that of Britain, where a similar trauma was overcome and forgotten. Similarly historical trends such as imperial monopoly in China that was evident in the late 19<sup>th</sup> century, large scale trading networks belonging to particular communities and ethnic groups and sectarian groups in India, family and bank controlled pyramidal groups in Germany, Zeibatsu and Keiratsu in Japan and Chaebols in Korea etc., have influenced the process of growth of corporate governance in the respective countries. Certain features that are common to all countries that contributed to the varying types and pace of the corporate governance norms include; Accidents of history, ideas, families, business groups, trust, law, origins, evolution, transplants, large outside shareholders, financial development, politics and entrenchment, etc.

## SIGNIFICANCE OF THE STUDY

This study describes the corporate governance failures and its impact on the financial economy of the organization. The relevant points are illustrated through various case studies of corporate companies. This study is significant as it highlights the key issues causing governance failure and suggests useful measures to enhance the governance standards.

## STATEMENT OF THE PROBLEM

Corporate governance issues in India are, however, due to a different agency problem that arises on account of the conflict between dominant and minority shareholders. Therefore, the corporate governance mechanism in India should focus on safeguarding minority shareholders from expropriation by dominant shareholders. The issue has serious ramifications on Indian economy that is looking for greater foreign capital and investment to boost its economic growth.

## OBJECTIVES

The study intends to examine the failures occurring in corporate governance. The main objectives of the study include:

1. To identify the key issues responsible for corporate governance failure
2. To examine and illustrate case studies for some selected companies for the failure
3. To recommend suggestions to enhance the standards of corporate governance and avoid failure

## HYPOTHESIS

After reviewing the issues related to corporate governance failures, some hypothesis can be developed as:

H1: Corporate Governance insures the safety to the share holder's investment but also the efficient utilization of resources & attainment of overall corporate objective.

H2: In order to make corporate governance successful in India there is a need for a transparent systematic corporate structure, which can define the basic problem areas of corporate governance.

## RESEARCH METHODOLOGY

### METHOD OF DATA COLLECTION

Mainly, qualitative analysis is performed in this study which includes collection of data through reports having case studies of different corporate companies experiencing governance failure. The case studies of various companies are listed to evaluate the governance failure.

### CASE STUDIES

#### KINGFISHER AIRLINES

Kingfisher Airlines is an airline group based in India. Its head office is The Qube in Andheri (East), Mumbai; and Registered Office in UB City, Bangalore. Kingfisher Airlines was established in 2003. It is owned by the Bengaluru based United Breweries Group. Kingfisher Airlines, through its parent company United Breweries Group, has a 50% stake in low-cost carrier Kingfisher Red. The airline started commercial operations in 9 May 2005 with a fleet of four new Airbus A320-200s operating a flight from Mumbai to Delhi. It started its international operations on 3 September 2008 by connecting Bengaluru with London. The airline has been facing financial issues for many years. Till December 2011; Kingfisher Airlines had the second largest share in India's domestic air travel market.

Ever since the airline commenced operations in 2005, the company is reporting the losses. But the situation became more horrible after acquiring the Air Deccan in 2007. After acquiring the Air Deccan, the company suffered a loss of over Rs. 1,000 crore for three executive years. By early 2012, the airline accumulated the losses of over Rs. 7,000 crore with half of its fleet grounded and several members of its staff going on strike. Following table1 highlights the losses since inception:

TABLE 1: NET REPORTED LOSSES AND DEBTS SINCE INCEPTION (Rs. In Crores)

Year	Mar-11	Mar-10	Mar-09	Mar-08	Jun-07	Jun-06	Mar-05
Loss	-1027.4	-1646.22	-1608.83	-138.14	-419.58	-340.55	-16.79
Secured Loans	5,184.53	4,842.43	2,622.52	592.38	716.71	448.16	159.42
Unsecured Loans	1,872.55	3,080.17	3,043.04	342.00	200.00	3.50	125.06

Debt restructuring also couldn't change the game. By restructuring, company had reduced the interest charges by Rs. 500 crores every year, but due to the high leverage condition and increase in cost, the company started to face the liquidity problem. The company had no funds in hand and it created the payment problems such as delayed salaries, Fuel dues, Aircraft lease rental dues, service tax, bank arrears etc. The reason behind the failure is bad governance as judged by many politicians.

### A suggested course correction

- All stakeholders should realize that passenger convenience and safety should be paramount. Public and investor scrutiny is very high and the government and lenders should be less tolerant. Banks should not throw good money after bad under the same board and management. Good corporate governance and good business sense should prevail at the banks.
- More than 90% of the shareholding of the promoters is pledged to lenders. The banking consortium of State Bank of India, ICICI Bank Ltd, IDBI Bank Ltd, Bank of India, UCO Bank and Punjab National Bank should unilaterally exercise the pledge, after which they will own more than 75% of the equity of the airline. Apart from term loans, the capital structure also consists of 7.5% cumulatively redeemable preference shares and 8% optionally convertible debentures, which presumably are also pledged, and on exercise, would only increase the equity holding of the banking consortium.
- The enforcement of collateral by banks would likely drive the wealth of existing shareholders – including some of the banking consortium's own equity holding in Kingfisher – to near zero.

- Subsequently, bankers should call for an extraordinary general meeting where they place resolutions to remove existing directors and appoint new directors with experience and bring different perspective to the process. As the banking consortium will own more than 75% voting rights, they can table and pass any resolution.
- The new board should then recapitalize the airline by bringing in other investors as an equity partner and seeking newer additional term loans for the airline. Private equity players, other investors and business groups would be keen to buy into a Kingfisher airline franchisee. Similar instances of recapitalization were possible at Vishal Retail and Centurion Bank.
- This recapitalization and restructuring exercise would bring in newer shareholders, fresh management and a new focus to the airline. Having been pushed to the wall, banks wouldn't have to suffer the loss

### SKS MICROFINANCE

SKS Microfinance is the latest blow to India Inc's corporate governance norms. This high-profile microfinance company has sacked its CEO, under a shroud of secrecy. The bigger question is whether these aggressive, for-profit organisations should be allowed to play havoc with the finances of the rural poor.

A week after SKS Microfinance shocked the corporate world by sacking its CEO, the company's image as the messiah of India's rural poor is suffering from a steady erosion. One of the main reasons for SKS's damaged public image is that the company's board of directors and the glittering list of SKS shareholders have chosen to maintain a stunning silence over the way the CEO was sacked and also the swirling rumors regarding how the company was run. The Securities and Exchange Board of India (SEBI) has done well this time to react quickly and publicly in asking the company to explain its action. It has also done well to let it be known (through media leaks) that it is not satisfied with the answer. We learn that one reason for SEBI's quick response could be the fact that before the IPO (Initial Public Offering), some of its shareholders had complained about a preferential offer to a select group, which was later dropped.

Exit of Mr Akula from SKS Micro finance Limited, the only listed micro finance company, provides some lessons in corporate governance. The first is that holding of majority voting rights by institutions does not necessarily improve corporate governance. The company's shareholding pattern as at September 2011 was: Promoters: 37%, FI 19%, Indian Financial Institutions: 6%, Indian Bodies Corporate: 14%, Foreign Bodies Corporate: 12 % and others: 12%. Effective corporate governance requires institutions to play their role effectively. That has not happened in the case of SKS. Second is that the corporate governance system comes under stress when a company deviates from its stated vision and mission.

### SATYAM COMPUTERS

On January 7, 2009, B. Ramalinga Raju—founder and chairman of Satyam Computer Services, one of India's largest and most respected software and IT services companies—admitted that he had committed India's biggest corporate fraud, having manipulated the company's income statements, cash flows, and balance sheet for more than 7 years. The \$1.47 billion fraud on the Satyam (meaning truth, in Sanskrit) balance sheet included overstated revenues and profits, acts that were perpetrated by the founder and his brother, the company's CEO, to attract more business and avoid any possible hostile takeover. "It was like riding a tiger, not knowing how to get off without being eaten," Mr. Raju wrote in his confession statement ("India's Enron," 2009). Prior to this turn of events—which resulted in the arrests of the chairman, the CEO, and the CFO of the company, and pending criminal indictments as well—Satyam had been widely recognized for exemplary corporate governance, and Raju hailed as a role model for successful business and entrepreneurship. The founder and his co-conspirators reported fictitious cash deposits, misstated accounts receivables and accounts payables, understated liabilities, and overstated assets; these falsities only came to the fore when Raju tried to buy two other firms owned by his family. Shareholders revolted against the acquisition proposal because they viewed the planned purchases as attempts to prop up other failing family businesses by siphoning cash out of the profitable software firm.

### EVERONN SYSTEMS

Everonn is a fully integrated knowledge management, education and training company, offering a range of services that include creating educational and training content, designing and executing large learning initiatives, setting up the needed infrastructure for learning and training. It is one of the leaders in computer education in schools and colleges. It is also one of the leading players in setting up virtual and interactive learning classroom networks across India. Everonn was incorporated in 2000 and became a leading education player in a decade. The Blackstone Group invested \$42 mn in Everonn in 2009. The company's growth can be attributed to two major segments — ICT (information and communications technology) and ViTELS (virtual and technology-enabled learning solutions) platforms. It is predominantly focused on ICT for revenue. The segment involves setting up of computer laboratories in government schools under the built/own/operate/transfer (BOOT) model, typically for five years. Schools run by the state governments are its customers. The central government has been funding this initiative under its Sarva Shiksha Abhiyan (SSA) and ICT@Schools programmes.

The crisis in Chennai-based education services provider Everonn Education deepened, with its non-executive chairman Jamshed J Irani resigning following arrest of managing director P Kishore in a bribery case. The Everonn stock plunged 20 per cent to hit a new 52-week low and was the top loser on the Bombay Stock Exchange. It hit a lower circuit to close at Rs 351.45, down Rs 87.85

The board also appointed a business council consisting of two independent board members to advise the CEO. The Central Bureau of Investigation had issued a press statement about the arrest of Kishore for allegedly bribing Rs 50 lakh to a tax official to reduce income-tax liability. The arrest of Kishore, also Everonn's founder, is likely to increase concerns over corporate governance practices in several Indian companies. "Market is worried with companies where there are corporate governance issues," said S P Tulsian, an independent investment analyst.

During the June quarter, all major shareholders in Everonn had reduced their stake. According to data available from BSE, both the promoters and foreign institutional investors reduced their holdings marginally, by 38 basis points and 87 basis points, respectively. Domestic institutional investors cut their stake by around four per cent.

### MANAPPURAM GOLD FINANCE

Manappuram Finance, the second-biggest lender against gold, plunged 19.96% as investors worried about its ability to continue sourcing funds and questions were raised about corporate governance after the RBI said the company and its group cannot access public deposits. Depositors remained calm with little signs of panic as the company assured that all was fine with its operations and the central bank's diktat will have limited impact on its operations or its ability to serve them. "There are enquiries and clarifications, but everything is under control," said I Unnikrishnan, Managing Director, Manappuram Finance. Manappuram shares ended 19.96% lower at 45.50. The RBI said Manappuram Finance and an unlisted group company are not eligible to accept public deposits as it was a violation of rules governing its licence to function as a lender. Any such act is punishable with imprisonment, the bank said. Members of the public depositing money with Manappuram Finance or MAGRO would be doing so at their own risk, it said.

The lender founded in 1949 has been the best performer in the stock markets given its secured lending business that has high profit margins. Unlike traditional lending by banks, the risk of default is quite low and even if such an event happens, the loan amount is fully recovered unless there's a sharp crash in gold prices. It has come to the notice of the Reserve Bank that Manappuram Finance has been accepting deposits from the public in its branches and offices has been issuing deposit receipts in the name of Manappuram Agro Farms (MAGRO), a sole proprietary concern of Shri V.P Nandakumar who is the Executive Chairman of the company, it said.

MAGRO is an unlisted subsidiary company belonging to the Manappuram group. The RBI circular further said that in some cases instead of repaying the matured deposits, the amount was rolled over as a fresh deposit with the receipts being issued in the name of MAGRO. Before converting itself into a non-deposit taking NBFC last year, the company had public deposits worth Rs 1.23 crore. Later, an amount of Rs 32 lakh was rolled over as a fresh deposits with MAGRO. In September last year, the company had raised Rs 442 crore through a public issue of secured NCDs offering interest rates in the range of 12-12.56%. It is again

planning to raise Rs 500-600 crore in March through a similar like issue. The interest rates are not yet decided. The company's retail borrowing book stood at Rs 640 crore as on December 31 as against Rs 312 crore in March 31, 2011.

## FINDINGS

1. In spite of several provisions in Indian constitution and many clauses under UN, still corporate governance is a contemporary issue not only in India but all around the world.
2. In order to make corporate governance successful in India there is a need for a transparent systematic corporate structure, which can define the basic problem areas of corporate governance.
3. Corporate Governance can be made effective only by educating entrepreneurs about its importance. By making them realized that how Corporate Governance can help them in achieving their corporate goals in long run.
4. There is a need for further review of Clause-49 and Voluntary guidelines for CorporateGovernance-2000 and other present provisions regarding corporate governance.

## RECOMMENDATION

We suggest a number of measures to that certainly will give more safeguards to minority shareholders and help raise Indian corporate governance standards.

### A. APPOINTMENT AND SELECTION OF DIRECTORS

Current legal provisions permit dominant shareholder control on the director selection and appointment process. This gives promoters significant say and control of the Board in addition to their influence on management. We propose the proportional representation of minority shareholders on the company Board linked to their shareholding. The nomination committee is currently only an option stipulate for companies to establish under Clause 49 of the Listing Agreement. We feel that constitution of nomination committee should be made obligatory.

### B. ACCOUNTABILITY OF BOARD AND INDEPENDENT DIRECTORS

The provisions of Voluntary Guidelines require that the Board should review its every decision in relation to impact on minority shareholders. This provision is critical for minority shareholder and certainly deserves to be a necessary stipulation. Any decision in board meeting requires disclosure in the corporate governance report with explanation as to how it affects minority shareholders. Independent directors are the main mechanism that may resolve the agency conflict between dominant shareholder and minority shareholders. But, critical examination is required so that independent directors remain independent of the promoters/ dominant shareholders. Accountability of independent directors towards minority shareholders needs deep review.

### C. MONITORING AND APPROVAL OF RELATED PARTY TRANSACTIONS

Audit committee role needs more specification in monitoring related party transaction. The board should approve all transactions up to a certain threshold limit. Above that level, shareholder approval with at least 75 % majority should be necessary.

### D. INDEPENDENCE OF AUDITOR AND QUALITY OF AUDIT

Independent auditors can play important role in tracing related party and illegal transactions. Considering the inherent opaqueness in these transactions due to persistence of complex ownership structure, they are very difficult to trace from an audit point of view. Independence of auditor and quality of audits performed by them is significant in protecting minority shareholders' independent directors, peer audit, banning auditors to give non-audit services, establishment of an audit review board and monitoring of payment to the auditors are some mechanisms to improve corporate governance.

### E. ENFORCEMENT

In India, quantum of penalties for non-compliance with provisions is quite low. Stringent penalties and even rigorous imprisonment are required in case of non-compliance that seriously affect minority shareholder rights.

### FOR LARGE MFIS

While we can have impressive norms for corporate governance, they cannot be effectively enforced through regulation discussed critical issues with regard to corporate governance in large NBFC MFIs, this article explores what MFI (microfinance institution) boards can (themselves) do to improve the practice of corporate governance in reality. Here are some initial practical suggestions based on experience:

1. Limit the number of MFI boards on which a director may sit to not more than three at any given point in time. This will hopefully afford directors the time and space to understand how the MFIs-on whose boards they serve as directors-are actually performing on the ground. During and before the crisis in India, I had personally witnessed directors-who were on multiple MFI boards (often exceeding three)-jumping planes in a literal sense and having very little time to attend to their fiduciary and other responsibilities. Therefore, it appears necessary to ensure that there is a limit-in tune with physical reality-on the number of MFI boards in which a director may sit. And three appears to be a good permissible number.
2. Separate the functions of the chairman of the board of directors and MD (or chief executive officer or equivalent) in MFIs, where they are together and ensure that appropriate outsiders at least occupy one of those posts. This is very critical and should result in dispersed power, especially when the founder promoter is the chairman and/or managing director. Much of the excessive risk taking (in the form of multiple and larger loans being given to sub-prime like clients) that occurred during the lead up to 2010 Andhra Pradesh (AP) microfinance crisis happened primarily because there was no one on the board to seriously question the enthusiastic and entrepreneurial promoters, occupying one or both of these positions. Often, this was because the promoter had in the first place, appointed these individuals to the board and this caused a conflict of interest
3. Create a transparent board recruitment (or appointment) policy that clearly specifies the duties and profile of MFI directors, including the chairman. Such a policy must also ensure that directors have adequate skills and experience (apart from the availability of time to do their job). The policy must also ensure that the overall composition of the MFI's board of directors is suitably diverse-including more women, youth, clients (or their interest groups) and individuals with the requisite skills (but possibly different backgrounds) in the board is perhaps a way to improve the boards' overall functioning and effectiveness.
4. Ensure that MFI boards develop (on their own) a formal conflict of interest policy and an objective set of compliance procedures and processes for implementing the same. Such a policy should ideally include: (a) an MFI director's duty to avoid (if possible), all activities and transactions that could either create a conflict of interest or even the appearance of a conflict of interest; (b) a transparent set of processes and procedures for MFI directors to follow before they engage in certain types of activities (such as agreeing to serve on the board of another MFI or that of a lender or an investor etc) so as to ensure that such activities will not create a conflict of interest; (c) an MFI director's duty to disclose any activity and issue that may result, or has already resulted, in a conflict of interest; (d) an MFI director's (voluntary) responsibility to abstain from voting on any matter where the director may have a conflict of interest or where the director's objectivity/ability to properly fulfill duties to the MFI may be compromised; (e) adequate procedures and clear norms for transactions and activities conducted with related parties on an arms-length basis; and (f) transparent procedures by which the MFI board will deal with the issue of any non-compliance with the (conflict of interest) policy.
5. Suitably compensate MFI board members for their time but do not incentivize their working on the basis of stock options or other such mechanisms that invariably encourage undue or excessive 'risk' taking as was witnessed during the 2010 AP microfinance crisis. Even if the law permits, it seems prudent not to remunerate board members through stock options and the like as then the independence of directors may be seriously compromised. Again, the happenings in India in the run up to the 2010 AP microfinance crisis clearly demonstrates the fact that independent directors who have been so compensated have Not performed their fiduciary and other duties appropriately. The key issue to note here is much of the 2010 crisis occurred because board members and senior management were compensated heavily (in the short-term) whereas the risks of their strategies could be known only in the medium/long-term. This mismatch created a huge incentive for excessive risk taking, which, in turn, led to the 2010 AP microfinance crisis.
6. Make it mandatory for MFI boards to set up a risk committee and establish clear rules regarding the composition and functioning of this committee. Additionally, make it compulsory for one or more members of the audit committee to be a part of the risk committee and vice versa. Further, the chairman

of the risk committee should always report to the AGM and outline the role that directors have played in shaping the MFI's risk profile and strategy. Also, the risk committee should frame a 'risk control declaration' which should also be published so as to ensure its wider dissemination and use - both within and outside the organization.

7. And last but not the least, create an obligation for a specific duty ('duty of care') to be established for the board of directors so that they take into explicit account the interests of various stakeholders (mainly, clients) during the decision-making procedure. This is especially critical and much of the 2010 AP microfinance crisis would not have occurred if only boards of MFIs had exercised such a duty of care that explicitly looked after the interest of clients who were constantly over-indebted

## CONCLUSION

The recurrence of corporate governance crises in highly developed, as well as developing, economies reminds us that the price of economic growth and opportunity is indeed eternal vigilance. Understanding the differences in the institutional contexts helps us to realize that what works to curb governance failures in one context may be less effective in another, and that the timing and focus of reforms should reflect the realities of the economic and institutional conditions that different nations face.

The above discussion clearly establishes that the only way to improve the corporate governance in India is to give enough safeguards to minority shareholders. An assessment of minority shareholders rights and protection implicates that India lags in giving adequate safeguards to investors. There exist laws on minority shareholder protection, but they are not adequate. Commensurately, there exists a significant gap in Indian corporate governance regulatory framework that warrants utmost safeguards to minority shareholder rights. Policy makers possibly can do this by creating a conducive environment and promulgating laws for protection of minority shareholder rights. The issue has also serious ramifications on Indian economy that is looking for greater foreign capital and investment to boost its economic growth.

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**SIGNIFICANCE OF INCLUSIVE GROWTH IN INDIAN ECONOMIC DEVELOPMENT – A STUDY**

**DR. T. C. CHANDRASHEKAR**  
**PROFESSOR**  
**GOVERNMENT FIRST GRADE COLLEGE**  
**BANGALORE**

**ABSTRACT**

India today is the world's fourth-largest economy of around a trillion dollars. Economic reforms initiated in the 1990s have transformed the Indian economy from an inward-looking economy with moderate growth to an internationally competitive, fast growing economy. Average annual growth has increased from 3.6% during 1951-52 to 1980-81, referred to as the Hindu rate of growth, to an average of 6.6% during 1991-92 to 2006-07. Economic reforms have accelerated the pace of integration of the economy with the rest of the world. The ratio of external trade to GDP has gone up from 12.7% in 1950-51 (it had declined to a low of 7.5% in 1970-71) to 34.4% in 2005-06. This global integration has improved the international competitiveness of the economy by reducing rent seeking and encouraging technological innovation. The rate of growth has accelerated and the level of poverty reduced. By sustaining this high growth, as envisaged in the 11th Five Year Plan, which began on April 1, 2007, India will become a middle income country in terms of the current World Bank threshold level of per capita income of \$875. Growth, though crucial for reducing the level of poverty and improving living standards of our people, is not enough by itself. It needs to be more inclusive, more widespread and accompanied by moderate inflation. The question most important is of two India's: "While India's top students at the best educational institutions are setting global standards, many, if not most of the country's children, leave government primary schools with few basic skills. While we have "medical tourism" from abroad, most primary health centres do not function well. While the Tatas and Mittals are acquiring global companies, our villages lack most of the basic amenities. While the price of urban property is escalating, the level of stunting and under-nutrition amongst the poor is alarming." our study has modest attempt to analyse the significance of inclusive growth in present day trend of down turn performance of Indian economy since 2011

**KEYWORDS**

Indian economy, growth.

**1.1 INTRODUCTION**

The need to make growth more inclusive—to expand access to opportunities so that all can participate, regardless of their individual circumstances. Inclusive growth basically means, "Broad based growth, shared growth, and pro-poor growth". It decreases the rapid growth rate of poverty in a country and increases the involvement of people into the growth process of the country. Inclusive growth by its very definition implies an equitable allocation of resources with benefits incurred to every section of the society. But the allocation of resources must be focused on the intended short and long term benefits of the society such as availability of consumer goods, people access, employment, standard of living etc. It sets a direct relationship between macro and micro determinant of the economy and its growth. The micro dimension includes the structural transformation of the society and macro dimension includes the country's gross national product (GNP) and gross domestic product (GDP). To maintain rapid and sustainable growth is some time very difficult this is because resources vaporises during the allocation and may give rise to negative externality such as rise in corruption which is major problem in the country. But however it has created an environment of equality in opportunity in all dimension of livelihood. Such as employment creation, market, consumption, production, and has created a platform for people who are poor to access good standard of living. If we focus on the inequality between poor and rich household in a country we can reach to an optimal solution so that we can minimize the difference.

Countries around the world, including India, have been buffeted by a succession of economic, financial and climate-related shocks over the past four years. Many countries in this region are finding it increasingly difficult to sustain past stellar rates of economic growth and poverty reduction, raising the spectre that even more of the poor will be left behind. All this is challenging governments to respond with policies to protect their citizens, especially their most vulnerable segments. This is not to say that the outlook for the region is overcast. Far from it but there are enormous challenges and risks, and the urgency for greater inclusion represents an overarching challenge in India.

True, the region has made remarkable progress over the past decade in reducing the rate of income-based poverty, thanks to its economic success and social policies. Yet, because of rising populations, the absolute numbers of people struggling on less than US \$2 a day in the region is unacceptably high at an estimated 1.25 billion. What's more, income and non-income inequalities are widening between rich and poor, between rural and urban centres, and across different economic sectors. The idea of inclusive growth – growth that is shared among all income strata – is changing how the development community views the challenge of poverty reduction, which by itself is no longer enough. Countries are realising that inclusive economic growth will be the tide that lifts all boats. For a country's economic and social well-being, inclusive growth can change the outlook in two distinct ways. It facilitates greater sharing of an economy's gains, which brings with it social and political benefits. And by drawing on all the people as sources of growth, inclusive growth broadens an economy's human resource base and generates new sources of growth.

**OBJECTIVES OF THE STUDY**

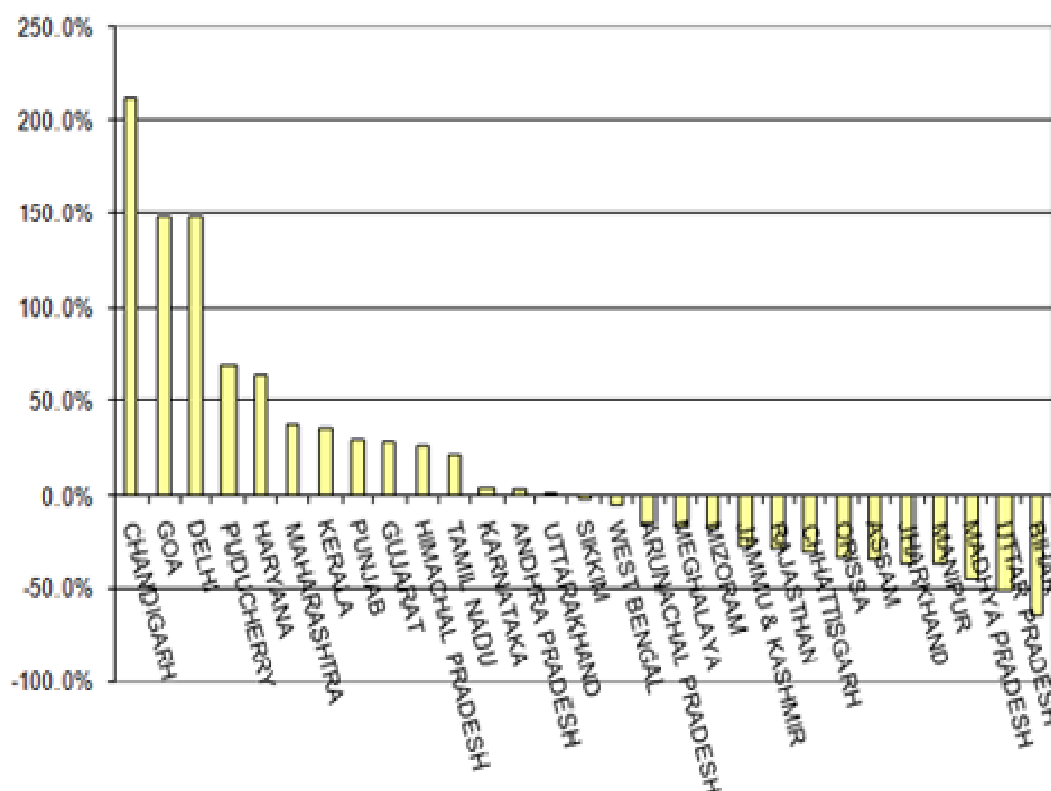
1. Study the over view of Indian economy in the context of inclusive growth strategy
2. study of needs of inclusive growth
3. study and analyse performance of inclusive growth
4. Finding and conclusion

**1.2 SCENARIO INDIAN ECONOMY**

Low per capita income and high poverty levels are the first indicators that Indian growth is not yet inclusive. There is marked disparity in growth among regions indicating that only a handful of states account for bulk of the growth. Growth obviously has not generated stable earnings for households to stay out of poverty. Growth has had less impact on females, tribal populations and religious minorities. India fares very poorly in social indicators with adult literacy rate of 61%, 50% only for females, average life expectancy of 63 years, and infant mortality rate at a very high 58 for 1000 live births. About 60% of the workforce in India is still employed in agriculture whose share has dwindled to about 19% of GDP. These disparities, to some extent, have resulted in the recent upsurge in Maoist violence, as well as increase of suicidal deaths among farmers.

The regional disparities in per capita income are vividly described in Figure below:

FIGURE 1: STATE PER CAPITA INCOME-DIFFERENCE WITH NATIONAL AVERAGE



Source: RBI Handbook of Statistics

The Northern, Southern and the Western states have prospered most in this rapid growth era which has by and large eluded the Central, Eastern, and the North Eastern states. The Chinese regional disparities do not exhibit negative per capita income growth as witnessed in the lagging states in India. Seven poorest states—Bihar, Chattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, and Uttar Pradesh—are home to more than half the poor. Inclusive growth will be elusive unless there is convergence to these regional disparities. Underlying all this is public services earmarked for the poor are weakest in the poorer states. A pressing issue is that the tribal population is concentrated in some of the poorest but mineral and forest rich areas. But they are not yet in a position to take advantage of these assets. There is need to step channelize investments from the top private sector CEOs. Large pledges of investment from the corporate sector confirm a clear support of the private sector for the excluded groups. The way out of exclusion is total literacy (education should be a fundamental right), skill development, increase in agriculture productivity, and better governance. As the discussions in the next section will elaborate, these are also required to assure one that there is Economic Security in India.

### 1.3 NEEDS OF INCLUSIVE GROWTH

The first need of India is making the growth more inclusive. This would require increasing the growth rates of the agriculture and allied sectors. With just around 18% share in GDP and more than half of the population dependent on agriculture, average income in agriculture is less than a quarter compared to the rest of the economy. Unless growth in this sector accelerates along with a reduction in the number of persons dependent on this sector, relative deprivation of this sector would persist. Government has adopted a four-pronged strategy to revive this sector. The first relates to augmenting the cropped area by raising irrigation and reclaiming wasteland.

The second relates to input delivery consisting of fertilisers, certified seeds, institutional credit and a revamped training and visit system to improve the yield levels and to reduce spreads across farms and regions in productivity. The third concerns improving the income levels. Instruments for that include support prices, agriculture insurance and encouraging value added agriculture through agro processing, marketing and storage. The fourth is farm plus activities like animal husbandry, horticulture and other related activities. The 11th Five Year Plan and the Union Budget 2007-08 have taken several initiatives in this regard. The second need is improving the share of manufacturing. Not only our relative share of manufacturing but also the number of persons engaged in organised manufacturing has remained unchanged. The stable share of manufacturing often gives an impression that India is skipping the second stage of growth. The growth of transport, storage, communications, insurance, banking, trade and real estate has to be manufacturing driven. The resurgence of the manufacturing sector in 10th Plan gives us the confidence in this regard. Apart from the enabling macro economic environment, what be critical for the sustained buoyancy in manufacturing would be the investment in research and technology, removal of the current mismatch in availability and need of skills, and removal of infrastructural bottlenecks—both of physical and social infrastructure.

The third need is improving our labour participation rate. According to an ILO study, the labour force participation rate in India at 60.9% (age group 15-64) in 2005 was way behind China's 82%. There is a need for faster employment growth for not only absorbing the new entrants to the labour force but also to meet the rise in labour force due to a higher participation rate. While a lower growth in labour force participation rate or a lower labour to population ratio in the short run may give a lower unemployment figure, we cannot afford to forego the potential output from such a valuable source.

The fourth need is maintaining price stability. The data from 1951-52 to 2006-07 indicate that in the four years of GDP growth of over 9%, average annual inflation measured in terms of WPI was 3.9%. Inflation averaged 9.4% per annum in the four years when GDP growth was negative. In the other 48 years, with GDP growth between 7 and 9% (12 years); GDP growth between 5 and 7% (14 years); GDP growth between 3 and 5% (11 years); and GDP growth between 1 and 3% (11 years) inflation averaged 8.6%; 6.6%; 5.2% and 4.9%, respectively. There does not appear to be any consistent relation between inflation and growth. While it is difficult to indicate the level of inflation beyond which it would start impinging on growth, tolerance to inflation may have declined over time, and a moderate inflation is necessary for a moderate interest rate regime and stable exchange rate. It is well known that inflation hurts the vulnerable sections the most.

The fifth need is fiscal consolidation. The Fiscal Reforms and Budget Management Act provide the necessary institutional mechanism and a roadmap. This will not only improve the credibility of the government and reduce the crowding out; but it will also provide the needed fiscal space for allocating larger resources for capital investment, especially in social and economic infrastructure.

#### 1.4 ECONOMIC PERFORMANCE UNDER THE STRATEGY OF INCLUSIVE GROWTH

Reforms undertaken in the early 1990s made India one of the world's fastest growing economies. The boom of the IT industry and improved agricultural production created an atmosphere of optimism, which led to the coining of phrases, such as Incredible India, India Shining, and India 2020 around the end of the millennium. The Indian growth story has been one of high Gross Domestic Product (GDP) growth but primarily driven by the growth in services sector. Not all sectors of the economy have grown at the same pace as is reflected in the relatively low agricultural growth rate, low-quality employment, poor education, inadequate healthcare services, rural-urban divide, social inequalities, and regional disparities. Growth that is not inclusive affects the society, the economy, and the polity. A lack of inclusive growth can result in real or perceived inequities, which has its own social ramifications. Inclusive growth promotes economic growth partly by broadening the base for domestic demand and partly by increasing the number of people with a stake in reforms and in a stable government. Inclusive growth thus seeks to broaden the flow of benefits of globalization towards the currently excluded sections. However, for achieving inclusive growth, it is essential that the diffusion of opportunities be supported with good governance and accountability. In order to reduce disparity and promote inclusive growth, the Indian government has set state-specific targets for parameters, such as GDP growth rate, agricultural growth rate, new work opportunities, poverty ratio, dropout rate in elementary schools, literacy rate, gender gap in literacy rate, infant mortality rate and maternal mortality ratio. In the last few years, inclusive growth has been at the forefront of studies sponsored by multilateral aid agencies, such as the United Nations, the World Bank, Asian Development Bank, and several nongovernmental organizations (NGOs). Successive governments have initiated several projects, such as Jawahar Rozgar Yojna, Integrated Rural Development Program, Rural Housing Scheme, and Swarnjayanti Gram Swarozgar Yojana to promote inclusive growth. However, for inclusive growth to happen in a country with the scale and size of India, private sector involvement is equally important. The private sector has started contributing with initiatives, such as the ICICI Foundation having been set up with the sole purpose of promoting inclusive growth. The government and private sector can play complementary roles in driving inclusive growth. There is a need for the public and the private sector in India to have a unified approach towards how they can extend, innovate, and collaborate in new ways to drive inclusive growth. India is expected to see a slower economic growth of 5.9 per cent in the current fiscal even as there are reasons to believe the "economy has turned the corner", an United Nations agency report said today. The UN Economic and Social Commission for Asia and the Pacific (ESCAP) said India's growth has been slowing down since 2011, mainly on account of "severe" monetary tightening by the Reserve Bank of India. "India is projected to grow at 5.9 per cent in 2012-13 compared with 6.5 per cent in 2011-12," UN ESCAP said in the report titled 'South and South-West Asia Development Report 2012-13'. Projecting a GDP growth of 6.8 per cent for 2013-14, it said there are reasons to believe the economy has turned the corner." Firstly, in September 2012, the government signalled its determination to pursue pending economic reforms including FDI in multi-brand retail and civil aviation and the partial phasing out of fuel subsidies," it noted. Further, this year's monsoon season was not as weak as initially feared.

India's GDP can be divided into three broad sectors – primary sector (agriculture), industrial sector and the services sector. The table below depicts the sector composition of GDP over the years.

##### 1.4.1 AGRICULTURAL SECTOR

About half of our population is either wholly or significantly dependant for their livelihoods on some form of farm activity – be it crop agriculture, horticulture, animal husbandry or fisheries. With low levels of infrastructure and human development, and in a context replete with inequalities and uncertainty, rural India views its future transformation with both hope and trepidation. Expansion of farm incomes is still the most potent weapon for reducing poverty. Non-farm income opportunities such as post-harvest operations, maintenance of farm equipment, etc – offer a virtuous cycle connecting expansion of farm activity to that of rural non-farm income opportunities",

Agriculture growth is the key factor to inclusive growth and helps in raising rural incomes and purchasing power in rural India. Agriculture is one of the most important sectors of country's economy. According to the data of 2005, agriculture and its sub-sectors such as forestry, logging and fishing accounted for 18.6% of the GDP and employed 60 per cent of the India's population. Agriculture accounts for 8.56% of country's exports and more than 40 per cent of India's geographical area is used for agricultural purpose. It is still playing noteworthy role in the country's socio-economic development.

Newer challenges have now arisen for the agriculture sector. Land constraints, looming water shortage and worse, adverse effects of global warming and climate change threaten to destabilise the already fragile farm ecosystem. We need a long-term vision backed by a strategic action plan to address these challenges.

Data says that India has shown tremendous growth in almost every sector except agriculture and benefits of high growth rate is not reaching to the poor people living in thousands of villages in the country. Even-handed and comprehensive growth will be possible if the people living in rural parts would get their share in growth. Concentrating on agricultural growth is the best probable way to inclusive growth in the country.

Agriculture is a living heritage and our policy makers should protect and promote it for the betterment of country's economic health. Rather singing the success story of first green revolution we should look at the structural weaknesses coming in the way of further growth in this sector including low public investment, fatigue of yield potential of new high-yielding varieties of crops, poor use of fertilizer, low frequency of seed replacement and low productivity per unit area in all crops. Improvement of crops quality and restoring soil health through organic farming techniques should be the next step. We should remember what Mahatma Gandhi had said –

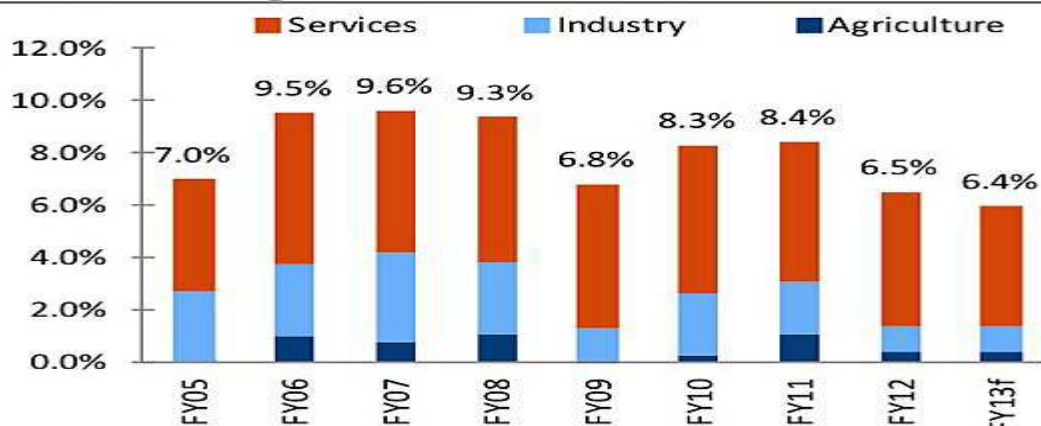
TABLE NO. 1: SECTORAL COMPOSITION OF GDP

Year	Agriculture	Industry	Services
1950-51	53.1	16.6	30.3
1960-61	48.7	20.5	30.8
1970-71	42.3	24	33.8
1980-81	36.1	25.9	38
1990-91	29.6	27.7	42.7
2000-01	22.3	27.3	50.4
2010-11QE	14.5	27.8	57.7
2011-12AE	13.9	27	59

Source: Economic Survey 2011-12

Over all GDP growth in India has slowed down from 8.4% in FY11 to 6.5% in FY12, with growth in mining being negative and growth in manufacturing being as low as 2.5% in FY12 (as against 7.6% in FY11)

FIGURE 2: GDP GROWTH UNDER INCLUSIVE GROWTH

**Chart 1: GDP growth headed lower**

Source : CSO, HDFC Sec Institutional Research

- Agriculture has registered considerable decline in growth from 7.0% in FY11 to 2.8% in FY12. This may be treated as a high base effect rather than dismal growth as food grain production has been robust, touching record highs, owing to favourable monsoons in FY11 (especially, after the drought of 2009-10).
- The negative growth registered in the Mining and Quarrying sector is a signal towards need for policy reforms in this sector. This is particularly driven by lower production activity in the coal and crude oil segments.
- Manufacturing has clearly showed signs of deceleration in FY12, with IIP moderating to 2.8% in FY12, as against a high of 8.2% in the previous year.
- The interest-rate sensitive sector of financing, insurance, real estate and business services has registered a decline in growth from 10.4% in FY11 to 9.6% in FY12, as a result of monetary tightening in most part of FY12.

**1.4.2 MANUFACTURING SECTOR**

The history of economic development followed a pattern of pulling people out of agriculture, moving them into non-farm activities such as into manufacturing and then into services. The present growth pattern led by high service sector growth and a stagnant manufacturing sector is leading to a rural-urban divide. Manufacturing is crucial to the Indian economy. The effect of improvement in manufacturing sector goes far beyond the goods provided by it. Manufacturing sells goods to other sectors and in turn buys materials and services from them for its growth and development. Manufacturing spurs demand for everything from raw materials to intermediate components.

**FIGURE 3: TREND IN GROWTH OF MANUFACTURE SECTOR OF INDIA**  
Y-o-Y growth (on quarterly basis)

As the graph above depicts, the growth of the manufacturing sector has been erratic. The worrying part is that this growth is going downward. As per the economic survey 2012, manufacturing grew by just by 3.9% in 2011-12 (Apr-Dec).

As is evident from the table above, the contribution of industrial sector to GDP has stagnated since 1991. Industrial sector can be further broken down into Manufacturing and Mining. Manufacturing constitutes roughly 16% of our GDP and has been stagnant at that level. India's GDP growth has essentially been services led growth with the share of agriculture consistently going down. This has naturally meant that growth has not been inclusive enough. It is often alleged that the reforms initiated in 1991 has not really benefited the poor as inequality has increased. Unfortunately, it ignores the stagnant state of manufacturing. So why is manufacturing important for inclusive growth?

Despite the emphasis on manufacturing sector in India's planning process, its share in real GDP, as of 2010-11, was only 15.8 per cent. There is a need to boost this sector, not only to increase output but also to gainfully employ a larger number of people. A number of recent studies have highlighted the growth of total factor productivity in the organised manufacturing sector in the past three decades. There, however, exist wide differentials in productivity between different States and different industry groups. Also, there is a large difference in productivity between the organised and unorganised sub-sectors of manufacturing. Considering that the latter accounts for almost four-fifths of total employment in the manufacturing sector, there is an urgent need to bridge the gap.

**1.4.3 SERVICE SECTOR**

THE EVIDENCE: India's labour force is fast approaching half a billion people, with about 8 million people added every year between the early 1990s and 2004-2005. Research conducted for the IDRC project "Globalization, Labour Markets and Inequality in India" 1 shows that a decade of steady economic growth has created an abundance of jobs and decreased the number of people living in poverty. However, it also shows that the growth has been disproportionate and has

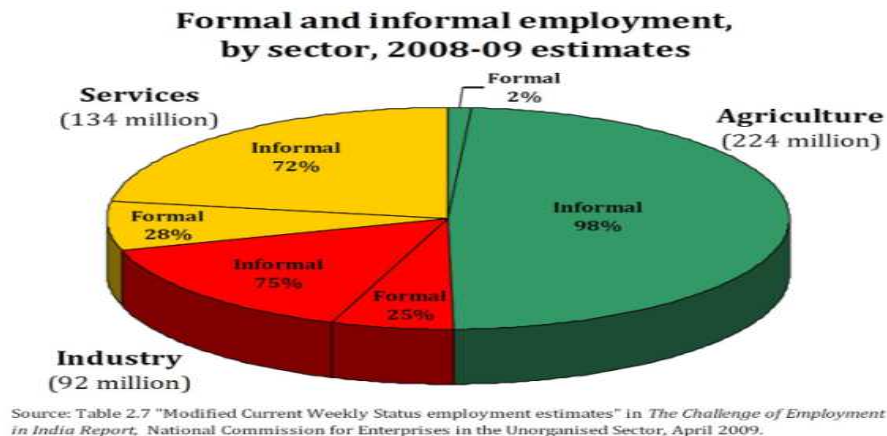


perpetuated an ever-widening wage gap between the educated, urban and formal workers and the non-educated, rural and informal workers in India. Jobs have been created in service industries like information technology, in large-scale manufacturing operations and in international companies looking to outsource their services.

These jobs, however, have been primarily geared toward India's well educated and highly skilled urban workforce. What has been absent during this period of growth is the development of mid-sized manufacturing enterprises that can provide labour-intensive jobs for India's less-skilled workers — the majority of its population.

The result of this uneven growth and the phenomenon of a "missing middle"—where employment is heavily concentrated in very small and very large companies—has created a situation where India's unskilled, mostly illiterate workers remain largely employed in agriculture, or in informal jobs with low productivity in basic manufacturing or services.

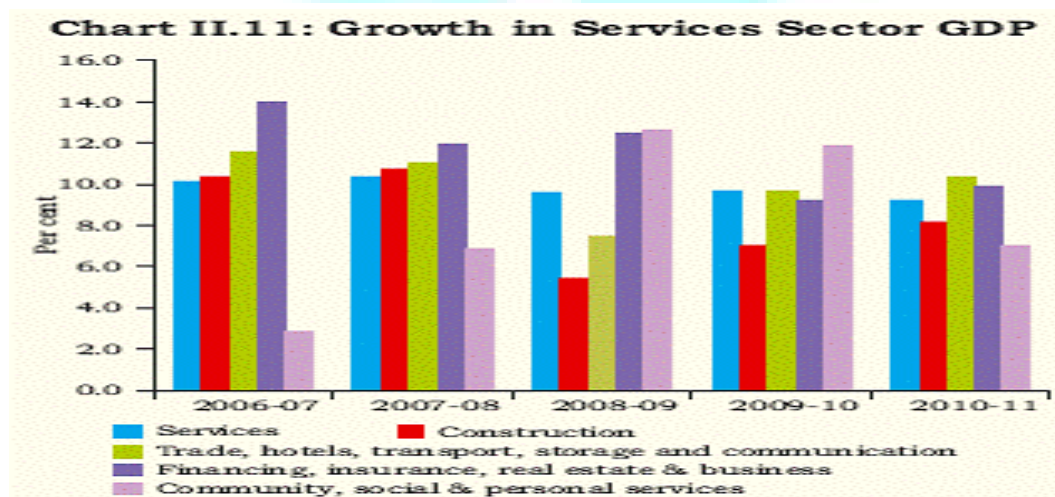
FIGURE 4: FORMAL AND INFORMAL EMPLOYMENT BY SECTOR

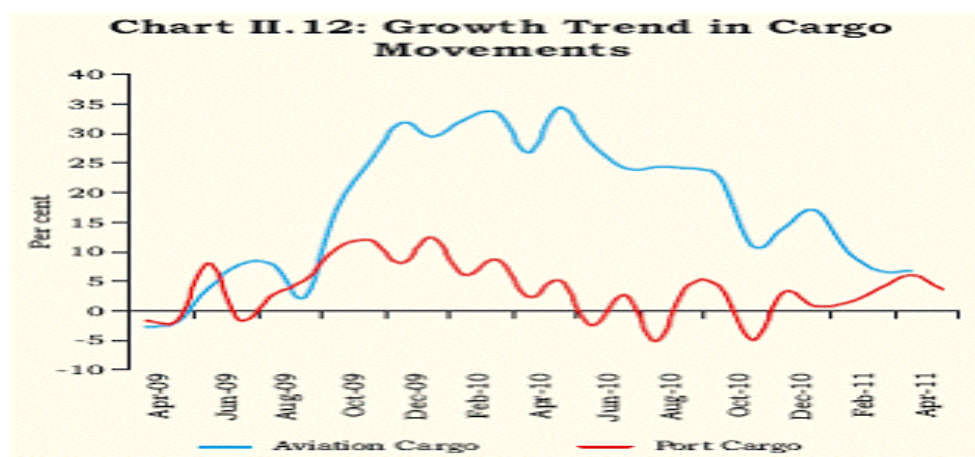


Services sector sustains momentum, albeit with marginal deceleration.

Services sector growth of 9.2 per cent in 2010-11 was marginally lower than that in the previous year largely due to deceleration in 'community, social and personal services' reflecting fiscal consolidation (chart II.11). Services dependent on external demand such as tourist arrivals, passengers handled at international terminals, export and import cargo showed acceleration in growth during 2010-11, indicating improvement in global economic conditions. Cell phone connections also registered double digit growth, though lower than the previous year. Cargo movements in sea ports and railway freight traffic showed signs of moderation during 2010-11 on account of capacity constraints (chart II.12).

Being the largest sector of the Indian economy, the services sector has significant implications for growth. It is export-intensive, employment-oriented and attractive for foreign direct investors. In view of the above, the sustainability of the services sector growth is important. One major challenge for its sustainable growth arises from its dependence on external demand. This increases its vulnerability to global economic developments, as was witnessed during the global financial crisis chart II.13 India is facing increased competitiveness in IT/ITeS and telecommunications of late. The sector has responded well so far, but in future the wage price pressures may pose a threat to growth and profitability. Another area where other countries have gained tremendously is tourism. India has potential but infrastructure such as road connectivity to tourist areas is a major challenge. Globally traded services, viz., financial services, health care, education, accountancy and other business services, also have vast potential for growth which is yet to be tapped.





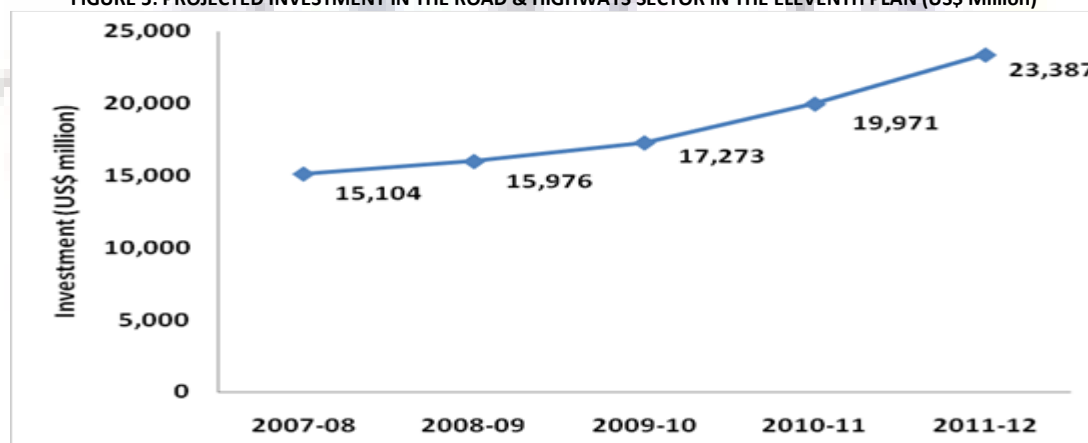
The Indian Health Care Federation has prepared a roadmap for making India a world-class destination for medical tourism. For this, accreditation of Indian hospitals is paramount as it will help in ensuring quality standards across a spectrum of speciality and super-speciality hospitals. In addition, to encourage medical tourism, there is a need to provide supportive infrastructure such as improved air connectivity, streamlining of immigration process along with developing health support infrastructure

#### 1.4.4 INFRASTRUCTURE SECTOR

The Indian economy is growing at a remarkable rate and is estimated to become the third largest economy by 2050, according to a report by PricewaterhouseCoopers (PWC). The Indian Government has put forth liberalized policies and deliberate sector strategies that have helped in creating growth and opportunity areas for infrastructure companies. As a result, all major infrastructure sectors have also witnessed growth trends, with the roads and highways sector showing tremendous activities in the recent past. Various Government initiatives have also resulted in increasing the number of Public Private Partnerships (PPPs) in this sector.

Among the various reasons behind the rationale to invest in the Indian infrastructure sector, the main motivation is the fastest growing economy, very few limitations on Foreign Direct Investment (FDI) for infrastructure projects, tax holidays for developers of most types of infrastructure projects, some of which are of limited duration, and opening up of the infrastructure sector through PPPs. In fact, as per statistics, the projected spending during the financial year 2007-2012, within various infrastructure segments include US\$ 167 billion for the electricity sector, US\$ 65 billion for railway sector, roads and highways stood at US\$ 92 billion and the port sector is expected to accumulate over US\$ 22 billion spending during the same period.

**FIGURE 5: PROJECTED INVESTMENT IN THE ROAD & HIGHWAYS SECTOR IN THE ELEVENTH PLAN (US\$ Million)**



Source: Ministry of Road Transport and Highways

This growth in the infrastructure sector is directly due to the rise in the developing services and manufacturing sector in the country which is mainly driven by increased spending of the middle class and Government's intention to improve the socio-economic conditions of the country. Construction is the second largest

economic activity in India after agriculture, and recognising this, the Indian Government has already planned US\$ 500 billion worth of investment into India's infrastructure sector in the Eleventh Five Year Plan.

### 1.5 CONCLUSION

India's record of achieving inclusive growth was examined in the context of the experiences of some of the Asian countries. These comparisons show that although India's growth since 2000 has been beneficial to the poor, India's achievements are fairly modest relative to the other Asian countries. This calls for a concerted effort to make India's growth more inclusive in the future. Several measures are outlined to strengthen the sources of inclusive growth. The main thrust of inclusive growth strategies has to be on the following key areas: (i) employment and growth in agriculture; (ii) increased public expenditure on education and health; (iii) improved infrastructure; and (iv) more effective governance at all levels. Manufacturing holds the key as India tries to eliminate poverty. 2004-14 looks to be a lost decade. If India fails to take corrective action, it wouldn't take long for our demographic dividend to turn into demographic disaster.

Over the past two decades, India has moved away from its former dirigiste model and become a market-based economy. This process started in the mid 1980s and gathered substantial momentum at the beginning of the 1990s. Direct tax rates were significantly reduced, pervasive government licensing of industrial activity was almost eliminated, and restrictions on investment by large companies were eased. Furthermore, financial markets were reformed, with banks restored to health, entry barriers lowered, equity markets transformed and new supervisory bodies introduced. The process of reform has continued in this decade with a further opening of the economy to competition. The number of industries reserved for very small firms has been significantly reduced, and foreign suppliers have been encouraged to enter the market by a progressive lowering of tariffs to an average of 10% in 2007. The rules governing foreign direct investment have been markedly eased, notably in the manufacturing sector. Last but not least, fiscal discipline has been improved by the passage of fiscal responsibility laws for the central government and all but three of the 28 state governments.

These reforms have had a major beneficial impact on the economy. By 2006, the average share of imports and exports in GDP had risen to 24%, up from 6% in 1985. Inflows of foreign direct investment increased to 2% of GDP from less than 0.1% of GDP in 1990, with outflows of foreign direct investment picking up substantially at the end of 2006. The combined fiscal deficit of central and state governments has been reduced from 10% of GDP in 2002 to just over 6% of GDP by 2006, with the ratio of debt to GDP falling from 82% in 2004 to 75% by March 2007. There has been a massive increase in output, with the potential growth rate of the economy estimated to be around 8½ per cent per year in 2006. GDP per capita is now rising by 7½ per cent annually, a rate that leads to its doubling in a decade. This contrasts to annual growth of GDP per capita of just 1½ per cent in the three decades from 1950 to 1980. Faster growth has resulted in India becoming the third largest economy in the world (after the United States and China and just ahead of Japan) in 2006, when measured at purchasing power parities, accounting for nearly 7% of world GDP. Moreover, with increased openness and rapid growth in exports of merchandise and IT related services, its share in world trade in goods and services had risen to slightly over one per cent in 2005, when measured at market exchange rates. Overcoming Inequality and Structural Poverty in India we need inclusive growth and development. Rather, we need to look at how the basic set-up of society systematically denies opportunities for large numbers of marginalised people in India.

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## A STUDY ON EMPLOYEE JOB PERFORMANCE (A COMPARATIVE STUDY OF SELECT PUBLIC AND PRIVATE ORGANIZATIONS)

**S.FAKRUDDIN ALI AHMED**  
**ASSOCIATE PROFESSOR**  
**DEPARTMENT OF MBA**  
**NARAYANA ENGINEERING COLLEGE**  
**GUDUR**

**DR. G. MALYADRI**  
**PROFESSOR**  
**DEPARTMENT OF MBA**  
**SRINIVASA INSTITUTE OF TECHNOLOGY & MANAGEMENT STUDIES**  
**CHITTOOR**

### ABSTRACT

*Managing human resources in today's dynamic environment is becoming more and more complex as well as important. Recognition of people is a valuable resource in the organization has led to increases trends in employee performance and job security. Performance Appraisal is the important aspect in the organization to evaluate the employee's performance. It helps in understanding the employees work culture, involvement, and satisfaction. It helps the organization in deciding employee's promotion, transfer, incentives, and pay revision. A performance appraisal is an evaluation about Organizational actions and provides feed back to Employees with an eye on improving future performance. Effective performance appraisal system contains two basic systems operating in conjunction i.e Evaluation system and Feedback system. Then reason for having a system of performance appraisal to establish and uphold the principle of accountability. The chief causes or organization failures are "non-alignment of responsibility and accountability". In the severely non-aligned system no one is accountable for anything. In this event the principle of accountability breaks down completely. Hence organizational failure is the only possible outcome. In the above context the researcher has selected one public sector organization and one private sector organization, The main objective of the study to evaluate the performance Appraisal System practices in select Public and Private sector organizations. To collect the data for the purpose of the study, a sample of 150 (one hundred fifty) respondents from each company has been chosen totaling to 300 respondents. Questionnaires were administered to those respondents. Respondents were chosen using Stratified Random sampling technique. However, only 206 questionnaires were found to be with complete information and valid for the study. The overall response rate was 67%. This sample is deemed reasonable because often studies in conflict are based on small samples.*

### KEYWORDS

performance appraisal, employee commitment, retention, , career development, Team work, Employee engagement.

### 1. INTRODUCTION

Human Resources Development (HRD) means enhancing the capabilities of human beings by allowing them to undergo learning experiences. Thus, human resource development programs are learning situations that result in enhanced capabilities for people who undergo them.

Human resource development in the organizational context is a process by which the employees of an organization are helped in a continuous planned way to acquire or sharpen capabilities required to perform various functions associated with their present or expected future roles; develop their general capabilities as individuals and discover and exploit their own inner potentials for their own organizational development purposes; and develop an organizational culture in which supervisor – subordinate relationships, team work, employee commitment, employee engagement and collaboration among sub units are strong contribute to the professional well being, motivation, and pride of employees Rao (1985)<sup>1</sup> The emphasis of this definition is, first, on the organizational role of employees, but is not limited to it. The individual's inner urges, genius and potential are emphasized as worth developing not just for organizational culture. So is the emphasis of team work, which is particularly relevant in the context of the Indian experience, where the absence of team spirit is far too often the bane of our organizations.

Abraham (1988)<sup>2</sup> has defined HRD as activities and processes undertaking to promote the intellectual, moral, psychological, social and economic development of the individual so as to help him achieve his highest human potential as a resource for the community. In other words, it means an all-round development of the person so that he can contribute his best to the community and the nation. HRD can be defined as a set of systematic and planned activities designed by an organization to provide its members with opportunities to learn necessary skills to meet current and future job demands Randy, Jon & David, (2002)<sup>3</sup>.

According to Lex Dilworth (2003)<sup>4</sup> HRD is the creative design and co – mingling of strategies, structures, systems technologies and human beings in a ways that promote both individual as well as organizational learning and builds as well as sustains organizational effectiveness.

### 2. REVIEW OF LITERATURE

Performance appraisal is an essential and inescapable managerial activity. Appraisal is necessary for all important decisions relating to people, such as placement and promotion, remuneration and reward, training and development as well as long term manpower planning and organizational development Basu(1985)<sup>5</sup> Performance appraisal is probably one of the oldest yet most imperfect managerial activity it has been the subject of an abundance of research and literature over the past few decades and has been described by (Fletcher and Williams-(1985)<sup>6</sup> as one of the great growth industries of the sixties and the seventies. Yet as banks and Murphy(1985)<sup>7</sup> observe, despite advances in appraisal technology, effective performance appraisal in organizations continues to be a compelling but unrealized goal. Once a talented individual is brought into an organization, another function of HRM comes into play –creating an environment that will motive and reward exemplary performance. One way to assess performance is through a formal review on a periodic basis, generally, known as performance appraisal or performance evaluation. Because line managers are in daily contact with the employees and can best measure performance, they are usually the ones who conduct the appraisals. Other evaluators of the employee's performance can include subordinates, peers, group and self or a combination of one or more (Mondy and Noe, 1996)<sup>8</sup>

Just as there can be different performance evaluators, depending on the Job, several appraisal systems can be used. some of the popular appraisal methods including 1)Ranking of all employees in a group; 2) using rating scales to define above average, and below average performance,3) recording favorable and unfavorable performance, Known as critical incidents; and 4) managing by objectives, or MBO.

Martha et.al (2002)<sup>9</sup> studies that the impact of various types of training and their impact on performance appraisal satisfaction. In This study a sample instrument was used to estimate the significance of training methods on performance appraisal satisfaction and it was conducted for 635 business professionals. In order to analyze the relationship between the dependent variable and normal curve a profit analysis and descriptive statistics were used. The results of the study states that a negative coefficient implies that including this independent variable reduces the probability that an employee is unsatisfied. And the largest



impact on employee satisfaction from a training variable is found for the support for continuing education. And the authors suggest that the training programs do influence the employee satisfaction.

Compton.R (2005)<sup>10</sup> studied whether Performance management process have to provide more effective strategic tool in HRD repertoire. The study was undertaken from 3 universities with 992 respondents, for this study performance management technique like rating scales, behaviorally anchored rating scales were used. The result of the study confirms with that substantial changes have been made with respect to use, nature of performance management system. And also suggest that the use of performance management systems remain problematic although there are some positive indications.

Stein(2006)<sup>11</sup> indicated that there should be a central control over performance appraisal System in the fire service relates to the fact that supervisors must not deliver negative information which has an impact on the working relationship between the company officers and the employees.

Monaharn T.R. et al. (2009)<sup>12</sup> Study tried to set a target values, identifying weak factors and determine the bench factors of underperforming employees. This study also aimed to rank employee based on the performance data envelopment analysis. This attempt to frame the recommendations and suggestions to the management. For the purpose of the study manufacturing unit has chosen as sample the employee respondents were 23. For this study a series of statistical tools were used they are like quantitative data analytical tools along with series of regression analysis are used. The results of the study are rank the employees in terms of their performance, set targets for inefficient employees to become efficient, and find the short falls and surpluses in inputs for employees. And the authors suggested opinion that periodic appraisals and support continuous improvement in status of the employees.

Vasset (2010)<sup>13</sup> et.al to examine the fairness in organizations in more detail, the authors undertook a study of municipal health service employees perceptions of justice in relation to Pas. In this research two types of measures are associated with procedural justice. One concerns the PA process, the other concerns Feedback, which is more likely to be accepted when the requirements of procedural justices have been fulfilled. The data were collected through survey forms were sent to a representative sample of nurses and auxiliary nurses from 25 of the 430 municipalities in Norway. Participants' responses were measured using validated scales, and reliability was measured using Cronbach's (1951) formula. The study found that the most important element in employees' perceptions of procedural justice in PAs is their own ability to contribute. The study indicates that some respondents perceive the PA process as unfair. They noted, for example, that the same PA processes were used for different employees, that there were different degrees of PA training and experience, and follow-up conversations rarely took place. Respondents indicated that it is normal practice to have constructive discussions during PAs.

Performance appraisal is an essential and inescapable managerial activity. Appraisal is necessary for all important decisions relating to people, such as placement and promotion, remuneration and reward, training and development, as well as long- term manpower planning and organizational development. Performance appraisal is probably one of the oldest yet most imperfect managerial activities. It has been the subject of an abundance of research and literature over the past few decades and has been described by Flecher as one of the great growth industries of the sixties and seventies. In Indian organizations, concern with managerial appraisal has been quite high. In recent years, several experiments and innovations have been attempted and more and more organizations have found it necessary to confront these issues in their formal appraisal system.

### 3. NEED FOR THE STUDY

Performance appraisal is a method of evaluating the behaviors of employees in the works pot, normally including both the quantitative and qualitative aspects of job performance. Performance appraisal is the systematic description of an employee's job-relevant strengths and weakness. The basic purpose is to find out how well the employee is performing the job and establish a plan to improvement. Provide information about the performance ranks. Decisions regarding salary fixation, confirmation, promotion, transfer are taken based on performance

### 4. OBJECTIVES OF THE STUDY

1. To evaluate the performance Appraisal System practices in select Public and Private sector organizations.
2. To review the performance appraisal of employees
3. To provide feedback of employees regarding their performance

### 5. HYPOTHESES

The following hypotheses are set to be tested in this study

Public and private sector enterprises do not differ in their Performance Appraisal practices as reported by their employees.

### 6. RESEARCH METHODOLOGY

To collect the data for the purpose of the study, a sample of 150 (one hundred fifty) respondents from each company has been chosen totaling to 300 respondents. Questionnaires were administered to those respondents. Respondents were chosen using Stratified Random sampling technique. Of the total 300 respondents 236 respondents returned filled questionnaires in the initial stage. Later on a reminder had been sent to those respondents who did not return their questionnaires. In second stage, 35 respondents replied. Finally, a final reminder had been sent to non respondents. But, all the efforts gone in vain. In all, 271 respondents submitted their filled in questionnaires. However, only 206 questionnaires were found to be with complete information and valid for the study. The overall response rate was 67%. This sample is deemed reasonable because often studies in conflict are based on small samples.

#### 6.1 MEASURES (STANDARDIZED SCALES) & TOOLS FOR ANALYSIS OF DATA

Questionnaire consist eight major sections relating to the measurement of HRD practices like, performance appraisal. There are various instruments existing for the measurement of HRD practices, however, almost all of them were exclusively developed for the industrial employees. Instead of relying on existing questionnaires, for this study a unique structured questionnaire was designed. The scale items were measured using Five point Scale (5 = Strongly Agree and 1 = Strongly Disagree). The collected data was analyzed with appropriate statistical tools and techniques such as percentage method, Mean and Standard Deviation, Inter Item correlation and Regression analysis, Chi-square analysis was used for the analysis of the study.

#### 6.2 PROFILE OF THE RESPONDENTS OF BOTH PUBLIC AND PRIVATE COMPANIES

In this chapter, an attempt has been made to present the profile of the respondents of two companies selected in this study i.e. Public Sector and Private Sector Enterprises. Various personal characteristics of the respondents across these two companies have been presented in the following tables such as Age, Qualification, Department wise Employees, Total years of working, years of work experience in the present organization, present no of years of work experience in the present job.

##### 6.2.1 DEMOGRAPHIC PROFILE OF GENDER RESPONDENTS

In every company, it is a common sight to find both the genders. Therefore, it was decided to find out number of respondents belonging to each gender from the companies selected for this study. The, data collected is cross- tabulated and the results are presented below.

## 6.2.2 ENTERPRISE WISE GENDER CLASSIFICATION

TABLE 6.2.2: COMPANY WISE GENDER CLASSIFICATION OF RESPONDENTS

Gender Vs. Company		Company		Total
		Public sector undertaking	Private sector undertaking	
Gender	Male	90	80	170
		43.7%	38.8%	82.5%
	Female	15	21	36
		7.3%	10.2%	17.5%
Total		105	101	206
		51.0%	49.0%	100.0%

From the above table 3.2 presents the summary of the total respondents with Gender wise categorization in the public and private sector undertakings i.e. consist of BHEL and VIJAI Electricals. The data shows that in case of BHEL male respondents consist of 43.7 percent are male and 7.3 percent of female respondents. While in case of VIJAI Electricals 38.8(percent) male respondents and 10.2(percent) of female respondents respectively. In other words majority of the male respondents from both the companies comprise male amounting to 2/3 of respondents while one third female respondents.

## 6.3 DATA ANALYSIS AND INTERPRETATION

In the present context, an attempt is been made to what extent the existing performance appraisal system is effectively and how it can be appraises. The various variables cross tabulated and presented are advanced succession planning, effective utilization of performance appraisal, report assessment, performance standards, promotion, wage increase, key skills increase, employee efficiency, identification of training needs, Further it was hypothesized that "public and private sector enterprises do not differ in their performance appraisal system practices as reported by their employees." For this chi square test was conducted on them. Results pertaining to the testing of these hypotheses are presented at the end of section.

TABLE 6.3.1: PERFORMANCE APPRAISAL IS EFFECTIVELY CONDUCTED BY OUR ORGANIZATION

S No	Type of company	Performance Appraisal is effectively conducted by our organization					Total%
		Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	
1	Public sector	20	16	27	35	7	105
		19.0%	15.2%	25.7%	33.3%	6.7%	100.0%
2	Private sector	0	1	38	26	36	101
		0%	1.0%	37.6%	25.7%	35.6%	100.0%
	Total	20	17	65	61	43	206
		9.7%	8.3%	31.6%	29.6%	20.9%	100.0%

Source: Compiled from primary data records

Pearson Chi-Square = 55.926, df=2, P< 0.05, Mean =3.44, Std Deviation =1.191.

From the present table it is clear that majority of the respondents i.e. (35.6 percent) from the private sector company strongly agree that the performance appraisal is effectively conducted. The calculated chi-square test value presented is more than the table value which indicates that the association between the attributes is statistically significant. Hence the null hypotheses is not accepted, further it indicates that the private sector undertaking has better implementation of performance appraisal system as compared with public sector undertaking.

## 6.3.2 PERFORMANCE APPRAISAL ASSESSMENT

Most companies have a formal Performance appraisal system in which employee job performance is rated on a regular basis, usually once a year. A good Performance appraisal system can greatly benefit an organization. It helps direct employee behavior toward organizational goals by letting employees know what is expected of them, and it yields information for making employment decisions, such as those regarding pay raises, promotions, and discharges. Performance Standards indicate the level of performance an employee is expected to achieve. Such standards should be clearly defined so that employees know exactly what the company expects them.

TABLE 6.3.2 PERFORMANCE APPRAISAL REPORTS IN OUR ORGANIZATION ARE BASED ON OBJECTIVE ASSESSMENT AND ADEQUATE INFORMATION

TABLE 6.5.2 PERFORMANCE APPRAISAL REPORTS IN OUR ORGANIZATION ARE BASED ON OBJECTIVE ASSESSMENT AND ADEQUATE INFORMATION							
S No	Type of company	Performance Appraisal reports in our Organization are based on objective assessment and adequate information					Total
		Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	
1	Public sector	15	18	28	38	6	105
		14.3%	17.1%	26.7%	36.2%	5.7%	100.0%
2	Private sector	0	6	13	42	40	101
		.0%	5.9%	12.9%	41.6%	39.6%	100.0%
	Total	15	24	41	80	46	206
		7.3%	11.7%	19.9%	38.8%	22.3%	100.0%

Source: Compiled from primary data records.

Pearson Chi-Square=51.760 df=3 P <0.05, Mean 3.57: Std Deviation 1.170

From the present table it is evident that majority of the respondents i.e. (39.6 percent) from private sector company are strongly agree with performance appraisal reports in our origination are based on objective assessment and adequate information and some more major part of the respondents are somewhat agree with the performance appraisal reports in our organization are based on objective assessment and adequate information it represents that the private sector r company respondents are strongly agree with the statement.

Interestingly, the calculated Chi-square value presented is mores the table value therefore the association between the two attributes is statistically significant. Hence the null hypothesis is not accepted.

## 6.3.3 PERFORMANCE STANDARDS

In this context the managers been asked to respond whether the performance standards are set at the beginning of the review period and known to the employee. Therefore, it was decided to know the whether the performance standards is good enough in the companies selected for this study. Thus, the data collected in this regard are cross tabulated and the results are presented in the table 4.3 in evaluating the performance of their employees by providing both with specific performance objectives and standards. These objectives and standards will ensure that all employees are aware of the performance factors and values make the performance evaluation process itself easier since supervisors known in advance how the values will be applied.

TABLE 6.3.3: PERFORMANCE STANDARDS ARE SET AT THE BEGINNING OF THE REVIEW PERIOD AND KNOWN TO THE EMPLOYEE

S No	Type of company	Performance Standards are set at the beginning of the review period and known to the employee					Total
		Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	
1	Public sector	6	9	26	51	13	105
		5.7%	8.6%	24.8%	48.6%	12.4%	100.0%
2	Private sector	13	0	0	32	56	101
		12.9%	.0%	.0%	31.7%	55.4%	100.0%
	Total	19	9	26	83	69	206
		9.2%	4.4%	12.6%	40.3%	33.5%	100.0%

Source: Compiled from primary data records

Pearson Chi-Square: 68.674 df=2, P&lt;0.05, Mean= 3.84, Std deviation=1.204

In the present table, it is clear that the large majority 56 percent of the respondents from the private sector company agree that performance standards are set at the beginning of the review period and known to the employee. Hence the calculated Chi-square test value presented is greater than the table value which indicates that the association between the two variable is statistically significant. Hence the null hypothesis is not accepted. In other words, the respondents from both companies agree with the statement.

#### 6.3.4 APPRAISAL RATING AND THE CORRESPONDING MONETARY REWARD

Performance evaluation is one of the most central human resources practices in organizations due to its critical linkages with selection, compensation, training and other employment practices. Efforts to understand performance ratings have tended to focus on either instrumentation issues, and the corresponding monetary rewards, the improvement of rating scales, which embedded the evaluation process with in the interactions that occur between superiors and subordinates.

In this context the managers been asked whether the extent of closeness between formal appraisal rating and the corresponding monetary reward is very good. Therefore it was decided to know whether there is need to improve the closeness between the appraisal rating and corresponding monetary reward in the companies selected for the study. Thus, the data collected in this regard are cross tabulated and the results are presented in the table.

TABLE 6.3.4: IN MY OPINION THAT THE EXTENT OF CLOSENESS BETWEEN FORMAL APPRAISAL RATING AND THE CORRESPONDING MONETARY REWARD IS VERY GOOD

S No	Type of company	In my opinion that the extent of closeness between formal Appraisal rating and the corresponding Monetary reward is very good					Total
		Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	
1	Public sector	14	15	24	40	12	105
		13.3%	14.3%	22.9%	38.1%	11.4%	100.0%
2	Private sector	0	20	12	38	31	101
		.0%	19.8%	11.9%	37.6%	30.7%	100.0%
	Total	14	35	36	78	43	206
		6.8%	17.0%	17.5%	37.9%	20.9%	100.0%

Source: Compiled from primary data records

Pearson Chi-Square=27.093, df =1

P&lt;0.05, Mean= 3.49, Std Deviation=1.192

The calculated chi square test value presented is greater than the table value which indicates that the association between the two variables is statistically significant, in other words the null hypothesis is not accepted. In other words, the responses from both the companies supports that the closeness between formal appraisal rating and the corresponding monetary reward is very good.

#### 6.3.5 PERFORMANCE APPRAISAL SYSTEM HELPS IN GENERATING DATA FOR KEY SKILLS

In every company, the performance appraisal system is adopted to suit the purpose and need of the employee growth and development through training, self and management development programs, to guide to job changes with the help of continuous ranking. It is also used in the areas related to key skills like compensation, human resource planning, and internal employee administration. Competent appraisal of individual performance in an organization or company serves to improve the overall effectiveness of the entity. The informative function is fulfilled when the appraisal system supplies data to managers and appraises about individual strengths and weaknesses. Therefore it was decided to know whether the present appraisal system helps in generating data for key skills is the best in the companies selected for this study. Thus the data collected in this regard are cross tabulated and the results are presented in the table.

TABLE 6.3.5: PERFORMANCE APPRAISAL SYSTEM HELPS IN GENERATING DATA FOR KEY SKILLS

S No	Company type	Performance Appraisal system helps in generating data for key skills					Total
		Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	
1	Public sector	4	12	25	50	14	105
		3.8%	11.4%	23.8%	47.6%	13.3%	100.0%
2	Private sector	0	0	7	40	54	101
		.0%	.0%	6.9%	39.6%	53.5%	100.0%
	Total	4	12	32	90	68	206
		1.9%	5.8%	15.5%	43.7%	33.0%	100.0%

Source: Compiled from primary data records

Pearson Chi-Square= 50.707 df=1

P &lt; 0.05, Mean =4.00, Std Deviation. 947

In the present table, it is clear that the large majority 47 percent of the respondents from the public company somewhat agree with performance appraisal system helps in generating data for key skills. The calculated chi square test value presented is greater than the tabulated value which indicates that the association between the two variables is statistically significant. On the other words the null hypothesis is not accepted.

#### 6.3.6 PERFORMANCE APPRAISAL SYSTEM HELPS IN IDENTIFYING EMPLOYEE EFFICIENCY

The ability to provide continuous feedback with employees does not have to stop with the formal performance appraisal process, increasingly organizations are deploying less formal types of employee recognition that can be driven by HR or by employees themselves. In this context the managers been asked whether the present appraisal system helps in identifying employee efficiency. Therefore, it was decided to know whether appraisal system helps in identifying employee efficiency in the selected companies for this study. Thus, the data collected in this regard are cross tabulated and the results are presented in the table.

TABLE 6.3.6: PERFORMANCE APPRAISAL SYSTEM HELPS IN IDENTIFYING EMPLOYEE EFFICIENCY

S No	Type of company	Performance Appraisal system helps in identifying employee efficiency					Total
		Strongly disagree	Somewhat disagree	Neutral	Some what agree	Strongly agree	
1	Public sector	6	10	30	37	22	105
		5.7%	9.5%	28.6%	35.2%	21.0%	100.0%
2	Private sector	0	0	14	21	66	101
		.0%	.0%	13.9%	20.8%	65.3%	100.0%
	Total	6	10	44	58	88	206
		2.9%	4.9%	21.4%	28.2%	42.7%	100.0%

Source: Compiled from primary data records

Pearson Chi-Square= 48.172,df=2

P&lt;0.05,Mean 4.03,Std Deviation1.050.

The calculated chi-square value presented is greater than the table value and also supports that the association between both the variables is statistically significant. Hence the null hypothesis is not accepted. In other words, the effectiveness of appraisal system depends on the standardized techniques or methods adopted by the type of company.

### 6.3.7 ASSESSMENT OF TRAINING NEEDS THROUGH PERFORMANCE APPRAISAL

Performance appraisal can significantly help in identifying the training needs of the employees. Performance appraisal helps to reveal the differences and discrepancies in the desired and the actual performance of the employees. The causes of the discrepancies are also found whether they are due to lack of adequate training or not. The employee can also tell about his training requirement in his self appraisal. A performance appraisal after the training program can also help in judging the effectiveness of the program. Training needs analysis is the systematic method of determining if a training need exists and if it does, what training is required to fill the gap between standard and the actual performance of the employee. This evaluation suggests and results in improvement identifying the training needs. Therefore, it is decided to know whether there is appraisal contains the information for career planning of executives in the selected companies for this study. Thus the data collected in this regard are cross tabulated and the results presented in the table.

TABLE 6.3.7: PERFORMANCE APPRAISAL SYSTEMS HELP IN IDENTIFYING THE TRAINING NEEDS

S No.	Company Type	Performance Appraisal system help in identifying the Training needs					Total
		Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	
1	Public sector	7	2	31	40	25	105
		6.7%	1.9%	29.5%	38.1%	23.8%	100.0%
2	Private sector	0	0	1	39	61	101
		.0%	.0%	1.0%	38.6%	60.4%	100.0%
	Total	7	2	32	79	86	206
		3.4%	1.0%	15.5%	38.3%	41.7%	100.0%

Source: Compiled from primary data records

Pearson Chi-Square= 52.149 df =1

P&lt;0.05

From the present table it is evident that the majority of the respondents 60 percent from the private sector undertaking are strongly agree, with the performance appraisal system help in identifying the training needs.

The calculated Chi-square test value presented is greater than the power value which indicates that the association between both the variables is statistically significant. In other words, it is evident that null hypothesis is not accepted.

### 6.3.8 HYPOTHESIS RESULTS

The results pertaining to the testing of hypothesis, "public and private sector enterprises do not differ in Performance Appraisal practices as reported by their employees" have been presented in the tables. It could be observed from the above results and their consequential explanation, out of seven cross tabulations, the Chi square tests Yielded seven statistically significant associations between the two variables. Therefore, it could be said that, since all the tables could yield significant association, the null hypothesis is not accepted. This is rejected. In other words, it indicates there is a no significant difference between the performance appraisal practices conducted in public and private sector undertakings are differ.

Further, it is clear from the above results in relating to advanced succession planning is not seen in public company. Whereas, in case of private company it exists. In both the companies public and private it is observed that performance appraisal leads to promotion and employee training needs are identified but the same time there is no simultaneous increase in wages. In public company the appraisal system helps the subordinate only to limited extent for self development and communication are appraisal results. Whereas, in case of private company to great extent. The present appraisal system adopted in both public and private companies are the best and good enough, but at the same time needs improvement in appraising the performance appraises.

### HYPOTHESES RESULTS

#### TYPE OF COMPANY AND PERFORMANCE APPRAISAL SYSTEM

S No	Variables	Chi-square	df	P
1	Performance Appraisal is effectively conducted by our organization.	55.926	2	.000
2	Performance Appraisal reports in our Organization are based on objective assessment and adequate information.	51.760	3	.000
3	Performance Standards are set at the beginning of the review period and known to the employee	68.674	2	.000
4	In my opinion that the extent of closeness between formal Appraisal rating and the corresponding Monetary reward is very good.	27.093	1	.000
5	Performance Appraisal system helps in generating data for key skills	50.707	2	.000
6	Performance Appraisal system helps in identifying employee efficiency	48.172	1	.000
7	Performance Appraisal systems help in identifying the Training needs	52.149	1	.000

#### MEANS, STANDARD DEVIATIONS AND INTER CORRELATIONS (PA)

Item	Mean	Std Deviation	PA1	PA2	PA3	PA4	PA5	PA6	PA7
PA1	3.44	1.191	1						
PA2	3.57	1.170	.769(**)	1					
PA3	3.84	1.202	.235(**)	.417(**)	1				
PA4	3.49	1.192	.505(**)	.553(**)	.050	1			
PA5	4.00	.974	.463(**)	.401(**)	.026	.535(**)	1		
PA6	4.03	1.050	.431(**)	.412(**)	.050	.374(**)	.623(**)	1	
PA7	4.14	.950	.424(**)	.410(**)	.156(*)	.301(**)	.542(**)	.608(**)	1

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

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



## 7. RESULTS AND DISCUSSIONS

The performance appraisal system in the both public and private companies Performance appraisal system and for improvement of managerial appraisal system. The majority of the respondents agreed that performance appraisal system is effectively done private company. Whereas, in case of public company it is different, in both the companies public and private it is observed that performance appraisal leads to promotion and employee training needs are identified but at the same time there is no simultaneous increase in wages. The public sector in India is going through profound restructuring in the face of environmental constraints that force the sector to become more efficient and effective. In this respect, one of the most popular tools used in the contemporary reform program is the application of performance appraisal systems. However, since appraising is considered to be a particularly controversial management practice anywhere it is being practiced, the successful institutionalization of such a system faces numerous challenges and obstacles.

The performance appraisal report based assessment is differ in public and private sector companies. Performance could be more difficult to assess in the public sector than in the private sector due to complex goals which are harder to measure, and a lack of financial indicators in the public sector (Burgess2003). The biggest problem with the move to a meritocracy is that it is susceptible to subjective measurement where doubt undermines the system. During performance appraisal meetings with employees, supervisors should discuss goals for future performance and employee career plans more seriously and clearly. When performance deficiencies are evident, supervisors and employees should work together to identify possible causes to develop an action plan to remedy these deficiencies. Job analysis is vital to organizations that wish to establish internally consistent compensation systems.

## 8. FINDINGS, SUGGESTIONS AND CONCLUSIONS

In This section, various aspects of Performance Appraisal practices in the companies under study have been presented while each of the practice pertaining to Performance appraisal has been dealt with. The data collected in this regard have been cross tabulated and the results been presented.

### 7.12.1 EFFECTIVENESS OF PERFORMANCE APPRAISAL SYSTEM

From the present table, it is clear that majority of the respondents i.e. from the private sector company strongly agree that the performance appraisal is effectively conducted in our organization.

This indicates that the association between the attributes is statistically significant. Hence the null hypotheses is not accepted, there is a significant difference between effectiveness of performance appraisal is differ in both public and private companies. Further it representst the private sector undertaking has better implementation of performance appraisal system as compared with public sector undertaking.

### 7.12.2 PERFORMANCE APPRAISAL REPORTS TOWARDS OBJECTIVE ASSESSMENT

It is evident that majority of the from private sector company are strongly agree with performance appraisal reports in our origination are based on objective assessment and adequate information and some more major part of the respondents are somewhat agree with the performance appraisal reports in our organization are based on objective assessment and adequate information it represents that the private sector r company respondents are strongly agree with the statement.

Interestingly, the association between the two attributes is statistically significant. Hence the null hypothesis is not accepted. Further there is a significant difference performance appraisal reports to words objective assessment is differ in both public and private companies. Hence null hypothesis is rejected.

### 7.12.3 PERFORMANCE REVIEW

It is clear that the large majority 56 percent of the respondents from the private sector company agree that performance standards are set at the beginning of the review period and known to the employee. On the other hand, in case of public sector company.

This indicates that the association between the two variables are statistically significant. Hence the null hypothesis is not accepted. In other words, further there is a significant difference in performance standards in both public and private companies. Hence null hypothesis is rejected.

### 7.12.4 CLOSENESS BETWEEN FORMAL APPRAISAL RATING AND THE CORRESPONDING MONETARY REWARD

It is clear that the large majority of the respondents 37.6 percent form and private company somewhat agree with appraisal rating and the corresponding monetary reward was very good. This indicates that the association between the two variables is statistically significant, in other words the null hypothesis is not accepted. In other words, the responses from both the companies supports that the closeness between formal appraisal rating and the corresponding monetary reward is very good. Further there is a significant difference in closeness between formal appraisal rating and the corresponding monetary reward in both public and private companies.

### 7.12.5 PERFORMANCE APPRAISAL SYSTEM HELPS IN GENERATING DATA FOR KEY SKILLS

In the present table, it is clear that the large majority 47 percent of the respondents from the public company somewhat agree with performance appraisal system helps in generating data for key skills. This indicates that the association between the two variables is statistically significant. In other words the null hypothesis is not accepted. Further there is a significant difference in between performance appraisal system helps in generating key skills in both public and private companies.

### 7.12.6 PERFORMANCE APPRAISAL SYSTEM HELPS IN IDENTIFYING EMPLOYEE EFFICIENCY

From the present table, it is evident that large majority 65 percent of the respondents from the private company are strongly agree with performance appraisal system helps in identifying employee efficiency. The association between both the variables is statistically significant. Hence the null hypothesis is not accepted. In other words, the effectiveness of appraisal system depends on the standardized techniques or methods adopted by the type of company. Further it indicates that there is a significant difference in between identifying employee efficiency through performance appraisal practices in both public and private companies.

### 7.12.7 PERFORMANCE APPRAISAL SYSTEMS HELP IN IDENTIFYING THE TRAINING NEEDS

From the present table it is evident that the majority of the respondents 60 percent from the private sector undertaking are strongly agree, with the performance appraisal system help in identifying the training needs. This indicates that the association between both the variables is statistically significant. In other words, it is evident that null hypothesis is not accepted. Further there is a significant difference in identifying the training needs through performance appraisal is differ in both the public and private companies.

## CONCLUSION

It was Hypothesized that " public and private sector enterprise differ in their Performance Appraisal practices as reported by their employees" it was found from the study that out of seven cross tabulations i.e effectiveness of performance appraisal, employee efficiency Identifying the training needs and employee efficiency. while total seven yield statistically significant associations between the independent and dependent variables and none of them yielded insignificant association between the two variables. This means a null hypothesis was rejected. Hence, from the above calculations it is true that there is a difference in adopting or applying performance appraisal practices are differ from public company to private company.

## SUGGESTIONS FOR FUTURE RESEARCH

### PERFORMANCE APPRAISAL SYSTEM

It is widely accepted that unless people working in the organization are emotionally inspired with the job satisfaction and job involvement, environmental relations cannot be improved for effective performance in the long run. The following are few suggestions

1. Management must be strong, firm, unbiased, kind, considerate, while setting new values, attitudes and beliefs leading to openness, mutual trust and participative management based on philosophy of fair, firm, and friendly.
2. Honest decisions and conduct of higher officials would certainly set an example to the subordinated.
3. Employee would like to be independent: attach high value for their individual competence and professional pride.

4. People with self motivation can drive themselves to incredible levels of excellence.

The paradigm shift from management to governance, from managers to complete facilitators rather than leaders, from traditional worker to "Duckers knowledge worker", from life time employment to quit labour turnover, from bureaucratic organizations to net worked organizations' necessities the need of relock at the organizational policies and practices. The available skills and possible potentials from within can be identified and brought out by suitably modifying the policies and upgrading the potential appraisal system, develop career paths, change in promotion policy, empowerment, flexibility decentralized decision making, timely recognition of good performance project need specialization and reorient training system.

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## ORGANISATIONAL AND ENVIRONMENTAL DETERMINANTS OF PERFORMANCE APPRAISAL SYSTEM: A REVIEW AND FRAMEWORK FROM CONTEXTUAL PERSPECTIVE

**SAPNA TANEJA**

**RESEARCH SCHOLAR**

**FMIT**

**JAMIA HAMDARD UNIVERSITY**

**HAMDARD NAGAR, NEW DELHI**

**DR. RAVIKESH SRIVASTAVA**

**PROFESSOR**

**FORE SCHOOL OF MANAGEMENT**

**NEW DELHI**

**DR. N. RAVICHANDRAN**

**ASSOCIATE PROFESSOR**

**FMIT**

**JAMIA HAMDARD UNIVERSITY**

**HAMDARD NAGAR, NEW DELHI**

### ABSTRACT

*This paper reviews the major developments in performance appraisal practice and research, current state of performance appraisal briefly and by identifying the gap, highlights the need for more study with contextual perspective. This review of relevant literature delineates major organisational contextual factors (intra and extra) such as structural and environmental which influence performance appraisal process and outcome. Number of independent variables such as size, life-cycle stage, industry, sector, technology, unionisation, human resource strategy; economic, political, legal, physical and social environment of the organisation have been summarized. Further, this review aims to prepare a model in order to test the influence of these large set of factors on performance appraisal practices. In conclusion, this review provides context-specific nature of performance appraisal system and directs the need for future research in Indian context which can have implications for developing new appraisal system in India.*

### KEYWORDS

performance appraisal, contextual, determinants.

### INTRODUCTION

The present business context is defined by increased complexity, uncertainty and risk. Managing and retaining talent continues to be important to organisations not only for gaining competitive advantage but also for sustenance (Milligan 2012). Performance appraisal systems are among the most important human resource management practices and also a comprehensively discussed research topic. The performance appraisal is a control mechanism for organisational control, through which the employees can view their past performance and take corrective actions. Various human resource decisions are also based on information obtained from performance appraisal (Chu and Chen 2007). Always having played such an important role performance appraisal has become the important human resource function. Although an importance of performance appraisal system is well documented in literature; as per recent research by HR anexi, the concept of performance appraisal is fading and engagement reviews are gaining momentum in practice. However, experts and practitioners have emphasised importance of performance evaluation and management system. They argued that there is still need to manage performance. It is unlikely that performance management can be replaced, rather what can change are the dimensions of appraisals and the matrix associated with it. Stated further, focus is already moving from efforts based to results based. Performance management is an on-going process, that focuses on target setting, periodical feedback on progress and working on developmental needs. Whereas engagement reviews only helps to assess the individual attachment to the organisation and work on the factors that can be improved to enhance productivity. The survey reported that engaged employees are not only committed but also passionate towards their work hence more productive. Global engagement survey reported that 37 percent of Indian working population is fully engaged (engagement reviews, the new fad? 2012) and "According to 2012 Gallup research, engagement scores is Indian workplace is a concern. As matter of fact India's engagement number is mere 8 percent, which means that only 8 percent people who come to work are engaged, positive and thrilled about their jobs. 32 percent of them are actively disengaged, implying that they come to work and sit with someone who is spirited till his spirit goes away. All the more, 60% of the employees feel not engaged at the work place. (Indians don't feel 'engaged' at workplace 2012)." Effective performance appraisal system as an important component of performance management system can lead to various outcomes such as trust, commitment and job satisfaction which in turn leads to more engagement and productivity. Since, it is said that happy employees are the productive employees.

Nevertheless this is most praised, criticized and comprehensively discussed topic even today, although the focus of discussion has changed over time. It began with information processing and psychometric properties, and then moved on to developments of appraisal format, training programmes, appraisal sources and consequences of appraisal etc. However, research on performance appraisal with contextual perspective has received little attention and scholars have consistently highlighted the need for empirical research with respect to context in order to make this system effective. Since Performance appraisal is an applied topic and the process occurs in social and organisation context. Moreover, the context in which appraisal occurs is dynamic; changing all the time; considering, it is useful to periodically study the current state of performance research and practice and its relation to context in which it occurs (Brown and Heywood 2005); (Bretz, Milkovich and Read 1992). By identifying various factors affecting performance appraisal process and outcome, this review suggests the context specific nature of performance appraisal system and highlight the need for empirically examine the appraisal system in Indian industry.

This review examines the performance appraisal literature published in academic books and trade journal papers. This paper is organised as follows: review briefly discusses (i) the history of performance appraisal, (ii) research trends in performance appraisal research and current state of appraisal research and practices (iii) demarcates major determinants of appraisal system and summarizes previous researches (iv) by identifying the research gap this review aims to prepare a conceptual framework from contextual perspective for future research in Indian industries.

## EARLY HISTORY OF PERFORMANCE APPRAISAL

Employee evaluation practice has existed since third century but in the last 40 years, performance appraisal has received considerable attention and uses of performance appraisal have been increasing. The first industrial application of merit rating was probably made in the early eighteenth century by Robert Owen at his cotton mills in New Lanark, Scotland. Wooden cubes of different colours indicating different degrees of merit were hung over each employee's work station. Wooden cube changed with the change in employee's performance (Heilbroner 1953) as cited in (Murphy & Cleveland, 1995 pp 3)

In eighteenth and nineteenth centuries, there is evidence of some forms of appraisals in both Britain and America. In 1813, U.S military implemented appraisal system for evaluating its personnel. Then in 1887, Federal Civil Services applied merit rating or efficiency rating for evaluating its employee's performance. This is generally looked upon as the start of formal performance appraisal in the United States but gained popularity by the early 1950s only. And surveys indicated that by the 1950s in America and the 1960s in Europe appraisal was appraisals were accepted by around 60 per cent of the bigger organisations. Survey results concerning popularity of formal appraisal system also pointed that public sector organisations were more likely to have appraisal system. Large organisations had more prevalence of appraisal system than the smaller organisations and lower and middle level managers were more likely to be appraised whereas top management was exempted from appraisal practice. Appraisal system became more prevalent in the 1970 in America and in 1980s/90s in Britain, ever since government legislation such as Civil Rights Act, 1964 and equal employment opportunity commission (EEOC) exerted strong pressure on organisations to adopt formal appraisal system which resulted in rapid improvements in performance appraisal practices (Murphy and Cleveland 1995, pp 4).

In 1990s, new approach emerged for evaluation of performance such as self-appraisal method especially for middle and top managers in order to motivate them and make them feel more responsible (Pratt 1991). Now, in twentieth century, performance appraisal system has become strategic aspect of human resource management and the balanced scorecard approach is used by linking strategic, operational and individual performance in organisations. Individual goals are continuously aligned with corporate strategies and performance measures are set upon accordingly to evaluate clear contribution of individual level towards the achievement of organisational goals (Brudan 2009).

Murphy et al, 1995 noted that in late 1900s, Performance appraisal seems to be universal and importance of the system has also increased over the time. It has become an important management practice which is viewed as critical in monitoring and controlling human capital in desired direction. Further, two major trends have been noted so far in history; first, shift from trait oriented towards behavioural and result oriented. Second with the use of appraisal system, uses of appraisal system have also increased significantly over the time. Information obtained from appraisal system used for taking number of decisions in order to manage the human resources. Organisations tend to use performance appraisal for a variety of purposes simultaneously rather than concentrating on one purpose (Cleveland, Murphy and Williams 1989). Although, performance appraisal system is almost universal but still represent a major source of dissatisfaction; neither managers nor employees seem to be fully satisfied with the appraisal system and view appraisal system negatively (Furnahm 2004).

An effective and development oriented appraisal leads to a number of important outcomes such as improved employee productivity and quality, job satisfaction, organisational commitment and trust. And, structural features or practices of appraisal construct effective or ineffective systems which in turn affect employee motivation and justice perceptions. These features and practices of appraisal system are determined and supposed to vary by the context concerned. As (Brewster 1995) pointed out that HR practices are not 'universal' but are 'context-specific' so 'socially' constructed in each society. The process of appraisal is conducted in various manners and with different degrees of formality in different organisations. These include the degree of formality, frequency of appraisal, purpose and sources of appraisal, criteria and techniques used and the extent of employee participation (Milliman et al, 1998) in (Chiang and Birtch 2010).

## TRENDS IN PERFORMANCE APPRAISAL RESEARCH

There is an extensive body of research on performance appraisal. Review of historical trends show that first research on performance appraisal had focussed on cognitive process of information. Since the rating process is complex and involves cognitive processes, basic research was clearly needed to define that complex phenomenon. Study of psychometric properties i.e. rating error and accuracy and rater/ratee characteristics also received considerable attention. Topics such as performance appraisal format, feedback issue, rater training, appraisal sources and uses of Performance appraisal have also been researched upon reasonably (Bretz, Milkovich and Read 1992).

Recent contributions analyse the performance appraisal practices in general (Sita, et al., 2000; Jamal and David, 2007; Chu and Chen, 2007), reaction to performance appraisal (Shrivastava and Purang 2003) and consequences of performance appraisal on employee's job satisfaction, turnover intention (Poon, 2004 & Kuvaas, 2006). Despite this extensive body of research, very little has been studied about the determinants of performance appraisal system (Murphy and Cleveland 1995); (Grund and Sliwka 2009). Moreover, various authors have addressed the need for more research on performance appraisal with organisational and contextual perspective.

Banks and Murphy, 1985 argued that performance appraisal has been extensively researched upon from measurement point of view which has led to the assumption that issues dominating the appraisal research are not compatible with the organisational realities so not informing the practice. They suggested that it is not wise to continue research on these issues in order to minimize the gap between performance appraisal researches and practice. However, over the past several years, researchers have developed several appraisal formats, processes and rater training programs to improve appraisal systems but it has not led to significant advancement to performance appraisal practices. In addition, performance appraisal is as applied function which occurs in social and political contexts; which is dynamic. Thus considering these developments in appraisal practices and dynamic characteristic of the environment in which appraisals occur, it is wise to study the current state of appraisal practices with contextual perspective.

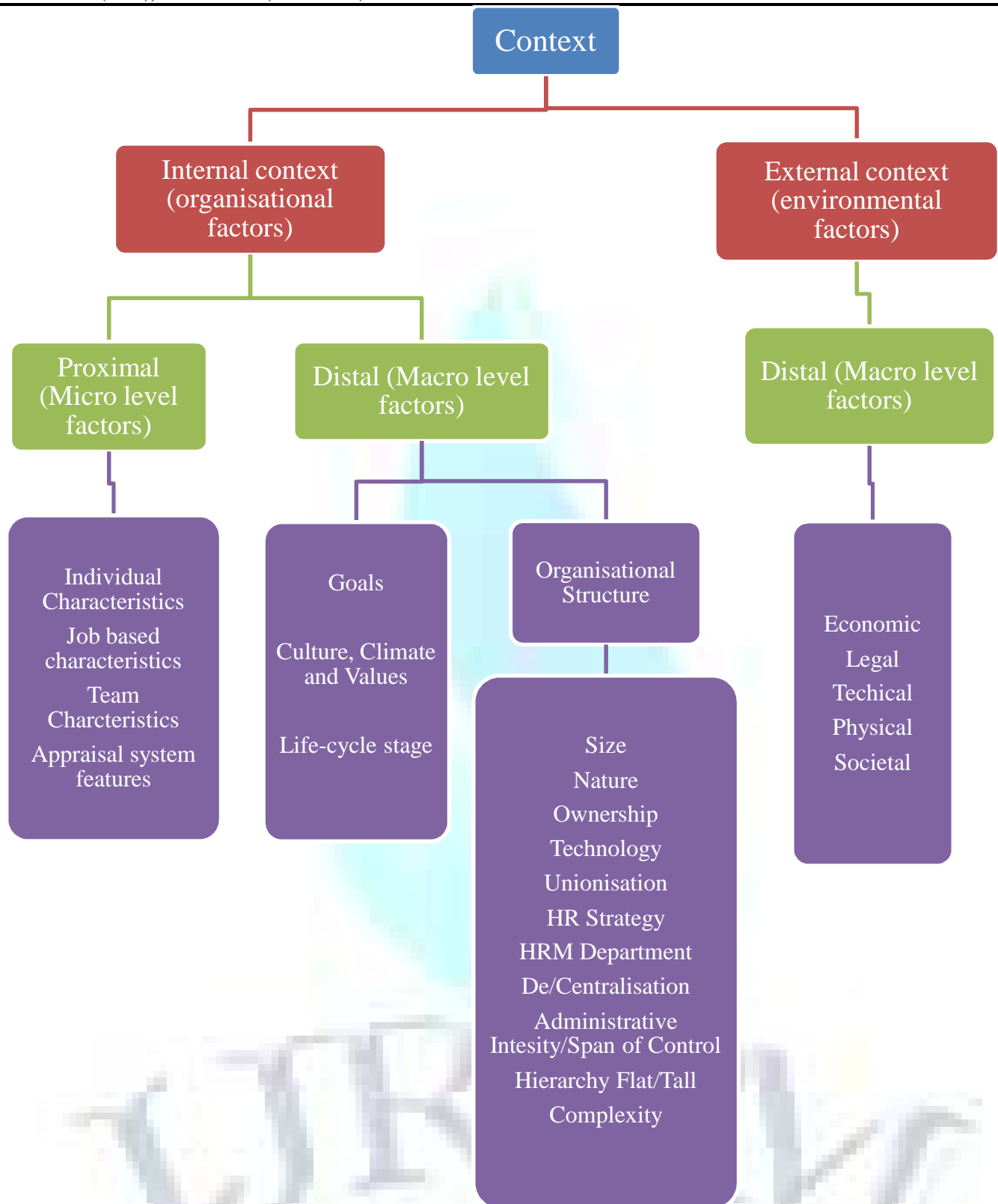
Murphy & Cleveland, 1995 strongly points out that very little empirical research has been conducted on determining the relationship between environmental variables and performance appraisal and the way in which these variables affect the appraisal system. Exceptional studies are Brown and Heywood, 2005 study and Grund and Sliwka 2009 which controlled limited variables in their studies. The former included only union coverage and firm size and latter analysed job and firm characteristics as determinants of performance appraisal. Other studies (Budhwar and Khatri 2001) & (Budhwar and Sparrow, 1998) are quite broader as far as contextual perspective is concerned which studied the link between contextual factors and overall human resource practices.

In line with above arguments, researchers have consistently highlighted the role played by context in the process of performance management and need for more research on the context of performance appraisal. They opined that in order to minimize that apparent gap between performance appraisal research and practice, it is important to have better understanding of the organisational contexts in which appraisal takes place. They emphasised the criticality the social context in which appraisal occur in determining the effectiveness of an appraisal system as performance appraisal is constructed differently in different environment and (Judge and Ferris 1993); (Murphy and Cleveland 1995). Many organisations invest in most sophisticated performance management practices, but fail to consider the organisational context in which such practices are implemented. Effective performance management systems are supported by practices and organisational context (Hainess and St-Onge 2012).

Due to above stated facts such as little empirical research on determinants of performance appraisal system and need highlighted by experts in existing literature; it is useful to examine the relationship between contextual factors and performance appraisal system. However, there is theoretical support for the hypothesis that organisational characteristics and its environment influence the ways in which performance appraisal practices are carried out (Murphy and Cleveland 1995).

In order to examine the ways in which these intra and extra organisational factors influence performance appraisal process and outcome, we need to demarcate the major factors first. And, thereafter, need to review past literature based on those factors in order to find support for the stand that the concept of performance appraisal is similar in almost all the countries and organisations but practices are context specific. Based on review of previous literature and empirical studies (Budhwar and Khatri 2001) (Brown and Heywood 2005); (Grund and Sliwka 2009); (Murphy and Cleveland 1995); (Cohen and Pfeffer 1986), authors summarize following factors those are categorized in below chart.





Source: (Budhwar and Khatri 2001); (Murphy and Cleveland 1995); and  
(Dalton, et al. 1980)

**PERFORMANCE APPRAISAL AND CONTEXT: A REVIEW OF PAST RESEARCH****CONTINGENT FACTORS**

**SIZE:** As the size of the firm increases there would be strong tendency to adopt appraisal system and use the information obtained from that for various purposes because of the need to monitor and control a large and diverse workforce. Another rational behind this stand may be the financial resources available to larger firms as compared to their counterpart.

Grund and Sliwka, 2009 recently investigated the determinants of performance appraisal usage by using establishment data in German firms. They formulated the hypothesis based on individual, job and firm based characteristics determining the use of performance appraisal and consequences of appraisal results. Concerning the examination related to firm-based characteristics, the study found that firm size has strong impact on the adoption of formal appraisal system and the perceived importance of appraisals for promotions but no significant effect on bonus payments. First, results show that larger firms use formal appraisal systems more frequently as compared to the smaller firms, as assumed that smaller firms' employers generally have direct chance to observe the performance of their employee so are less likely to adopt formal appraisal system but without systematic appraisals observation of performance is tougher in larger firms so more likely to adopt appraisal system. Moreover, operationalization of formal appraisal system is costly that is supposed to be adopted only when benefits exceeds cost. And the benefits may vary with the size of organisation; are more likely to exceed in larger firms. Hence, differences were observed in the appraisal practices with regard to the firm size.

Brown and Heywood, 2005 conducted a survey in randomly selected sample of Australian establishments with at least ten or more workers. They categorized organisational circumstances into four groups such as workforce characteristics, job characteristics, Human resource management practices, structural features. Related to latter circumstances they concluded that implementation and operationalization of formal appraisal system demand fixed cost and will most likely to be adopted in those firms in which net benefits exceeds the cost. The benefits may be expected to vary extensively with different organisations depending on the size, nature, technology and other human resources practices of the firm for say, are less likely to exceed cost in smaller firms. They found significant impact of firm size on the frequency of appraisal system and use of appraisal as basis for promotion, determining bonuses and training needs. Formers are due to the fact that size is associated with greater monitoring difficulties and economies of scale. So the implementation of appraisal system is subjective to ease of evaluation and economies of scale (Brown and Medoff 1989). For instance, size of the firm is defined by number of employees, larger the firm means more number of workers. As the number of workers increase, per capita cost of implementing formal appraisal decreases. Thus, anticipated, larger firms have advantage to increase the benefits over cost so are more likely to adopt it. And latter is due the fact that in order to make promotion related decisions in firms where number of employees is greater, it is obvious to use appraisal information for making easy comparison between employees' performance. Also, Larger firms have more probability to follow variable pay system so greater probability to use appraisal information as basis for bonus. Hence, performance appraisals and uses of evaluations are more common in larger firms as compared to the smaller firms.

Larger firms typically offer more formal training so the presence of appraisal system is more likely to determine specific training needs (Pischke 2001). Provision of training plays intermediating role between size of the firm and appraisal system, may be due to the fact that larger corporation may have greater resources and managerial slack to devote to training (McCartney and Teague 2001) which in turn determines the need for performance appraisal system.

Jobber, Hooley and Shipley, 1993 also tested the effect of organisational size on sales force evaluation practices. Based on organisational behaviour and economic literature, they expected that there would be differences between evaluation practices of small and large firms and large organisations adopt more formal and sophisticated approaches for evaluation of their sales workforce as compared to small organisations. Data was collected from two hundred and sixteen (85 small and 131 large) industrial good organisations from U.K. to examine the influence of organisational size on sales force evaluation practices. And results of the study revealed significant differences in the evaluation practice of two types of firms separated by size. First, large firms make significantly higher use of key output measures than smaller firms. Second difference in evaluation practices is related to quantitative criteria used to view employee performance. Large organisations make greater use of pre-determined performance standards against which performance of employees is evaluated whereas smaller organisations rely more on informal and simple method of comparing current results to past results. Finally, findings of this study also revealed substantial difference in qualitative criteria. Large firms are more likely to use written reports or rating scales whereas small firms are more likely to evaluate their salespeople by means of unwritten opinion. There are theoretical support for the proposition that managerial specialisation and resource availability both are linked to organisational size so larger the organisation, the more elaborate its structure, more specialised its tasks, the more differentiated its units and the more developed its administrative component. Large organisations with well-defined structure and increased specialisation have a greater need for formal communication and management practices to be regulated by rules and regulations; which suggests that evaluation practices in such firms may be more formal and sophisticated than in smaller organisations. In the latter case a person responsible for one function may also be responsible for another number of functional areas and the manager may not have sufficient time to conduct appraisals by using quantitative criteria or formal written evaluation reports based on qualitative criteria.

Furthermore, corporate size has significant influence over the performance based evaluations and training opportunities. Larger organizations tended to evaluate employee performance more regularly than did smaller firms and promote greater investment in workers. Larger the corporations, greater the number of positions to be filled in; so, promotion decisions in such organisations are solely based on manager's abilities and performance rather than on factors such as age, seniority, gender, the level of education and so forth, are not related to performance (Idson 1989).

**LIFE-CYCLE STAGE:** Stage of the organisation, to some extent, determines the structure and functions of the organisation. Life-cycle theory suggests that appraisal is a dynamic process; as the goals and strategies of the organisations change across different stages, performance appraisal system should be altered in some way in order to produce effective results (Whetten 1987) in (Murphy and Cleveland 1995). For say, during growth, size of the organisation and resources increases which leads to complexity and increases control and communication problem. Former can be dealt by decentralisation and the latter by formalisation and vice versa in declining stage. Resulting, purpose, criteria and method of evaluation may be expected to change as well.

Similarly, adopting contingency theory, (Chen and Kuo 2004) proposed a framework for appropriate appraisal strategy from the perspective of organisation life-cycle. They suggest that performance appraisal should be flexible and changed as the competitive status changes. Competitive status is the determinant of business strategy and after identifying corporate and HR strategy, performance appraisal strategy should be aligned with them in order to make appraisal system effective. In particular, appraisal method and criterion used to evaluate the employees should be changed with respect to the life cycle stage of the organisation. They suggested that at inception stage, organisation should emphasise visible competencies; behaviours should be evaluated at growth stage and outcome at maturity stage. And with regard to method, qualification oriented method should be adopted at inception and maturity stage and quantification-oriented should be emphasised at growth stage. Given the rationale behind using different criteria and method lies in the characteristics of performance data needed at different stages.

**NATURE OF THE FIRM:** Appraisal system metrics are likely to be affected by the nature of the firm. For example, 'purpose' of appraisal, 'criteria' used for evaluation and 'appraisal personnel' in service firms and manufacturing firms may vary significantly. Manufacturing firms provides tangible, standardized and perishable products which are produced first, then sold and consumed at different places. On the contrary, service firms offer intangible products and are non-perishable in nature wherein most services are produced and consumed at the same place (Valarie and Mary 2003). Moreover, services are actions or performances typically delivered by human by interacting between and among employees and customers (Chu and Chen 2007). These actions performed by interaction between employee and customers are the actual 'products' and satisfy the customer's needs; which makes the performance appraisal more complex and subjective as compared to the manufacturing ones where employees have no direct contact with the customers. N.V Tiger Tyagarajan, CEO Genpact says, "Particularly in our business, the intellectual capital is really the people. The better people you have and the better processes u have in place to develop them, the more chances of a competitive advantage.

Service firms generally solicit feedback from customers and this is taken as input in appraisals and service improvements as well on the others side manufacturing firms seek customer input in terms of product evaluation rather than evaluating the employees. Service firms, while evaluating performance, may focus on 'quantitative outcome criterion' whereas manufacturing firms may focus on 'qualitative process criterion'. Customers are expected to have direct

role in appraisals as much of the performance depends upon customer's perception of evaluation. These theoretical stands have also been supported by below mentioned empirical investigations.

Grund and Sliwka, 2009 study confirmed that appraisal practices are also significantly affected by the type of industry in which firm is involved. Performance appraisals are more often used in financial and corporate services and manufacturing as compared to the construction and agriculture industry. There are also substantial significant differences concerning the impact of appraisals on bonus payments and promotions across industry. More than half of the appraised employees in financial and corporate services receive bonuses based on appraisal results. And in public and private services, promotion decisions are strongly based upon appraisal results. Practices are also further affected by inter-industry job and individual characteristics differences but this review does not include such variables.

Based on assumption that different organisations demand different appraisal system custom to the needs of its functions and processes, Chu and Chen, 2007 collected data from 60 services and manufacturing companies selected out of 1000 top largest companies of Taiwan and reported the differences between appraisal practices of two type of industries. They aimed at locating the differences between different aspects of appraisal system such as purposes of appraisal, criteria and techniques adopted, timings and personnel for evaluation and feedback. Results of the study showed significant differences in the purposes of appraisal and criteria used to evaluate employees. Authors concluded that service industry use appraisal information for taking decisions related to salary and lay-off's whereas manufacturing industry pays more attention to developmental purposes such as assistance in goal identification. While evaluating the employees, service industry employers give more preference to 'outcome' dimensions; on the contrary, manufacturing industry employers seem to be 'process' oriented more. However, no noticeable differences exist in other aspects of appraisal such as appraisal techniques, personnel, timings and feedback communication. This study attempted to examine the relationship between type of industry in which firm operates and performance appraisal practices.

In line with above studies, based upon some theoretical stands, Murphy & Cleveland, 1995 also expected differences between appraisal practices of the firms operating in different types of industries. They also expected customers and clients to play much more direct role in service industry as compared to any other industry. And skills needed to evaluate employees working in service industry are less concrete and evaluations are subjective and process oriented than manufacturing industry where jobs are more structured so evaluations seem to be objective and output oriented.

**OWNERSHIP:** Focusing on type of ownership of the firm, another study compares the functions of performance appraisal systems in private and public sector organisation and explores the differences in the ways in which these systems are implemented. Randomly selected sample of 36 public and 38 private Jordanian organisations were approached to collect the data. In general, recognition of individual performance and performance feedback were the purposes of appraisals preferred in both the sectors. But to drive the significant differences in functions of appraisals in two types of sectors in which firms operate; one way analysis of variance were performed. According to the results, private organisations use appraisal results for taking decision related to 'between-individual comparison' and 'with-in individual comparison' such as determining promotion, termination, transfers, layoff's, identifying training needs etc. on the other hand, public sector organisations are not active and had greater impact on documentation. Public organisations used appraisal information as an obligation in complying with or meeting legal requirements. Concerning the ways in which appraisals are implemented, study found positive relationship between size of the organisation and age of appraisal system i.e. larger the organisation, older the appraisal systems. This study did not report any differences in rest of the dimensions of appraisal process between two types of sector. All surveyed organisations conduct appraisal once a year and appraiser's manager played major role in ratings (Jamal and David 2007).

Sita et. al, 2000 compared performance appraisal practices and management values in foreign and domestic firms within India. To examine the differences in appraisal practices, the firms of analysis were selected by the type of ownership: private investor enterprises, private family owned businesses, public sector firms and foreign/ joint ventures. Authors of this study conducted extensive review of literature to form the hypothesis. The study found significant differences in appraisal practices in terms of discussion of results and use of appraisal for evaluative/developmental purposes. Results show that MNC's or Joint venture firms discuss performance appraisal results more frequently than any other group and MNC's and private investor firms and private family owned firms use appraisal results for evaluative purposes more often than public sector firms. This is due to the fact that private investors, family firms and MNC's face pressure of competition and increasing market share which is not faced by public sector firms. However, private family owned firms use appraisal for evaluative purposes more often than any other group. Even though private family firms are less likely than any other group to discuss appraisal results formally, still use appraisal results for taking decisions related to pay, retention and layoffs in order to retain best performers and dismiss poor performers. Former is due to the fact that MNC's face international competition and have a greater and consistent need for formalisation of human resource management practices in general and performance appraisal practices in particular. Thus due to global experience of MNC's and competition faced by private firms, they recognize and conduct performance appraisal as a tool for gaining competitive advantage than public firms.

Since studies determining the cross-cultural impact on appraisal practices have also been conducted significantly, indicated that western organisations were more likely to provide formal training and use performance appraisal system (for variety of purposes) than Asian firms. This may be further determined by the economic condition and resources available to the firm or country of the firm. And multinational organisations tend to transfer their home country policies (Shaw, et al. 1992).

Country of origin may also influence corporate training activities in turn appraisal activities for employees. It depends upon competitive and economic environment of the firm and country. There may or may not be sufficient budget and forces to invest in employees' training (Chen, Wakabayashi and Takeuchi 2004).

Budhwar and Sparrow, 1998 analysis show that 37% Indian managers believe that there are sector type differences for human resource policies which are guided by regulations and standards specific to a particular sector (industry). For example, public sector firms which still seriously follow time based promotion and increment system. And 10.2% Indian managers think that common strategies, business logic and goals pursued by firms across a particular sector also influence their HRM policies and practices.

**TECHNOLOGY:** Brown and Heywood, 2005 also examined the impact of technology on appraisal and stated that establishments where production is done by team and monitored by machine where results are immediate, for example assembly line production; less likelihood for using performance appraisal system in those circumstances. On contrary, organisations where employees have scope in determining their job responsibilities and potential for increasing their efforts and results are not immediate for example where managers are larger in numbers or service firms, it is more practical to adopt performance appraisal system because worker ability to increase scope, potential and efforts can be used as key performance indicators in appraisal process.

Furthermore, technical environment of the firm affects the relationship between individuals. From the standpoint of technology-structure relationship, technology shapes structure by transforming pattern of interactions and relations of productions. Concerning to appraisal practices, supervisor-subordinate relationship and managers decisions may be taken as intervening variable (Barley 1986). Fry, 1982 reviewed the research examining the impact of technology on functioning of organisation and found technology of the firm influence the interdependence between individuals in turn functioning of the firm. Firms having mediating technology as in Banks would require a lesser degree of interdependence than long linked technologies such as auto assembly line. As technology changes and become complex, interdependence between individuals increases and supervisor rely more on employees who are good at using that complex technology in order to perform. Firms also adopt less formalized and centralized structures with the change in technology in order to achieve interdependent goals. Thus, technical environment of the firm is likely to have several effects on performance appraisal practices.

**HRM DEPARTMENT:** Existence of formal HRM department within the firm may serve as a political force to develop and promote sophisticated HR activities. Firms with an HRM department had more extensive use of internal labour market, offered more types of training and in turn used extensive appraisal system (Pfeffer and Cohen 1984); (Cohen and Pfeffer 1986); (Shaw, et al. 1992); (Budhwar and Khatri 2001)

**HR STRATEGIES AND PRACTICES:** In globalised competitive market environment, where competitors have access to physical and human resources, firms employ various business strategies and human resource policies for gaining competitive advantage. In this dynamic business environment, organisations are functioning with historically different strategies for example growth rather than maintenance of existing profits. And business strategies, in turn, help to determine the human resource policies of the firm. However, in a 2008 survey by Hewitt, 78 percent of companies said their human resource strategies are aligned with



business strategies to some extent, yet just 17 percent reported that same are aligned companywide (People matters 2012). In place, where human resource strategies are aligned with those of business strategies, different business strategies lead to different methods of performance appraisal. Organisational orientation towards performance appraisal in terms of purpose of appraisal (administrative vs. developmental), techniques used for evaluation and feedback communication all depend on the business strategy pursued by the firm.

There are empirical evidence in support of above arguments, determining the relationship between human resource management practices and deployment of appraisal, findings of Brown and Heywood, 2005 study revealed that formal appraisal systems will more likely to have in those firms where benefit exceeds the cost. Benefits of performance appraisal are likely to be greater in those establishments where appraisal results serve as an input for other human resource management practices for say, individual compensation is linked to individual performance. Uses of performance appraisal information such as performance related pay and determining specific training needs may be positively associated with the adoption of appraisal system. In line with above effects, this study revealed that complementary human resource practices such as training and performance related pay are positively associated with the presence of appraisal system. In particular, performance appraisal is more likely to occur in firms those train their employees. Thus above theoretical stand suggests two points that first, as anticipated, firm those have provision of training their employees, are more likely to have performance appraisal for determining training needs. Second presence of training determines the need to evaluate the success of training a greater likelihood of appraisal system to generate substantial benefits. Presence of training in firms provides another reason for being a positive determinant of performance appraisal.

However, another study by (Addison and Belfield 2008) offered a replication in Britain of the above analysis in Australia and found few contradictory findings and presented differences between two datasets. In consistency with above study, authors recognise positive relationship between human resource management practices such as employees training and performance related pay with performance appraisal but do not find any association between size of the firm, human resource training, employees influence over scope/potential of work and performance appraisal.

Performance appraisal is generally seen as a part of an internal labour market (practices of promotion from within) in which firms invest in employees and expect to retain them (Brown and Heywood 2005). However, internal labour markets are also known to be determined by external economic conditions, organisational characteristics such as (for example, size, industry, and administrative intensity, technological change, provision of training) and transaction costs (Pfeffer and Cohen 1984); (Shaw, et al. 1992). An established internal labour market adopts formal approach for taking decisions related to pay, promotion, training and career planning such as based on performance. Thus internal labour market is influenced by various factors stated above (interplay between internal labour market and appraisal features) and decisions related to performance appraisal, being a part of ILM are also known to be affected by. For instance, Performance related pay is implemented in highly structured system (Budhwar and Khatri 2001).

In addition, many forward thinking organisations are developing succession plans and systems to identify high-potentials within the organisations. Performance management system should align people strategy with the business strategy. For example, if the organisation is aware of the fact that it will grow by 20 percent, it needs to find out the people within the organisation who can take on the critical roles. It is important to link the business strategy to the tools used for assessment.

Budhwar & Khatri, 2001 surveyed 230 manufacturing firms in India and Britain to analyse the influence of contextual factors on human resource practices including performance appraisal. While establishing the relationship between human resource strategy and appraisal system in India, study results revealed that Indian firms pursuing a talent acquisition human resource strategy were more likely to adopt performance appraisals to determine specific training needs whereas private sector firms pursuing a cost reduction strategy are less likely to adopt such systems. Thus training may be a positive determinant of use of performance appraisal system. Firms following talent improvement strategy are more likely to be involved in regular employee meeting as a means of communication. On the other hand, firms pursuing cost reduction human resource strategies are also unlikely to organise employee meeting.

**UNIONISATION:** Unionisation has been considered as an important contextual factor affecting human resource practices, in general and appraisal practices, in particular. Trade unions have played a vital role in not only protecting the interests of workers (in terms of salary regulations here) but also maintaining the balance of power equation between workers and employers (Sodhi 1994).

The Australian workplace and industrial relations survey (AWIRS) conducted by Brown and Heywood, 2005 reveals that presence of union will affect the use of performance appraisal for taking pay decisions but other developmental decision may not be resisted. Influences on wages are associated with union density which measures the size of union (proportion of all workers who are the members of union). This study revealed that unions do not play any role in determining the presence or absence of appraisal system. Highly unionized (density) firms are less likely to have performance appraisal system.

Similar findings also have been summarised by (Verma 2005) in his extensive review of literature of union effects on management and HRM policies. With regards to performance appraisals, studies indicated that union firms are less likely to adopt performance appraisal system. Both union and non-union firms were equally likely to use appraisal information for taking developmental decisions such as disciplinary actions and training needs but union firms were less likely to employ appraisal results in administrative decisions such as salary, promotion and layoffs. Unions generally view appraisal systems as subjective processes that serve management purposes. If used in union firms they limit their applicability to developmental decisions only (Ng and Maki 1994).

(Addison and Belfield 2008) Offered replication of above study in Britain and presented contradictory findings with AWIRS, union presence was positively associated with the operation of appraisal system. One possibility for that may be the difference between influences of trade unions of two countries (Brewster 1995). For example, membership base in USA has also been decreasing and trade unions are playing more cooperative and less militant role in UK (Sodhi 1994). On the counterpart, trade unions are still strong in India as compared to Britain and Indian managers feel considerable influence of trade unions on their HRM policies and practices as compared to UK (Budhwar and Sparrow 1998).

Recent examples of strong impact of unions can be cited as when labour unrest took centre stage in 2011 at Bosch and Maruti to name a few amongst others. First it started in March 2011 and again in September 2011, the employees union of Bosch Ltd (MEA, MICO) declared a tool down strike. And for Maruti, the labour unrest, the third in a row in 2011, estimates suggests that Maruti has suffered a production loss of 75,000 units worth Rs 28 billion. (Top-Picks 2011). The strong impact of unions on Indian human resource management practices and institutions on British human resource management practices, in another way, represent the context specific nature (Budhwar and Sparrow 1998).

**STRUCTURAL FACTORS:** (Murphy and Cleveland 1995) and (Fletcher 2001) for instance, highlighted the implications of rapidly changing context of organisations for performance appraisal systems. In past few years, dramatic changes have been seen in the way organisations are structured- flattened, decentralised, greater span of control, less rigid boundaries between functional departments. And changes in the way the organisations functions have also been noted i.e. more emphasis on project-based team work, business strategies, integration of individual and organisational objectives and total quality management. An important change in the functioning may be cited as flexible work shifts or an office away from office. A survey by Regus states that 51 percent of Indian professional are now free from the shackles of their desks other than their company main offices for half a week or more and a global survey conducted by Citrix states that by the end of 2013, 93 percent of organisations will have implemented work shift policies (an office away from office 2012).

Approaching to metrics of performance appraisal in such structures and functions - the opportunity for upward career moves are fewer and infrequent in flattened organisations, team based evaluation may propose a dilemma for within and between-individual comparisons. Thus uses of appraisals are expected to be affected in such organisations those are oriented towards team based evaluation. They examined the impact of these changes in organisational structures and functions on performance appraisal practices in following ways:

**DE/CENTRALISATION:** Decentralisation means delegation of authority to make decisions (Dalton, et al. 1980) which presents possibility for customised human resource policies including performance appraisal. Focusing on decentralisation, (Murphy and Cleveland 1995) suggest that rather than implementing the same appraisal system enforced from corporate headquarters across all sub-units, each unit can develop its own appraisal system tailored to the specific needs of organisation. This ability presented by decentralisation not only can develop independent appraisal system across organisations but also across different functional groups within an organisation as well which helps to make the system efficient and effective. However, breaking an organisation into number of small units may pose barrier for lateral career moves. It may be difficult to maintain long term development of employees in such structures. Here alignment of human resource strategies with organisational strategies is needed to develop employees by transferring them to other units of the parent company.



**HIERARCHY FLAT/TALL:** (Dalton, et al. 1980) and (Murphy and Cleveland 1995) for instance, by their extensive review of literature demonstrate the impact of organisational structure on uses of performance appraisal system. Particularly, they found the impact of organisational structure on employee's career systems. Organisations having relatively flat structure (few hierarchical levels) cannot operate such career systems, where individuals are promoted at higher positions with greater authority and responsibility, which may have substantial effects on performance appraisal. Moreover, in such organisations, career moves are likely to be horizontal rather than vertical (i.e. transfer to another functional area rather than promotion to another level). On the other side, organisations having tall structures (many hierarchical levels) tend to operate career systems more frequently. Such organisations regulate promotion based on merit rather than seniority where information obtained from performance appraisal results tend to serve as basis and are likely to generate greater benefits.

**ADMINISTRATIVE AND SPAN OF CONTROL:** Furthermore, examining the determinants of appraisal system results confirmed that establishments where managers form larger share of workforce, and train their manager in human resource management; are more likely to adopt formal performance appraisal (Brown and Medoff 1989).

Changes in organisational structure and processes had made the use of traditional top down appraisal more difficult. Due to less emphasis on hierarchy and fewer managers, new sources of appraisal information or multi-source feedback have become necessary (Fletcher 2001).

More flattening (few hierarchical levels) structures obviously mean greater span of control (lesser number of managers and supervisor relative to non-supervisory workforce) (Dalton, et al. 1980); managers in such corporations are expected to be pressurised to evaluate larger number of subordinates. They may not find an opportunity to observe all the subordinates (Judge and Ferris 1993) or even they may not feel motivated in conducting appraisals, which is likely to have substantial effects on appraisal process and outcome.

**COMPLEXITY AND FORMALISATION / SPECIALISATION:** Cleveland et. al., 1989 surveyed 106 organisations to examine the ways in which structural characteristics of organisation influence the uses of performance appraisal system. By review of literature they developed a comprehensive list of twenty separate uses of appraisal information defined in four groups and ten structural characteristics of organisation. The study results revealed the relationship between structural characteristics of organisations and the way in which appraisal information is used for two of four purposes. Organisations with low complexity (have few departments/sub units) and high coordination (employees work closely) are more likely to use appraisal results for within individual comparison and system maintenance. Focus of such organisations than others may be developing employees in order to obtain broad range of technical and interpersonal skills. This study also represents the need for more research on organisations correlates of performance appraisal systems.

**ENVIRONMENTAL FACTORS:** Since, little empirical researches have directly addressed the relationship between contextual factors and performance appraisal system. Murphy & Cleveland, 1995 by their extensive review of empirical and non-empirical literature from organisational behaviour and industrial psychology; documented the effects of organisational intra and extra environmental factors on performance appraisal practices. They noted that 'context' refers to the various diverse set of factors classified into proximal and distal factors. Proximal context factors comprise purpose of appraisal, organisational policies regarding training, employee communication and feedback. And distal contextual factors take account of economic environment, political/legal environment, technological environment, societal values and physical environment in which organisation exists represent the internal and external environment of the firm (Katz and Kahn 1978) in Murphy et al., 1995. Their study was majorly concentrated on external environmental aspect of the firm. They suggested the following ways in which environment might affect different aspects of appraisal system. These different aspects of performance appraisal process and outcome are; performance standards, performance dimensions, appraisal frequency, supervisor-subordinate relationship, consequences of rating and legitimacy of appraisal.

**ECONOMIC:** Concerning to economic condition, performance standards, performance dimensions, supervisor-subordinate relationship and consequences of appraisal are predicted to be strongly influenced by economic environment whereas frequency of appraisal and legitimacy are moderately affected by economic environment of the firm in which appraisal occurs. Performance standards and dimensions are expected to set differently during economic downturn as compared to economic growth and stability. When economic environment is not in favour of firm then there is more likelihood of using appraisal frequently in order to take administrative (salary, layoffs) and development decisions (to develop poor performers). And supervisor-subordinate relationships become closer because in adverse economic situations supervisor may be under pressure to increase the output which in turn increases his dependency on subordinates. Where management may be more interested in using appraisal to take decisions related to salary, promotion and layoffs during unfavourable economic conditions on other side management may feel strong resistance (legitimacy) from employees for using appraisal because poor performers may be adversely affected by low appraisal rating.

**LEGAL:** Development and use of firm's performance appraisal system is also known to be strongly affected by the legal environment of the country in which the firm operates. Certain federal guidelines concerning appraisal practices are cited in order to safeguard employees from indiscriminate in turn to make appraisal system legal and effective. These guidelines may be related to performance standards, performance dimensions, evaluation techniques used, frequency, uses of appraisal, evaluators used and provided training with, reliable information provided to ratee (Feild and Holley 1982).

Establishing the link between legal environment of the firm and appraisal system, (Murphy and Cleveland 1995) expected that legal system is expected to have moderate effect on performance standards, dimensions and frequency but consequences and legitimacy of appraisal are known to be strongly affected by legal environment of the firm. A legal system which strongly mandates the evaluation of employees will also support the linkage between appraisal and rewards. If legal system accepts the principal of appraisal still legitimacy of appraisal is the major concern to ensure that whether employees are protected against indiscriminate. Organisations generally conduct yearly appraisal but in case legal system regulate strong link between appraisal and administrative decisions then it is likely to strongly affect the frequency of appraisal.

Additionally, Cleveland et. al., 1989 supported the above association by surveying 106 organisations to determine the extent to which organisations use performance appraisal for taking various decisions. They prepared a list of performance appraisal uses and factored the in four groups. One of the four factors was labelled as 'documentation' which referred to use of appraisal results to comply with legal guidelines and justify personnel decisions. The survey results showed that information obtained from appraisal is used frequently for documenting personnel decisions and meeting legal requirements.

**TECHNICAL:** Furthermore technical environment of the firm have strong effect on performance standards, dimensions, supervisor-subordinate relationship and legitimacy whereas frequency and consequences are weakly affected by. A company which is not technologically sophisticated might try to increase the productivity by setting up high standards (for eg assembly line production) and reverse may be when organisation is technologically running behind the time. The importance of performance dimensions whether technical oriented or behavioural oriented may vary across industries and job status. As the technology becomes complex, supervisor might become out-dated which in turn increases his dependency on subordinate especially when the supervisor may not be able to use new technology such as computers, computerized machines and equipment's operated by subordinates. So, supervisor-subordinate relationship is expected to be strongly affected by level of technology. Technical environment is expected to have weak influence on frequency and consequences of appraisal. Where supervisor is not familiar with technology, might be expected to avoid doing appraisal and may be less able / willing to distinguish between good and poor performers.

Scholars have consistently emphasized the importance of studying changing context of performance management. Also, reported the Impact of new technology and legal implications that the use of certain appraisal practices may have, are major areas of research interest (Hartog, Boselie and Paauwe 2004). For example, work from home flexibility is the result of changing structures and technology. A recent survey conducted by Times Ascent reported that 51% employees are working from their home. Providing flexibility of work from home to employees may pose challenge for employers to monitor few aspects of performance and have implication for performance appraisal (Ascent 2012).

**PHYSICAL:** To a larger extent similar kind of mechanism is predicted as in economic conditions, while evaluating the influence of physical environment in terms of supervisor-subordinate relationship, consequences and frequency of appraisal. Nevertheless, performance standards and dimensions are likely to be strongly affected by physical environment of the firm. When physical resources are scarce or very costly it may be necessary to adjust performance standards downward. And in such environment, efficient worker might get favourable rating than productive worker because the one who conserves resources but produces less will be appreciated more. Reverse might be the case when resources are easily available on cheap prices (Murphy and Cleveland 1995). Thus the importance of dimensions such as efficiency and productivity depends upon availability of resources.

**SOCIETAL:** Society is expected to have strong influence on performance standards and legitimacy whereas dimension, relationship and consequences are expected to be moderately influenced by. A society where competition and accomplishment is more prominent, organisations in such society might set higher performance standards as compared to a society which lay more emphasis on satisfaction. Ouchi, 1981 compared American and Japanese enterprises and found that American enterprises put more emphasis on personal performance, whereas Japanese enterprises emphasise more on ability to perform within group. So, importance of performance dimensions may vary across societal norms and values. He also found that Japanese enterprises follow life-time employment, implicit control mechanism, and slow evaluation and promotion in contrast to American organisations those follow short-term employment, rapid evaluation and promotion and explicit control mechanism (Mroczkowski 1983). These different kinds of norms may have different implications on performance appraisal practices. Societal values are also likely to determine the extent of consequences; whether these values support the linkage between appraisal rating and rewards or punishment, whether appraisal process and results are accepted by that society.

Further, (Budhwar and Khatri 2001) also noted strong influence of economic, political, social, legal and physical environment on firm's human resource practices in India. For example, some firms do not adhere the rules for taking decisions related to; selection, promotion, layoffs and are therefore easily manipulated by the employer. Selection and promotion decision are influenced by social and political interference, lack of training may be due to deficiency of financial or ample physical resources available within the firm or human resource strategy and layoff, retrenchments and firing of employees are not based on performance appraisal due to weak enforcement of the legislation.

## CONCLUSION AND DIRECTION FOR FUTURE RESEARCH

Performance appraisal is one of the important human resource practices. It is a mechanism which helps employer to monitor and control the performance of employee and through which employee can view their past performance. Despite that information obtained from appraisals serve a wide range of administrative and development purposes. Human resource practices are not 'universal' but are 'context-specific' so 'socially' constructed in each society (Brewster 1995). Performance appraisal being an important human resource management function is also determined by the context. Major reviews of appraisal (Bretz, Milkovich and Read 1992); (Murphy and Cleveland 1995); (Levy and Williams 2004); (Grund and Sliwka 2009) have consistently acknowledged the importance of context within which the appraisals are conducted. They also point out the criticality of the context in which appraisals occur in determining the effectiveness of such systems.

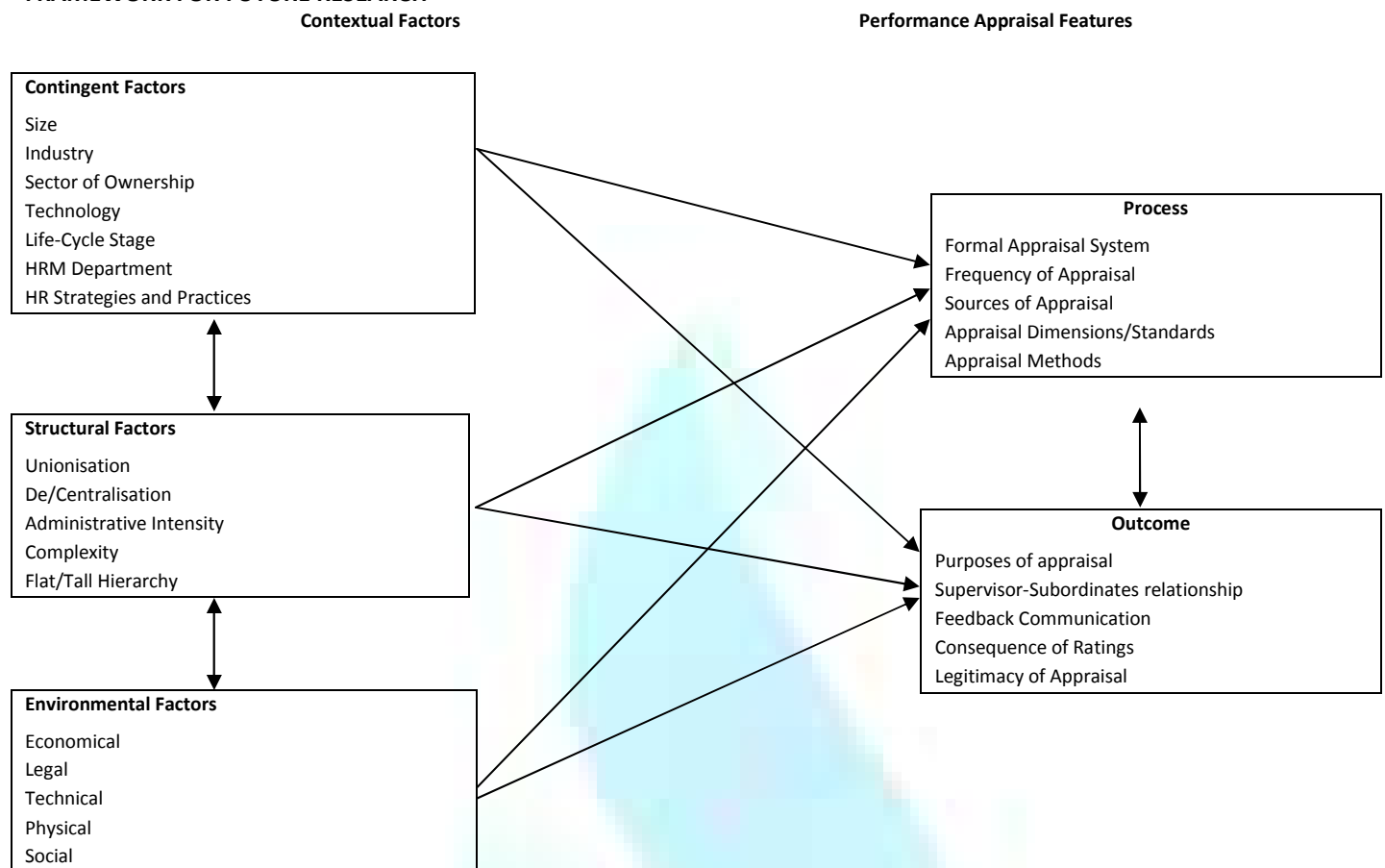
Although, the organisational context is viewed as important by these authors still less research have been conducted from this perspective. Major attention has given to the topics such as psychometric properties and scale development. There is a little research on organisational differences in appraisal process and outcomes, few researchers have investigated the influence of the organisational context within which appraisals are conducted and utilized. And all of these exceptional studies stated in this review examined limited number of variables, does not include all the contextual variables. In this study, authors suggest to approach performance appraisal from a wider contextual perspective to analyse the influence of a large set of organisational and environmental factors and evaluate the differences in performance appraisal practices in particular.

This review suggests a significant relationship between a number of contingent variables and performance appraisal process/matrix. However, the degree and nature of influence on appraisal process and outcome may vary. Further research should be conducted to confirm this. This review identified that a little research has focussed Indian industries to determine the characteristics of those employers operating formal appraisal system and the ways in which performance appraisal process and outcome is affected by different factors (Budhwar and Khatri 2001) and (Sita, et al. 2000). Most of the studies available have been conducted in western organisations. Researches examining contextual influence on human resource practices in Indian industries have been conducted considerably. So, this review directs the avenue for future investigations into the influence of intra and extra organisational factors on performance appraisal practices in Indian industries.

For practitioners, this study should help to clarify the current state of performance appraisal in Indian industry. Moreover, it should have implications for developing performance appraisal in Indian Industry tailored to the need of functions and processes of organisation. In theory this information should contribute to increase the effectiveness of appraisal in organisations. Particularly, these findings have implications for researchers that seek to demonstrate a link between performance appraisal and organisational performance. The present review demonstrates that there are definite patterns in the characteristics of establishments that adopt such systems. It would then be useful to test whether performance appraisal in such establishments are more effective in influencing productivity than in establishments with fewer characteristics conducive to this form of performance monitoring.

This paper reviews structural, contingent and environment variables hence does not include individual characteristics and job characteristics affecting appraisal system.

## FRAMEWORK FOR FUTURE RESEARCH



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## E-LEARNING INITIATIVES TO AUGMENT BUSINESS PERFORMANCE: AN EMPIRICAL STUDY OF SELECT AUTO COMPONENT FIRMS

**DR. AISHA M. SHERIFF**

**PROFESSOR**

**DEPARTMENT OF STUDIES IN BUSINESS ADMINISTRATION**

**UNIVERSITY OF MYSORE**

**MYSORE**

**GEETHA R**

**ASST. PROFESSOR**

**MBA DEPARTMENT**

**RJS INSTITUTE OF MANAGEMENT STUDIES**

**BANGALORE**

### ABSTRACT

*E-learning is a most widely acknowledged concept that has evolved as an outcome of the Integration of Information and Communication Technology (ICT) with the training and developmental practices of business organizations. E-learning fosters computer aided and network enabled transfer of knowledge and skills to the workforce so as to cater to their diverse needs in alignment with the fulfillment of organizational goals. There are thousands of Computer Based Learning (CBL) and Web Based Learning (WBL) techniques and software applications available online as well as off-line. The most extensively used of them are Learning Management System (LMS), Authoring tools, Interactive Communication Tools, Content Management systems (CMS), groupware, office suite, mind-mapping tools, project scheduling tools, slide shows, webinars, web-conferences, multimedia elements and simulations. This empirical paper examines the effectiveness of various E-learning tools and techniques used in auto-component industry in order to enhance the job related skills and competencies of their workforce. An attempt was also made to investigate and find out whether the massive investments made on e-learning applications in auto-component firms facilitate in augmenting their business performance by reducing the cost of training and the task-time.*

### KEYWORDS

e-learning initiatives, Technology Driven Learning (TDL), Computer Based Learning (CBL), Web Based Learning (WBL).

### I. INTRODUCTION

Hafele and Maier-Hafele (2001) have defined e-Learning as a term used for different kinds of software supported learning; and Median (2003) perceives e-learning as all forms of computer aided learning. These perceptions about e-learning are narrow in approach since they are only highlighting Computer-Based Learning (CBL) and do not describe Web Based Learning (WBL) techniques. However Rosenberg (2001) mentions that e-learning is internet technology based and networked form of learning which transcends the general concepts and traditional paradigms of learning.

Susan Codone, et al (2001) define e-learning as any type of learning delivered electronically. They mention that it can encompass learning products delivered by computer, intranet, internet, Satellite, or other remote technologies. Brandon Hall, a noted e-learning researcher, defines e-learning as "instruction delivered electronically wholly by a web browser, through the Internet or an intranet, or through CD-ROM or DVD multimedia platforms."

By summarizing the above concepts, e-learning in organizations can be comprehensively defined as –"the acquisition (by the workforce) of task-oriented knowledge, skills, abilities and behavioral guidance, provided by the organizations with the aid of electronic and web technology driven tools and techniques for effective accomplishment of the predetermined goals of business organizations."

Technology has permeated in all spheres of human activities. Likewise it has made a remarkable breakthrough in the sphere of Training and learning as well. Realizing the significance and potential of e-learning tools and applications, business organizations of late are investing massively on Technology Driven Learning (TDL).

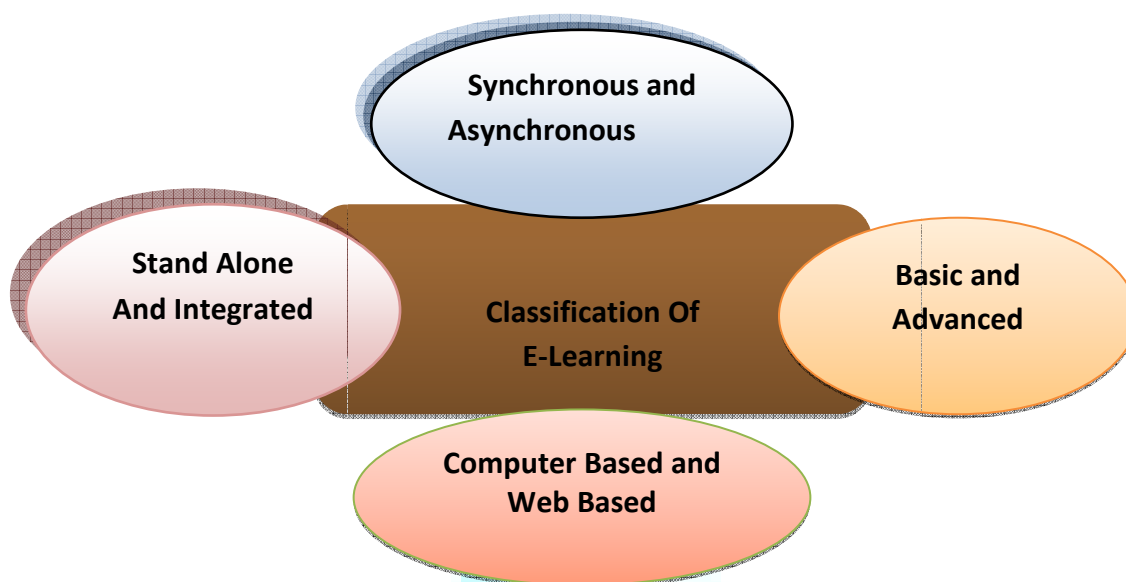
There are thousands of Technology Driven Learning tools. They may be either Computer Based Learning (CBL) or Web Based Learning (WBL) techniques or software applications which are available online as well as off-line. The most extensively used of them are Learning Management System (LMS), Authoring tools, interactive communication tools, Content Management systems (CMS), groupware, office suite, mind-mapping tools, project scheduling tools, slide shows, webinars, web-conferences, multimedia elements and simulations.

Some of the smaller organizations use TDL tools as standalone applications for facilitating quick and cost-effective learning for their workforce while the larger organizations have integrated their learning programmes with other HR activities by incorporating them with integrated software packages like SAP, People Soft and other similar ones.

### CLASSIFICATION OF E-LEARNING TOOLS

Based on the complexity and methodology of knowledge acquisition e-learning can be broadly classified into four categories namely:

FIGURE 1: CLASSIFICATION OF E-LEARNING TOOLS

**1. Synchronous and Asynchronous e-Learning**

Synchronous learning tools include all those tools which require the presence of learners at the time when instructions are delivered or at the time when training is imparted.

Asynchronous learning on the other hand occurs when a learner takes an online course in which he/she completes events at different times, and when communication occurs via time-delayed medium like email or in discussion list postings.

**2. Basic and Advanced E-learning**

The e-learning tools may be simple and basic tools like MS office tools or they may be highly advanced tools like Learning Management System, Authoring tools, Content Management System, groupware, Mind mapping suites and others.

**3. Computer Based and Web Based E-Learning**

Computer Based Learning abbreviated as CBL refers to Learning facilitated by the use of computers in a more structured environment. CBL encourages collaborative learning. It includes DVDs, CD-ROM, Learning Management System, Authoring Tools and other software applications

Web Based Learning (WBL) on the other hand includes all types of learning that takes place with the aid of World Wide Web and intranet facilities. It includes web 2.0 applications like blogs, podcasts, wikis, Social Networking Sites (SSNs), webinars, online audio and video conferences, emails, groupware and the like.

**4. Standalone and Integrated/Blended e-learning**

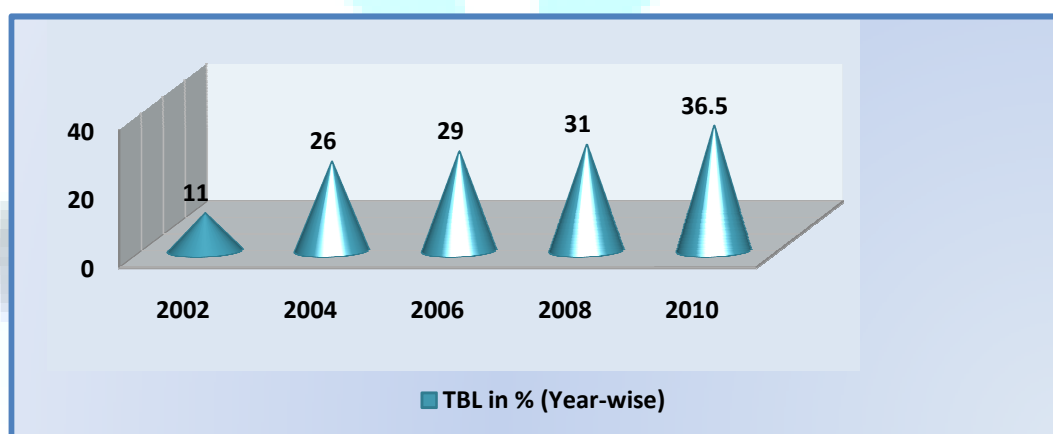
When synchronous, asynchronous, CBL or WBL learning tools are used in isolation then such form of learning is known as standalone e-learning.

On the other hand when two or more of the above learning techniques are blended in conjunction with each other to make learning a more fascinating and interesting experience then it is known as integrated or blended e-Learning. Some of the integrated e-learning tools are developed by People Soft, SAP, etc.

**STATISTICAL DATA PERTAINING TO E-LEARNING**

According to the reports of American Society for Training and Development (ASTD) published in the year 2011, Technology Based Learning (TBL) has augmented from a mere 11 % in the year 2002 to 36.5 % in 2010 in all the major industries across the globe. Figure (2) indicates the year wise increase in the use of e-learning techniques in major sectors across the world. In 2004, TBL increased from 11 to 26 percent. Subsequently in 2006 and 2008 it increased to 29% and 31% respectively.

FIGURE 2: LONGITUDINAL TRENDS IN TECHNOLOGY BASED LEARNING



Source: ASTD Report on the State of Major Industries for 2011 (EBSCO)

The above statistical data indicates the growing significance of e-Learning in business organizations. The TDL tools are used at all levels of employment right from the executive to the shop floor level in order to augment the business performance. The complexity of courseware will invariably differ across the levels. For managerial and executive level, advanced learning tools like - LMS and authoring tools will be incorporated while for shop floor level basic tools like power point, excel spread sheets, videos and graphical depictions will be used. Most of the organizations use both instructional techniques in addition to e-learning applications for achieving effective outcomes.

## II. REVIEW OF LITERATURE

Meta analytical literature survey technique was adopted in order to form a basis for the justification of the present study. The research premise was developed after scouting through various research papers and analyzing the earlier reports and articles relevant to the e-learning practices in organizations. Literature survey helped in identifying the research gap and variables for the present study. Some of the reviews are presented below:

**D. R Garrison & T. Anderson (2003)** – in their book on “e-Learning in 21<sup>st</sup> Century a Framework for Research and Practice” published for Open University it Nederland provide the foundational understanding of e-learning by investigating into its unique potential to support constructive communities of inquiry consistent with the long-held ideals of higher education. They provide a coherent perspective by demonstrating e-learning in an inclusive manner. They define e-learning as networked on-line learning that takes place in a formal context and incorporating a range of multimedia technologies to support asynchronous learning in a collaborative manner. The scope of their study confines e-learning to higher education and it does not include the role of e-learning in manufacturing industry.

**Jorge G. Ruiz, MD, Michael J. Mintzer, MD, et al (2006)** in their empirical paper on the –“The impact of e-Learning in Medical Education”, the authors provide an introduction to e-learning and its impact on medical education. They say that e-learning components play a vital role in enhancing the faculty competencies and performance. They indicate that e-learning is a complement to the instructional learning and it enables learners to control content, sequence, pace of learning, time and the media used for learning. E-learning repositories or digital libraries constitute the major part of e-learning resources in medical education. E-learning is providing greater research opportunities to medical faculty and it is also transforming their role from instructors to facilitators and assessors or evaluators. They also feel that e-learning can lead to the standardization of learning content.

**Margaret Discol (2001)** – in her article on “Blended learning: Let's get beyond the Hype” says that blended learning includes a combination of four concepts of learning techniques namely-web-based technology (e.g., live virtual classroom, self-paced instruction, learning, streaming video, audio, and text), pedagogical approaches (e.g., constructivism, behaviourism, cognitive, instructional technology (e.g., videotape, CD-ROM, web-based training, film) with face-to-face instructor-led training and instructional technology with actual job tasks in order to create a harmonious effect of learning and working. She quotes online assessments, online information references, posting of online threads and discussions after training session to keep trainees connected, pre-work and office hours online, e-mailing and messaging, seeking expert help online, online counselling and mentoring, electronic job aids, etc. as examples of blended learning techniques. This article discusses on various forms of blended learning practices which can be classified as e-learning.

**Natalie T. Wood, Michael R. Solomon, and David Allan (2008)**: These authors in their article on –“Welcome to the Matrix: E-Learning Gets a Second Life” conceptually explore the use of virtual worlds as a pedagogical tool for marketing educators. They opine that the advantages and disadvantages of teaching through e-tools can enrich the marketing curriculum for students.

**Razak Raj (2010)** in his conceptual paper on –“Evaluation of Online Learning Systems in Higher Education” discusses about the challenges involved in developing e-learning in higher educational institutions. According to him technology will essentially bring about a great need for fully automated learning environments whereby management planning and everyday administration will be the domain of the technicians and universities should equip to build the infrastructure required to implement e-learning.

**Rosenberg, Marc Jeffrey (2001)** in his book on- “E-Learning: Strategies for delivering knowledge in the Digital Age” points out that training is a default approach used for facilitating employee learning and for improving their performance by supporting learners' to acquire new skills or utilize new knowledge in a specific level of proficiency, within a specific time frame for a specific purpose.

He further mentions that organizations no longer look for volume of learning but what they actually look for is the Auditability of learning outcomes in the form of saved downtime, quickened pace of learning, freshness and relevance of the learning content, reduced costs and so on. According to him organizations basically integrate e-learning tools and techniques for three main purposes and they are- instruction delivery, information/knowledge delivery and for employee performance support. The focus and scope of this book is centered on the application of E-tools for the three purposes mentioned above. It also discusses about both intrinsic and extrinsic support offered by e-tools.

**Ruth C. Clark & Richard E. Mayer (2011)** in their book on-“e-Learning and the Science of Instruction: Proven Guidelines for Consumers” have made an attempt to identify both the potential and pitfalls of digital learning. They have explored and identified the standards for e-learning design by examining and applying research on how people learn using psychology as a basis. The authors address the best ways to use text, graphics and audio to maximize learning experience. They also point out how an interesting story hurts learning and how collaborative internet tools can be used for maximizing learning benefits. They have focused the attention on learner and highlight techniques that can help them to succeed.

**Tsvetozar Georgiev, Evgenia Georgieva & Angel Smrikarov (2004)** – in their paper on “M-Learning - a New Stage of E-Learning”, presented in International Conference on Computer Systems and Technologies - CompSysTech'2004 indicate that, Distance learning, electronic learning and mobile learning offer methods, which decrease the limitations of traditional education. This paper discusses the existing devices and technologies appropriate to realise mobile learning. Mobile learning as new stage of distance and e-learning is also examined by the authors. They have incorporated different dimensions of e-learning like- the distance learning, electronic learning and mobile learning with special focus and emphasis on mobile learning. However, the outcomes of e-learning and the metrics used to assess their effectiveness have not been dealt within their work.

**Zeying Wan, Deborah Campeau, and Nicole Haggerty (2012)** in their research paper on “The Effects of Self-Regulated Learning Processes on E-Learning Outcomes in Organizational Settings” focus on employees' e-learning processes during online job training. They have proposed personal versus social learning strategies and have developed measurement scales. Their findings reveal that the learners adopt different self-regulated learning strategies which yield different e-learning outcomes. They further indicate that learning strategies employed by learners would be influenced by factors such as the virtual learning competence, goal orientation, intellectual demand and cooperative norms. Their study facilitates e-learners to obtain deeper insights on learning outcomes and provides valid information to organizations on the effectiveness of e-learning.

Meta-analysis of several secondary sources of literature in addition to the above reviews clearly indicates that there is no adequate literature to substantiate the need for huge investments on e-learning technology in auto-component industry. Though, there are innumerable articles and research papers justifying the need for e-learning practices in education sector they too have failed to quantify the outcomes of e-Learning. Considering the gaps in the literature reviewed the following objectives have been identified for the contemporary research

## III. THE RATIONALE AND NEED FOR THE STUDY

There is a need to justify the rationale behind massive investments on e-learning tools and techniques in organizations. When it comes to e-learning, auto-component industry can be said to be in the nascent phase since it is slowly transcending beyond traditional instructional techniques to e-training and e-learning techniques. However some of the tier-1 firms which are large in size with more than 2000 employees like- Sundarm Motors, Bosch, Ingersoll Rand, 3 M technologies, Automotive Axles, etc. have been using it for quite a few years now and they perceive E-learning techniques to be highly beneficial to business organizations. Hence the present study was undertaken to justify whether the investments on e-technology by auto-component firms enhance the skills and competencies of workforce which in turn will facilitate in the augmentation of business productivity and performance.

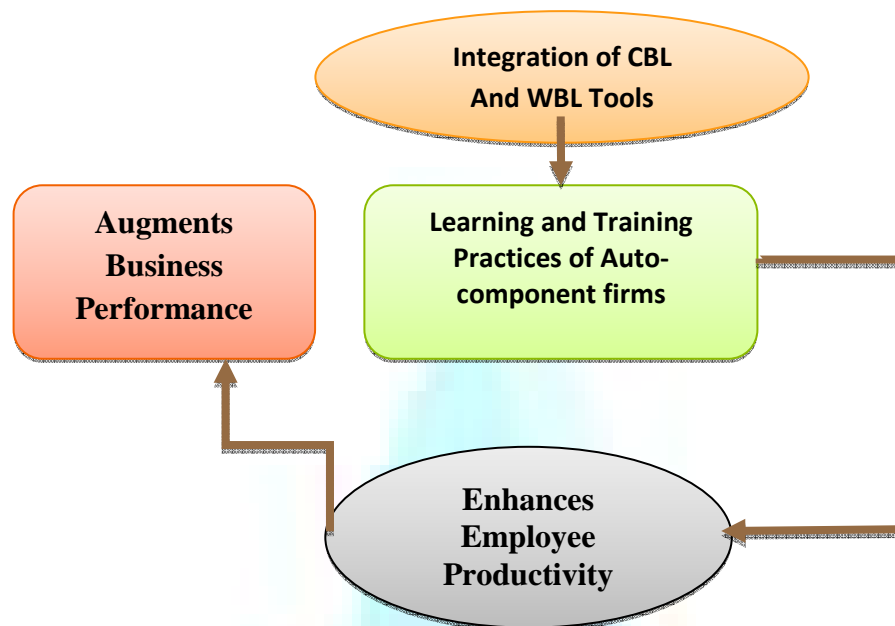
## IV. STATEMENT OF THE PROBLEM /RESEARCH PREMISE

Through the present study an effort is made to address the following research questions:

1. What are the beneficial outcomes of e-learning initiatives of auto-component firms?
2. How are e-learning outcomes facilitating the augmentation of their business performance?

The model given below indicates the research framework developed for the current research.

FIGURE 3: RESEARCH FRAMEWORK



The research framework shown in figure (3) indicates that integration of e-Learning tools with the learning practices of auto-component firms enhances the productivity of workforce since they help in improving the job-related skills and competencies of the workforce and also keeps them highly motivated and engaged with their work. This in turn is perceived to enhance the productivity and performance of the firms.

Worldwide, e-learning industry is estimated to be worth over \$48 billion according to conservative estimates. This is obvious since we are witnessing that the business organizations across the globe are investing massively on the purchase of e-learning technology hoping that it would enhance their profits by increasing the job related skills competencies and proficiency of their workforce. They also believe that effective learning can lead to innumerable benefits like-positive change in the attitude and behavior of the workforce, employee motivation, employee engagement, retention, talent management, reduced absenteeism and lower rates of attrition.

## V. OBJECTIVES OF THE STUDY

1. To examine the various e-learning initiatives of auto component firms.
2. To assess the effectiveness of e-learning initiatives of auto component firms
3. To analyze the role of various outcomes of e-Learning in augmenting business performance.

## VI. HYPOTHESES

It was intended to test the following hypotheses through this research:

**Hypothesis1:**  $H_0$ : e-Learning practices do not reduce the training expenses

$H_a$ : e-Learning practices reduce the training expenses

**Hypothesis2:**  $H_0$ : e-Learning practices do not reduce employee task-time

$H_a$ : e-Learning reduces employee task-time

**Hypothesis3:**  $H_0$ : e-Learning does not augment productivity

$H_a$ : e-Learning augments productivity

## VII. RESEARCH METHODOLOGY

### RESEARCH DESIGN

The study is an evaluative and diagnostic attempt to discover empirically the nature of relationship between e-learning practices and reduction in cost of training and the task time. In order to gain clear insights into the applications of e-learning tools and techniques in auto component firms and to investigate into their beneficial outcomes both descriptive and exploratory research designs were adopted. Qualitative and quantitative data were collected so as to understand the implications of e-learning on the productivity and performance of auto component firms.

### DATA COLLECTION

#### PRIMARY DATA

Questionnaire and Personal Interview techniques were used as research instruments to gather primary data for the study. A highly structured questionnaire with questions soliciting both qualitative and quantitative data was used for the research purpose.

**Mathematical and Statistical Tools Employed:** Frequency distribution tables, descriptive statistics, crosstabulation, percentage analysis, standard deviation and Pearson's correlation and hypothesis testing tools were employed to test the hypothesis.

#### SAMPLING PLAN AND SIZE

Around 110 HR managers were identified and chosen as the respondents from forty four select auto component firms which are mostly suppliers to some of the Leading Original Equipment Makers (OEMs) for the present study. This is indicated in **Table-6.1** below.



TABLE-I: COMPANY-WISE DISTRIBUTION OF THE RESPONDENTS

S No.	List of Select Auto-Component Firms	No of Respondents	Percent	Valid Percent	Cumulative Percent
1	3M India Ltd.	3	2.7	2.7	2.7
2	Aditya Auto Products& Eng.pvt.Ltd.	2	1.8	1.8	4.5
3	Automotive Axles	4	3.6	3.6	8.2
4	BEML Ltd.	4	3.6	3.6	11.8
5	Bill Forge Pvt. Ltd.	3	2.7	2.7	14.5
6	Bosch	5	4.5	4.5	19.1
7	Bright Auto Plast Ltd.	1	.9	.9	20.0
8	CIPSA-Tect pvt. Ltd.	2	1.8	1.8	21.8
9	DNKI	3	2.7	2.7	24.5
10	Dynamatic Technology Ltd.	2	1.8	1.8	26.4
11	Exide Industries Ltd.	3	2.7	2.7	29.1
12	Federal Mogul India	2	1.8	1.8	30.9
13	Gear Rock Forge Pvt. Ltd.	2	1.8	1.8	32.7
14	GI Auto Pvt. Ltd.	1	.9	.9	33.6
15	Hanil Tube India Pvt. Ltd	1	.9	.9	34.5
16	Harita NTI Ltd.	3	2.7	2.7	37.3
17	Hyundai Mobis India Ltd	2	1.8	1.8	39.1
18	IFB Indian Fine Banks	3	2.7	2.7	41.8
19	Ingersoll Rand	3	2.7	2.7	44.5
20	Kailash Vahan Udyog Ltd.	2	1.8	1.8	46.4
21	Kar Mobiles Ltd.	2	1.8	1.8	48.2
22	Kirloskar Electric Co .Ltd.	3	2.7	2.7	50.9
23	KTTMPL	4	3.6	3.6	54.5
24	Max Preci Pvt. Ltd.	1	.9	.9	55.5
25	Rane Madras Ltd.	3	2.7	2.7	58.2
26	Sandhar Components -Unit1 Attibele	3	2.7	2.7	60.9
27	Sansera Engg. pvt. Ltd.	3	2.7	2.7	63.6
28	SKF	2	1.8	1.8	65.5
29	Stumpp Schuele & Somappa Springs Pvt.Ltd.	1	.9	.9	66.4
30	Sundaram Motors pvt. Ltd.	3	2.7	2.7	69.1
31	Suprajit Engineering Ltd.	2	1.8	1.8	70.9
32	Synthesis Winding TPL	2	1.8	1.8	72.7
33	TAFE	2	1.8	1.8	74.5
34	Tagutec Ind. pvt. Ltd.	2	1.8	1.8	76.4
35	Tata Yazaki Auto Comp Ltd.	2	1.8	1.8	78.2
36	Tenneco Automotive	3	2.7	2.7	80.9
37	TKAP	3	2.7	2.7	83.6
38	Toyota Boshoko Automotive India PLt	3	2.7	2.7	86.4
39	Triton Valves Ltd.	4	3.6	3.6	90.0
40	Triveni Turbine Ltd.	3	2.7	2.7	92.7
41	TTP Technologies Pvt. Ltd.	2	1.8	1.8	94.5
42	TVS Motor Co Ltd	3	2.7	2.7	97.3
43	VMPL,Vijaydwada	1	.9	.9	98.2
44	Volvo CE	2	1.8	1.8	100.0
	Total	110	100.0	100.0	

**Table-I** shows the classification of the respondents based on the size of the auto-component firms; Firms employing less than 300 employees were classified as small firms, those employing more than 300 and less than 2000 were grouped as medium firms' and companies employing more than 2000 workforce were considered as large firms. Out of 110 respondents identified for the study 53.6 percent belonged to the medium sized firms employing more than 300 but less than 2000 employees. Another 24.5 percent of them belonged to the small firms with less than 300 employees and remaining 21.8 percent of them were from large firms with a workforce of more than 2000.

TABLE-II: DISTRIBUTION OF RESPONDENTS BY THE SIZE OF THE FIRMS

Size of the Company					
Size	No. of Respondents	Percent	Valid Percent	Cumulative Percent	
Valid Small	27	24.5	24.5	24.5	
Medium	59	53.6	53.6	78.2	
Large	24	21.8	21.8	100.0	
Total	110	100.0	100.0		

TABLE-III: DISTRIBUTION OF RESPONDENTS BASED ON FIRM-LEVEL

Level of the Firm					
Firm Level	No. of Respondents	Percent	Valid Percent	Cumulative Percent	
Valid Tier-1	68	61.8	61.8	61.8	
Tier-2	20	18.2	18.2	80.0	
Tier-3 and Ancillaries	22	20.0	20.0	100.0	
Total	110	100.0	100.0		

**Table-III** indicates the distribution of respondents by the level of firms. Majority of the respondents that is about 61.8 percent were from Tier-1 firms which supply components to Original Equipment Makers. Around 18.2 percent of them were from Tier-2 firms, which supply components/accessories to Tier-1 firms and remaining 20 percent of them belonged to tier-3 firms and ancillary units. Tier-3 firms include all those firms which supply components or accessories to tier-2 firms and ancillary units are the sister concerns of Original Equipment Makers (OEMs). If Tier-3 firms are supplying to both Tier-1 and Tier-2 firms then they are

classified as Tier-2 or Tier-3 based on their volume of transaction. If the volume of transactions is more with Tier-1 than with Tier-2, then they are classified as Tier-2 otherwise they will be included under Tier-3 level.

### VIII. RESULTS AND DISCUSSION ON E-LEARNING TRENDS AND INITIATIVES OF AUTO-COMPONENTS INDUSTRY

The global auto components industry is estimated at US\$1.2 trillion. The Indian auto component sector has been growing at 20% per annum since 2000 and is projected to maintain the high-growth phase of 15-20% till 2015 (Dun & Bradstreet India report). Auto component industry is growing in size and magnitude at such a faster pace in India. It has become imperative for HR practitioners of this industry to embrace advanced technological tools to build the skills and competencies of their workforce so as to meet the global standards and requirements. This can be achieved by incorporating e-learning techniques in their regular training sessions. Most of the auto component firms in India have purchased integrated e-learning modules through SAP or People Soft. Some of them are still reclining to either the traditional instructional teaching techniques or using some standalone software applications for training their employees. Some of the e-learning initiatives of Auto-Component Firms are discussed below.

TABLE-IV: FREQUENCIES OF FIRMS EMPLOYING E-LEARNING PRACTICES

Level of Firm * E-Learning Practices Crosstabulation	E-Learning Practices		Total
	Not Employed	Employed	
Tier-1	3	65	68
Tier-2	0	20	20
Tier-3 and Ancillaries	6	16	22
Total	9	101	110

From Table-IV and Figure(4), it is clearly evident that almost out of 110 respondents 101 of them have expressed that their firms are using one or the other forms of e-learning applications and a mere 9 of them have mentioned that their firms are not employing any form of e-learning and these were mostly Tier-3 or Tier-1 firms. They were found to be using traditional instructional methods in their learning process

FIGURE 4: NUMBER OF FIRMS ADOPTING E-LEARNING

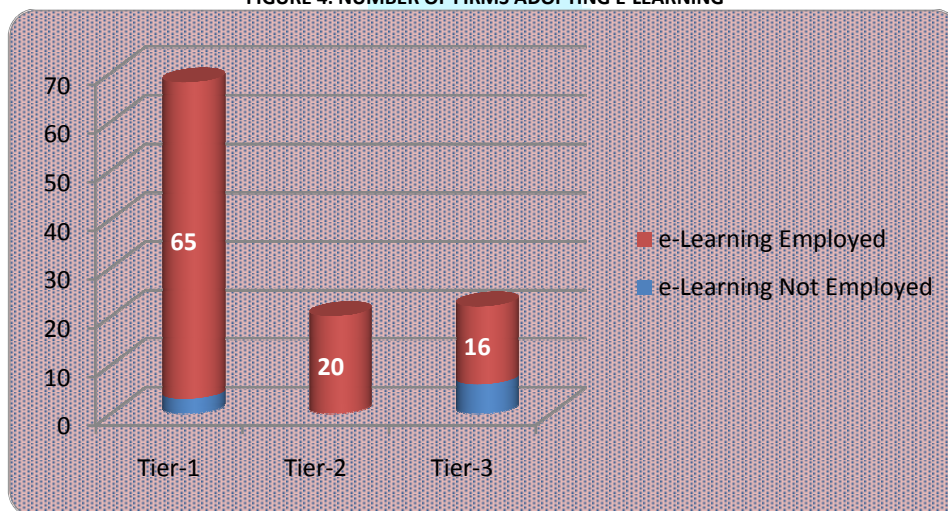


FIGURE 5: E-LEARNING INITIATIVES OF AUTO-COMPONENT FIRMS

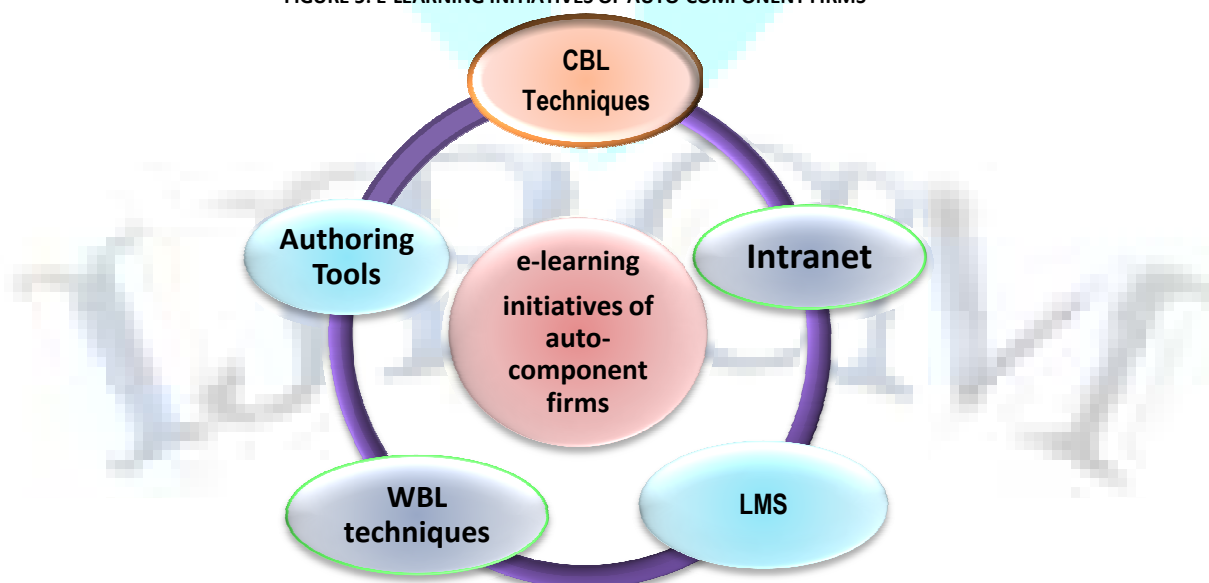


Figure 5 demonstrates the various e-learning initiatives of the select auto-component firms. Most of them are employing basic learning tools like MS office applications such as Power point presentations; excel spread sheets, word documents and others for training their workforce at the bottom line. Extensive use of graphics and videos in the training techniques has enabled knowledge acquisition simpler and faster. It also helps them to re-learn in case if they are unable to understand it first time.

TABLE-V: FREQUENCIES OF FIRMS EMPLOYING THE LISTED E-LEARNING APPLICATIONS

E-Learning Applications	Responses	
	N	Percent
MS office tools(CBL)	110	100.0%
Intranet Based E-Learning	92	83.6%
Web Based Learning tools(WBL)	105	95.5%
Learning Management System(LMS)	24	21.8%
Authoring tools	6	5.5%

Table-V depicts that Computer Based Learning (CBL) Tools in the form of MS office tools and multimedia applications, Web Based Learning (WBL) tools and intranet based learning techniques are widely prevalent in auto-component firms while Learning Management System applications and authoring tools are employed in very few firms. This implies that unlike IT industry, auto-component firms are using only basic learning application.

TABLE -VI: E-LEARNING APPLICATIONS FOR DIFFERENT CATEGORIES OF EMPLOYEES

E-Learning Applications Based on Employee Category	Responses	
	N	Percent
Executives	109	99.1%
Managers	110	100.0%
Supervisors	108	98.2%
Foremen	105	95.5%
Shop floor Workers	105	95.5%
Operative Staff	104	94.5%

From Table-VI, it is evident that e-learning practices are employed among executives, managers, supervisors, foremen, shop floor workers and operative staff in almost all the firms selected for the study.

TABLE -VII: FIRMS SIZE AND THE TYPE OF E-LEARNING ADOPTED BY THEM

Size of the Company * Type of E-Learning Technique Adopted Cross tabulation				
	Type of E-Learning Technique Adopted			Total
	Synchronous	Asynchronous	Both Synchronous and Asynchronous	
Small	4	1	22	27
Medium	19	1	39	59
Large	0	0	24	24
Total	23	2	85	110

Table VII indicates that majority of the large, medium and small firms are employing both synchronous and asynchronous tools.

TABLE-VIII: AVERAGE TIME SPENT BY AN EMPLOYEE ON E-LEARNING PER ANNUM (IN HOURS)

Size of the Company	Average Time Spent By an Employee on E-Learning Per Annum (in Hours)				Total
	1-20 Hrs.	21-40 Hrs.	41-60 Hrs.	61-80 Hrs.	
Small	1	19	5	2	27
Medium	2	19	34	4	59
Large	0	1	21	2	24
Total	3	39	60	8	110

From Table -VIII it can be inferred that the average time spent on e-learning is encouraging but it will not be sufficient for quick and productive results.

TABLE IX: CLASSIFICATION OF FIRMS BASED ON THE COMPLEXITY OF E-LEARNING TOOLS EMPLOYED

Type of Firm	Classification of Firms Based on the Complexity of E-Learning Tools Employed			Total
	Basic tools	Advanced	Combination of both	
Tier-1	40	2	26	68
Tier-2	13	4	3	20
Tier-3 and Ancillaries	8	0	14	22
Total	61	6	43	110

It can be observed from Table IX that majority of the Tier-1 firms and Tier-2 firms are employing either basic tools or a combination of both basic and advanced tools. Basic tools include Computer Based Learning tools like –MS office tools, projectors, LCDs etc. Advanced Tools include Learning Management System (LMS), Authoring Tools, Multimedia applications and other software applications.

TABLE -X: TYPE OF FIRM \* PERCENTAGE EMPLOYEES WITH E-LEARNING INITIATIVES CROSS TABULATION

Type of Firm	Percentage Employees With E-Learning Initiatives				Total
	1-30 percent	31-60 percent	61-90 percent	90-100 percent	
Tier-1	8	27	26	7	68
Tier-2	8	6	4	2	20
Tier-3 and Ancillaries	4	8	7	3	22
Total	20	41	37	12	110

From Table-X, it is evident that in very few firms there are a large number of employees who have e-learning initiatives but in remaining firms it was observed that there is considerable resistance to e-learning due to lack of required technical competence. Probably with additional training, the number of employees with e-learning skills can be increased.

In Table- XI Pearson's Correlation co-efficient of 0.300 shows that there is a significant positive correlation between e-learning practices and the reduction in cost of learning at 1 percent/0.01 significance level under 1-tailed test. This implies that the investment on e-learning applications helps the organizations to reduce the travelling expenses on employees travelling to distant places for training. Since the correlation is significant at 1 percent confidence level,  $H_0$  is rejected for Hypothesis-1 while  $H_a$  which states that e-learning reduces training expenses is accepted.

TABLE -XI: CORRELATION BETWEEN E-LEARNING PRACTICES AND COST AND TIME

Correlations		
		E-Learning Practices
Percentage Reduction in Business Travel Expenses due to E-Learning	Pearson Correlation	.300**
	Sig. (1-tailed)	.001
	N	110
Respondents Opinion on reduction in Task-Time due to E-Learning	Pearson Correlation	-.181*
	Sig. (1-tailed)	.029
	N	110
**. Correlation is significant at the 0.01 level (1-tailed).		
*. Correlation is significant at the 0.05 level (1-tailed).		

Similarly, Pearson's correlation co-efficient is -0.181 for change in the task time due to e-learning practices and sig value is 0.029 which is less than 0.05 and hence the correlation between task time and e-learning practices is significant at 5 percent confidence level. Hence  $H_0$  is rejected and  $H_a$  is accepted for Hypothesis-2.

In Table-XII, the Pearson's correlation co-efficient of 0.281 at 0.001 significance level under one-tailed test implies that there is a significant positive correlation between the reduction in business travel expenses and increase in business productivity. Since the cost of employee training and the stress involved in travelling to other places can be avoided, business performance will get better through increased productivity of employees, time saved and cost reduction.

TABLE XII: CORRELATION BETWEEN PRODUCTIVITY AUGMENTATION AND COST REDUCED

Correlations			
		Respondents Opinion on Augmentation of Productivity due to E-Learning	Percentage Reduction in Business Travel Expenses due to E-Learning
Respondents Opinion on Augmentation of Productivity due to E-Learning	Pearson Correlation	1	.281**
	Sig. (1-tailed)		.001
	N	110	110
Percentage Reduction in Business Travel Expenses due to E-Learning	Pearson Correlation	.281**	1
	Sig. (1-tailed)	.001	
	N	110	110
**. Correlation is significant at the 0.01 level (1-tailed).			

TABLE XIII: CORRELATION BETWEEN PRODUCTIVITY AUGMENTATION AND TASK TIME REDUCTION

Correlations			
		Respondents Opinion on Augmentation of Productivity due to E-Learning	Respondents Opinion on Reduction in Task-Time due to E-Learning
Respondents Opinion on Augmentation of Productivity due to E-Learning	Pearson Correlation	1	.407**
	Sig. (1-tailed)		.000
	Sum of Squares and Cross-products	46.955	21.409
	Covariance	.431	.196
	N	110	110
Respondents Opinion on Reduction in Task-Time due to E-Learning	Pearson Correlation	.407**	1
	Sig. (1-tailed)	.000	
	Sum of Squares and Cross-products	21.409	58.918
	Covariance	.196	.541
	N	110	110
**. Correlation is significant at the 0.01 level (1-tailed).			

Similarly Pearson's correlation co-efficient of 0.407 in table 8.3 implies that there is a significant positive correlation between the reduction in employee task time and productivity augmentation.

Based on the interpretations from Table-XII and Table- XIII, it can be concluded that the correlation between the reduction in travel expenses and e-learning and between the reduction in task time and productivity augmentation is very high and it is significant at 1 percent confidence level under one-tailed test. Hence the auto-component firms' reduction in training cost and task-time due to e-learning is found to have augmented their productivity. Thus the null hypothesis  $H_0$  is rejected and alternate hypothesis  $H_a$  is accepted for Hypothesis-3.

## IX. MAJOR FINDINGS AND OBSERVATIONS

- e-learning helps in the reduction of task-time in the auto-component firms
- It has enabled reduction of training expenses by reducing travel expenses incurred on training.
- Investment on e-learning was found to augment productivity by reducing the cost and task-time.
- It reduces complexity of learning content through visual aids and quickens the pace of learning.
- Most of the auto-component firms employed both synchronous and asynchronous learning tools.
- Majority of the firms under auto-component industry were found to be employing either basic e-learning tools or a combination of basic and advanced e-learning tools.
- Employees in most of the organizations under study approximately spent between 41-60 hours per annum on e-learning. However, some of the HR practitioners reported that their workforce spent between 21- 40 hours on the same.
- 31-60 percent of the employees were found to have e-learning initiatives in majority of the firms
- MS office tools, Intranet and Web Based Learning tools were commonly adopted learning tools among the firms considered for study. However advance learning applications like LMS and Authoring tools were employed by very few firms.



**X. RECOMMENDATIONS**

- Since investment on e-learning is found to have innumerable benefits besides augmenting productivity; advanced learning tools may be incorporated by the firms.
- The percentage employees with e-learning initiatives were found to be quite low in auto-component industry, hence a mechanism may be designed to generate and sustain interest of learners.
- The time spent on e-learning may be increased and more multimedia and visual aids should be incorporated for effective delivery of learning content.
- A comprehensive feedback mechanism should be devised to assess and audit e-learning outcomes.

**XI. CONCLUSION**

E-learning has made remarkable strides in auto-component industry. Though the firms are employing very basic tools of e-learning, they are able to enhance their performance by means of reduced task-time and cost, quickened pace of learning, employee motivation and employee engagement. This empirical study provides ample evidence to justify the rationale behind massive investments on e-learning. If the firms under study have derived noteworthy benefits through simple and basic e-learning applications in addition to their traditional instructional methods, then they'll surely be able to derive mindboggling benefits by investing on advanced learning applications to build the task-oriented skills and competencies of their employees as that would help them in further augmenting their business performance.

**XII. SCOPE FOR FURTHER RESEARCH**

Changes in post learning - cost, task-time, productivity, learning pace, retention rate and error count can be used as metrics to audit the outcomes of e-learning practices in auto component firms so as to realise the worth of their investments on learning technology. There is immense scope for future researchers to probe into e-learning practices in several other sectors of the economy to gain deeper insights on the effectiveness of e-learning tools.

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**INTERPRETIVE STRUCTURAL MODELING BASED APPROACH FOR ADOPTING CPFR IN INDIAN INDUSTRIES****RAJESH A. KUBDE****ASSOCIATE PROFESSOR****MECHANICAL ENGINEERING DEPARTMENT****PROF. RAM MEGHE INSTITUTE OF TECHNOLOGY & RESEARCH****BADNERA- AMRAVATI****DR. SATISH V. BANSOD****PROFESSOR****MECHANICAL ENGINEERING DEPARTMENT****PROF. RAM MEGHE INSTITUTE OF TECHNOLOGY & RESEARCH****BADNERA- AMRAVATI****ABSTRACT**

*Collaborative planning forecasting and replenishment (CPFR) is the latest technology offers great potential to improve supply chain effectiveness by making a balance between the necessary customer demand and the sufficient product supply. This paper is concerned with the identification of the variables that are important for CPFR adoption. An empirical survey was conducted among Indian industries to investigate the knowledge about CPFR adoption. In order to understand key variables in CPFR implementation, interpretive structural modeling approach have been applied. This structure portrayed to identify mutual relationship between the variables. The aim of this paper is to develop a framework to improve business performance. Such an integrated framework has significant insights into relationship between variables and enables a better understanding of important factors necessary for CPFR adoption in Indian industries.*

**KEYWORDS**

supply chain management (SCM), collaborative planning forecasting and replenishment (CPFR), interpretive structural modeling (ISM).

**1. INTRODUCTION**

In the context of a dynamic supply chain, improving business performance has become a critical issue for most of the Indian industries. A recent survey on supply chain management practices in India shows that, now, Indian companies is aligning supply chain strategy with business strategy for minimizing inventories (Sahay B.S. et al. 2006). CPFR is one of those supply chain strategy. The term CPFR was first introduced in 1995 in connection with a pilot project between fWal-Mart, Warner-Lambert, Benchmarking partners, SAP and Manugistics (Cooke, 1998). The CPFR initiative has proven very valuable to Wal-Mart. The company has a joint initiative with P&G where managers from both companies jointly forecast sales of P&G products at Wal-Mart stores and then jointly plan replenishment strategies (Chopra and Meindl, 2001). In CPFR, a business practice combines the intelligence of multiple partners in the planning and fulfillments of customer demand. The benefits resulting from a successful application of CPFR include reduction in stock-outs, improved inventory management, shorter cycle times, increase in sales revenues, stronger relationships between trading partners, better overall system visibility, customer service and improved cost structures (VICS, 1998).

Most companies and industries can benefit from CPFR. However, companies that experience variation in demand buy or sell a product on a periodic basis and those deals in highly differentiated or branded products will benefit the most (Attaran and Attaran, 2007). CPFR adoption in Indian industries is not an easy task. For every organization adoption issue, such as objectives for adoption, strategic drivers of adoption, obstacles for adoption and affected operational areas are extremely important (Borade and Bansod, 2010). Hence, without establishing mutual correlation between these variables, many organizations may not recognize its full potential.

This paper mainly focuses on the factors influencing CPFR adoption and looks forward to develop widely accepted criteria to evaluate successful adoption of CPFR efforts for Indian organizations. It attempts to understand a framework of interrelationships of mutually involved variables. In order to understand key factors in adopting CPFR, an interpretive structural modeling approach have been applied for the design of the framework.

**2. LITERATURE REVIEW**

In fiercely competitive markets, now many organizations in India started adopting SCM process. The objective of this research is to design CPFR framework. Therefore we studied the research issues related to CPFR. Following sections provide the general issues that are involved in CPFR adoption, which are later employed in ISM. According to Stank et al. (1999), CPFR is a collaborative initiative aimed at "making inventory management more efficient and cost-effective, while improving customer service, and leveraging technology to significantly improve profitability". By following CPFR, companies can dramatically improve supply chain effectiveness with demand planning, synchronized production scheduling, logistic planning and new product design (Attaran and Attaran, 2007). Lack of visibility of true consumer demand and collaborative relationships based upon joint decision making remains significant barriers to the goal of supply chain integration. CPFR is a strategy which promises to overcome these barriers (Barratt and Oliveira, 2001). Tage Skjoett-Larsen et al. (2003) found the reason why a firm enters into basic CPFR collaboration is the advantage of increased information exchange, minimizing the cost of transactions. Further CPFR collaboration has a network approach focusing primarily on generation of trust in the relationships. Fliedner (2003) found various obstacles to CPFR implementation in the literature, these are; lack of trust in sharing sensitive information, lack of internal forecast collaboration, availability and cost of technology/expertise, fragmented information sharing standards, aggregation concerns (number of forecasts and frequency of generation) and fear of collusion. Albright (2002) contended that CPFR implementation can reduce inventory levels, increase sales, and improve trade partnerships. Thus the literature helps to identify driver/enablers and obstacles related to CPFR. Sections below provide the research methodology for finding out objectives necessary for CPFR adoption, which are later employed in ISM.

**3. RESEARCH METHODOLOGY**

The CPFR literature emphasize on several criteria as an essential prerequisite. But this research focuses on two objectives as;

- 1) To find out most important objectives necessary for CPFR adoption
- 2) To establish a structure of inter-relationships between these objectives.

In this study the objectives were identified from a survey of Indian industries. The questions pertaining to objectives were asked. We surveyed the questionnaire in which 52 questions were presented in a closed-ended and open-ended format. The entire questionnaire consisted of three parts: (1) CPFR adoption, (2) Obstacles, (3) Effect. This may help respondents to browse the questions easily. A nominal question (Yes/No) was asked from respondents in order to clarify whether they have adopted CPFR or not. Respondents were also requested to assign a Likert scale score (5=very high to very low=1) to give importance and

weight age to each criterion. In order to respond to the research questions, the Interpretive Structural Modeling (ISM) was employed to extract patterns from data (RezaSigari Tarbrizi et al., 2010).

#### 4. INTERPRETIVE STRUCTURAL MODELING (ISM)

An ISM is a qualitative tool that was developed by Warfield with the objective of understanding the complex relationships among elements related to a subject (Sahney, 2008). According to Singh and Kant (2008), ISM is interpretive as based on group's judgment and decision whether and how the system's elements are linked. It is structural as constructed on the relationship's foundation and final structure is exploited from complex set of systems variables. The adoption of CPFR in an organization depends on objectives. This issue is strongly correlated. The existing autonomous, direct linkages and indirect linkages among the element are identified. Based on primacy, precedence and causality, this element is structured into a multilevel structure. The ultimate result presents a hierarchical structure of the element that is representative of their networks and relationships, with their classification into various levels (Singh and Kant, 2008; Borade and Bansod, 2011).

##### 4.1 STRUCTURAL SELF-INTERACTION MATRIX (SSIM)

For analyzing the adoption objectives in developing an SSIM, the following four symbols have been used to denote the direction of relationship between the variables (Singh and Kant, 2008);

V variable i will help to achieve variable j,

A variable j will help to achieve variable i,

X variable i will and j will help to achieve each other and

O variable i and j are unrelated.

Based on contextual relationships, the structural self interaction matrix is developed.

TABLE 1: STRUCTURAL SELF-INTERACTION MATRIX (SSIM)

Sr.No.	Objectives	11	10	9	8	7	6	5	4	3	2	1
1	Improved communication/ IT adoption	V	V	V	V	V	X	X	O	V	V	
2	Enhanced information sharing	V	V	V	X	V	A	X	V	V		
3	Improved forecast accuracy	O	V	V	O	V	X	O	V			
4	Improved production planning	V	V	V	V	V	V	O				
5	Enhanced collaboration	X	V	V	V	V	X					
6	Improved business performance	A	X	X	V	V						
7	Reduced lead time	V	V	V	X							
8	Improved responsiveness	X	V	V								
9	Improved ordering/ replenishment process	V	V									
10	Reduced inventory/ improved inventory management	V										
11	Improved channel relations											

##### 4.2 REACHABILITY MATRIX

The SSIM has been converted into a binary matrix called the initial reachability matrix by substituting V, A, X and O by 1 and 0 as per case. The substitution of 1's and 0's are as per the following rules;

- 1) If the (i, j) entry in the SSIM is V, the (i, j) entry in the reachability matrix becomes 1, and the (j, i) entry becomes 0,
- 2) If the (i, j) entry in the SSIM is A, the (i, j) entry in the reachability matrix becomes 0, and the (j, i) entry becomes 1,
- 3) If the (i, j) entry in the SSIM is X, the (i, j) entry in the reachability matrix becomes 1 and the (j, i) entry also becomes 1,
- 4) If the (i, j) entry in the SSIM is O, the (i, j) entry in the reachability matrix becomes 0, and the (j, i) entry also becomes 0.

After exploiting initially reachability matrix, driving power and dependence power were calculated for each objective. The driving power for each variable is the total number of variables (including itself), which it may help achieve. Dependence power is the total number of variables (including itself), which may help achieve it (Jharkharia and Shankar, 2005).

TABLE 2: REACHABILITY MATRIX

Objectives	1	2	3	4	5	6	7	8	9	10	11	Driving Power
1	1	1	1	0	1	1	1	0	1	1	1	9
2	1	1	1	1	1	1	1	1	1	1	0	10
3	0	0	1	1	0	1	1	0	1	1	0	6
4	0	0	0	1	0	1	1	1	1	1	1	7
5	1	1	0	0	1	1	1	1	1	1	1	9
6	1	1	1	1	1	1	1	1	1	1	0	10
7	0	0	0	1	0	1	1	1	1	1	1	7
8	1	1	0	1	1	1	1	1	1	1	1	10
9	0	1	0	1	0	1	1	1	1	1	1	8
10	0	0	0	1	0	1	0	0	1	1	1	5
11	1	1	0	1	1	1	0	1	0	1	1	8
Dependence	6	7	4	9	6	11	9	8	10	11	8	

##### 4.3 LEVEL PARTITIONS

From the final reachability matrix, the reachability and antecedent set for each objective is found. The reachability set consists of the element itself and the other elements, which it may help achieve, whereas the antecedent set consists of the element itself and the other elements that may help in achieving it. Thereafter, the intersection of these sets is derived for all objectives. The objectives for which the reachability and intersection sets are the same occupy the top level in the ISM hierarchy. Top level element in the hierarchy would not help achieve any other element above its own level. Once top level element is identified, it is separated out from the other elements. Then, the same process is repeated to find out the elements in the next level. This process is continued until the level of each element is found. These levels help in building the diagram and the final model (Singh and Kant, 2008).

TABLE 3: LEVEL PARTITIONS

Objectives	Reachability Set	Antecedent Set	Intersection Set	Level
1	1,2,3,5,6,7,8,9,10,11	1,5,11	1,5,11	VI
2	1,2,3,4,5,6,7,8,9,10,11	1,2,5,11	1,2,5,11	VI
3	3,4,6, 9,10	1,2,3	3	IV
4	4,6,7,8,9,10	2,3,4	4	IV
5	1,2,5,6,7,8,9,10,11	1,2,5,11	1,2,5,11	V
6	6,7,8,9,10	1,2,3,4,5,6,8,11	6,8	III
7	6,7,8,9,10,11	2,3,4,6,7,11	6,7,11	III
8	5,6,7,8,11	1,2,5,6,11	5,6,11	II
9	6,7,9,10	2,3,8,9	9	III
10	6,10	2,3,4,5,8,10	10	I
11	1,2,5,6,8,11	1,2,5,8	1,2,5,8	II

#### 4.4 CLASSIFICATION OF VARIABLES

The ISM technique presents a hierarchical structure that depicts the direct and indirect linkages between the various components in a system, based on primacy, precedence and causality over and among each other. There exists a group of design characteristics, which are critical to the success of a system and require maximum detail and attention. They have the highest driving force and the lowest dependence in the system. These are drivers. Another set of design characteristics has high dependence. These are the dependents. Between these two, there are the linkage and autonomous variables. Their design characteristics are dependent on the drivers, but assist the existence and functioning of dependents (Sahney, 2008). Depending upon driving power and dependence power, all the variables are categorized as autonomous, dependent, linkage and independent variables (Borade and Bansod, 2011). In this study, the objective improved communication/IT adoption has driving power 9 and dependence power of 6 hence it is kept at a position which corresponds to a driving power of 9 and dependence power of 6. The first cluster includes "autonomous variables" that have weak driver power and weak dependence. These variables are relatively disconnected from the system. The second cluster consists of the dependent variables that have a weak driver power but the strong dependence. Third cluster has the linkage variables that have strong drive power and dependence. Any action on these variables will have an effect on the others and a feedback effect on themselves. The fourth cluster includes independent variables with strong drive power and weak dependence (Jharkharia and Shankar, 2005).

The findings from the application of the ISM technique are as follows;

Cluster 1: autonomous variables

None

Cluster 2: dependent variables

Reduced inventory/improved inventory management

Cluster 3: linkage variables

Improved communication, enhanced collaboration, enhanced information sharing, improved responsiveness, improved channel relations, improved production planning, reduced lead time, improved ordering/replenishment process, improved business performance

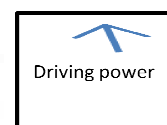
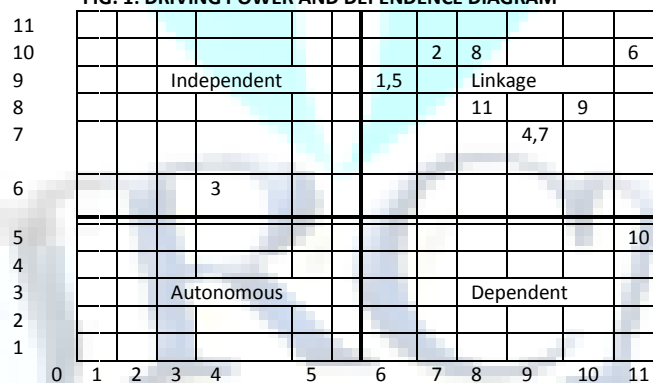
Cluster 4: independent variables

Improved forecast accuracy

#### 4.5 FORMATION OF ISM BASED MODEL

Using the final attrition of reachability matrices, a structural model is developed. The variables connected by arrows shows the relationship between variables. This graph is called as an initial directed graph or initial diagram. These diagrams are principally hierarchical results obtained from tables indicating the final iteration of reachability matrices. By applying ISM methodology the diagram is formed. If elements; of which reachability and intersection sets are similar than those are level I elements (Anantamula and Kanungo, 2005). Once the level I is determined, it is removed and then next same process is reiterated to discover next level elements (Singh and Kant, 2008). Table III shows that, objective 10 is a level I objective. Therefore it is at the top. In the similar fashion, objective 11 and 8 is a level II objective so it is below objective 10. Objectives; 9, 7 and 6 comes as a level III objectives hence it is kept below objectives 11 and 8. Objectives; 3 and 4 are level IV, objective 5 is level V and objectives 1 and 2 are level VI objectives respectively. All objectives are finally connected through arrows to show the relationship among the variables.

FIG. 1: DRIVING POWER AND DEPENDENCE DIAGRAM



Dependence →

#### 5. DISCUSSIONS

The analyzed contingent factors were limited to these variables because it was felt that they are most directly linked to CPFR implementation, as suggested by the literature and as emerged from investigated cases (Danese, 2007). In order to have a common framework for adoption, an ISM model was developed. It is observed that entire 11 objectives are important for CPFR adoption, although in varying degrees. By adopting ISM, we found the level of variable in the hierarchy of objectives irrespective of type of industry. Fliedner (2003) research suggested that CPFR would become an indispensable instrument in any future supply chain. Our study shows information sharing and improved communication with IT adoption as the supreme objective of CPFR adoption. While reduced inventory has a high dependence and low driving power. Literature reveals that the crux of CPFR is real time information sharing and collaborative inventory management. Stank et al. (1999) evaluated CPFR attempts to lessen the problem associated with traditional anticipatory demand forecasts by co-operating with trading

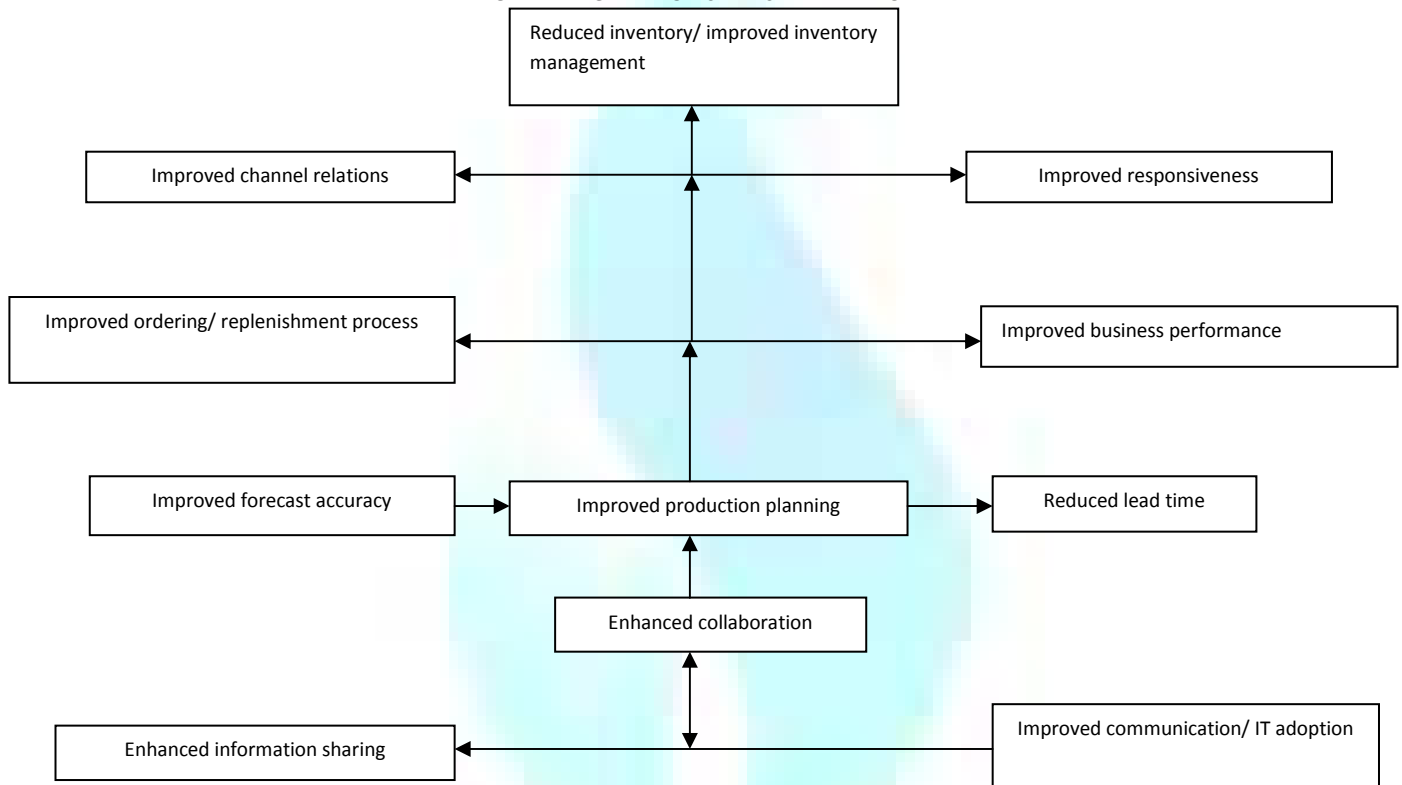


partners to better match supply and demand. Therefore, without any doubt, the basic premise of CPFR is improving the demand forecasting process. Hence, while adopting CPFR, management should have the objective of improving the forecasting accuracy, which would ultimately lead to improved business performance by improving order/replenishment process and reducing lead time. Kwon and Suh (2005) observed that effective supply chain planning based on shared information and trust between and among partners is an essential element for successful supply chain implementation. We had also similar observations. Lack of suitable information technology infrastructure and lack of mutual understanding between supply chain partners were found to be the major obstacles for the adoption. In the study, IT adoption derived higher driving power. It implies the importance of this objective in CPFR adoption. Albright (2002) demonstrated that CPFR implementation can reduce inventory levels, increase sales, and improve trade partnerships. Our study, observed highest dependence power for reduced inventory. Basically CPFR is a tool meant for managing inventory. It is observed that there are no autonomous variables in this study. Hence, all the variables focused in the study are important for adoption of CPFR. There is only one dependent variable. Reduced inventory have high dependence power and low driving power. Hence, organizations must understand the effect of this variable on others.

Improved communication, enhanced information sharing, improved production planning, enhanced collaboration, improved business performance, reduced lead time, improved responsiveness, improved ordering process, and improved channel relations. These variables have strong driving power and strong dependence power. Of all the 11 variables, these variables are very important because they strongly influence the adoption process.

Independent variables have very high driving power and low dependence power. Improved forecast accuracy was found to be independent variables in this study. For CPFR adoption, this is a strong driver; which influence all other variables. Hence, management must give high priority and should understand the importance of this variable.

**FIG.2. THE DIGRAPH FOR ISM BASED FRAMEWORK**



## 6. CONCLUSIONS

CPFR is a process, which is adopted by organizations for improving business performance. The process is in nascent stage in India. This paper attempted to establish the relationships among the objectives necessary for adopting CPFR by using Interpretive Structural Modeling. Finally, a hierarchical structure of the elements representative of their networks and relationships with their classification into various levels was developed. This will help organizations to get aware of the importance of each objective for adopting CPFR process. From the study, it is concluded that all 11 objectives are important for CPFR adoption. It is found that major objective of CPFR adoption should be information sharing and IT adoption. It is further concluded that most important strategic driver for CPFR adoption is forecast accuracy. Finally, it is concluded that CPFR improves channel relations, production planning and replenishment process.

Academics and industries could use results of this study for implementing CPFR in Indian industries. In this study, only 11 objectives were considered; however, many more variables could be used for developing a broader and generic framework. Interpretive Structural Modeling approach could be used for validating the framework.

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## TECHNOLOGY TRENDS AND IMPACT OF ROBOTICS IN THE CORPORATE WORLD AT DIFFERENT LEVELS OF MANAGEMENT

**P. POONGUZHALI**  
**ASST. PROFESSOR**  
**SRM SCHOOL OF MANAGEMENT**  
**SRM UNIVERSITY**  
**CHENNAI**

**DR. A. CHANDRA MOHAN**  
**PROFESSOR**  
**SRM SCHOOL OF MANAGEMENT**  
**SRM UNIVERSITY**  
**CHENNAI**

### ABSTRACT

Roboticians develop man-made mechanical devices that can move by themselves, whose motion must be modelled, planned, sensed, actuated and controlled, and whose motion behaviour can be influenced by "programming". Robots are called "intelligent" if they succeed in moving in safe interaction with an unstructured environment, while autonomously achieving their specified tasks. Robots are very powerful elements of today's industry. They are capable of performing many different tasks and operations precisely and do not require common safety and comfort elements humans need. However, it takes much effort and many resources to make a robot function properly. Most companies that made robots in the mid-1980s no longer exist, and only companies that made industrial robots remain in the market. As with humans, robots can do certain things, but not other things. As long as they are designed properly for the intended purpose, they are very useful and will continue to be used. Robotics technology is developing at a rapid pace, opening up new possibilities for automating tasks and enriching the lives of humans. Robotics is a part of our world.

### KEYWORDS

robotics, technology trends.

### INDUSTRIAL ROBOTICS

**I**ndustrial robotics play a key role in automation and have helped improve manufacturing and assembly operations around the world. Using industrial robotics, machines and tools can be mounted onto robotic wrists, for example, that perform functions precisely and quickly. Industrial robotics offers numerous advantages over manual industrial labor or fixed automation including increased speed and the ability to function in harsh environments. Added flexibility and dexterity offered by industrial robotics help manufacturers get jobs done faster, while cutting costs. In the future, technological advancements are expected to further increase the intelligence of robots that will be able to learn, see and sense things - and complete even more tasks.

### ROBOTICS TECHNOLOGY TRENDS

In the manufacturing field, robot development has focused on engineering robotic arms that perform manufacturing processes. In the space industry, robotics focuses on highly specialized, one-of-kind planetary rovers. Unlike a highly automated manufacturing plant, a planetary rover operating on the dark side of the moon - without radio communication - might run into unexpected situations. At a minimum, a planetary rover must have some source of sensory input, some way of interpreting that input, and a way of modifying its actions to respond to a changing world. Furthermore, the need to sense and adapt to a partially unknown environment requires intelligence (in other words, artificial intelligence).

From military technology and space exploration to the health industry and commerce, the advantages of using robots have been realized to the point that they are becoming a part of our collective experience and every day lives. They often function to relieve us from danger and tedium: Safety - Robotics have been developed to handle nuclear and radioactive chemicals for many different uses including nuclear weapons, power plants, environmental cleanup, and the processing of certain drugs.

Unpleasantness - Robots perform many tasks that are tedious and unpleasant, but necessary, such as welding or janitorial work.

Repetition and Precision - Assembly line work has been one of the mainstays of the robotics industry. Robots are used extensively in manufacturing and, more glamorously, in space exploration, where minimum maintenance requirements are emphasized.

### LAWS OF ROBOTICS

Isaac Asimov, who is considered to be the Father of Robotics, proposed three "Laws of Robotics" in 1942, later adding the Zeroth Law:

- **Law 0:** A robot may not injure humanity or through inaction, allow humanity to come to harm
- **Law 1:** A robot may not injure a human being or through inaction, allow a human being to come to harm, unless this would violate a higher order law
- **Law 2:** A robot must obey orders given to it by human beings, except where such orders would conflict with a higher order law
- **Law 3:** A robot must protect its own existence as long as such protection does not

### Brawn, Bone & Brain

There are 3 aspects of any robot:

- **Brawn** – strength relating to physical payload that a robot can move.
- **Bone** – the physical structure of a robot relative to the work it does; this determines the size and weight of the robot in relation to its physical payload.
- **Brain** – robotic intelligence; what it can think and do independently; how much manual interaction is required.

Because of the way robots have been pictured in science fiction, many people expect robots to be human-like in appearance. But in fact what a robot looks like is more related to the tasks or functions it performs. A lot of machines that look nothing like humans can clearly be classified as robots. And similarly, some human-looking robots are not much beyond mechanical mechanisms, or toys.

### ROBOT INTELLIGENCE

Even with primitive intelligence, robots have demonstrated ability to generate good gains in factory productivity, efficiency and quality. Beyond that, some of the "smartest" robots are not in manufacturing; they are used as space explorers, remotely operated surgeons and even pets – like Sony's AIBO mechanical dog.

In some ways, some of these other applications show what might be possible on production floors if manufacturers realize that industrial robots don't have to be bolted to the floor, or constrained by the limitations of yesterday's machinery concepts.

With the rapidly increasing power of the microprocessor and artificial intelligence techniques, robots have dramatically increased their potential as flexible automation tools. The new surge of robotics is in applications demanding advanced intelligence. Robotic technology is converging with a wide variety of complementary technologies – machine vision, force sensing (touch), speech recognition and advanced mechanics. This results in exciting new levels of functionality for jobs that were never before considered practical for robots.

The introduction of robots with integrated vision and touch dramatically changes the speed and efficiency of new production and delivery systems. Robots have become so accurate that they can be applied where manual operations are no longer a viable option. Semiconductor manufacturing is one example, where a consistent high level of throughput and quality cannot be achieved with humans and simple mechanization. In addition, significant gains are achieved through enabling rapid product changeover and evolution that can't be matched with conventional hard tooling.

### **HIRE A ROBOT OR AN EMPLOYEE?**

The idea of having a corporate function focused on managing labor resources is one that has been around for more than two centuries (corporate functions emerged following the advent of labor unions in the late 1700s). Since then the function has gone by several names, the most commonly applied being "human resources." Unfortunately the name "human resources" has gotten in the way of what the function was created to accomplish (bringing labor and management together in a manner that benefits both).

In the vast majority of organizations, be they large or small, when labor solutions need to be developed, the solutions provided by the human resource function are always "people solutions" (i.e. hiring, developing, rewarding, performance management, etc.) That narrow scope was fine when 95% of the work to be done in an organization was accomplished by an employee, but that simply isn't the case anymore. Today organizations leverage a vast array of labor types including automation, outsourced service providers, and contingent workers to get things done. Some studies now indicate that in larger organizations when outsourcing and contingent spend is added together, it exceeds what is spent on wages and benefits for regular employees.

If the HR function and those that lead it are to be truly strategic, they must acknowledge that today managers deal with a complex array of labor solutions and that maintaining a narrow scope of employee only solutions not only limits the applicability of the function, but also harms the business by fragmenting "labor procurement/management." A truly strategic HR function would follow the lead of marketing, supply chain, and manufacturing by offering "integrated solutions" that pair the best labor resource engaged in the optimal manner for the work that needs to get done at any point in time.

### **TECHNOLOGY HAS COME A LONG WAY**

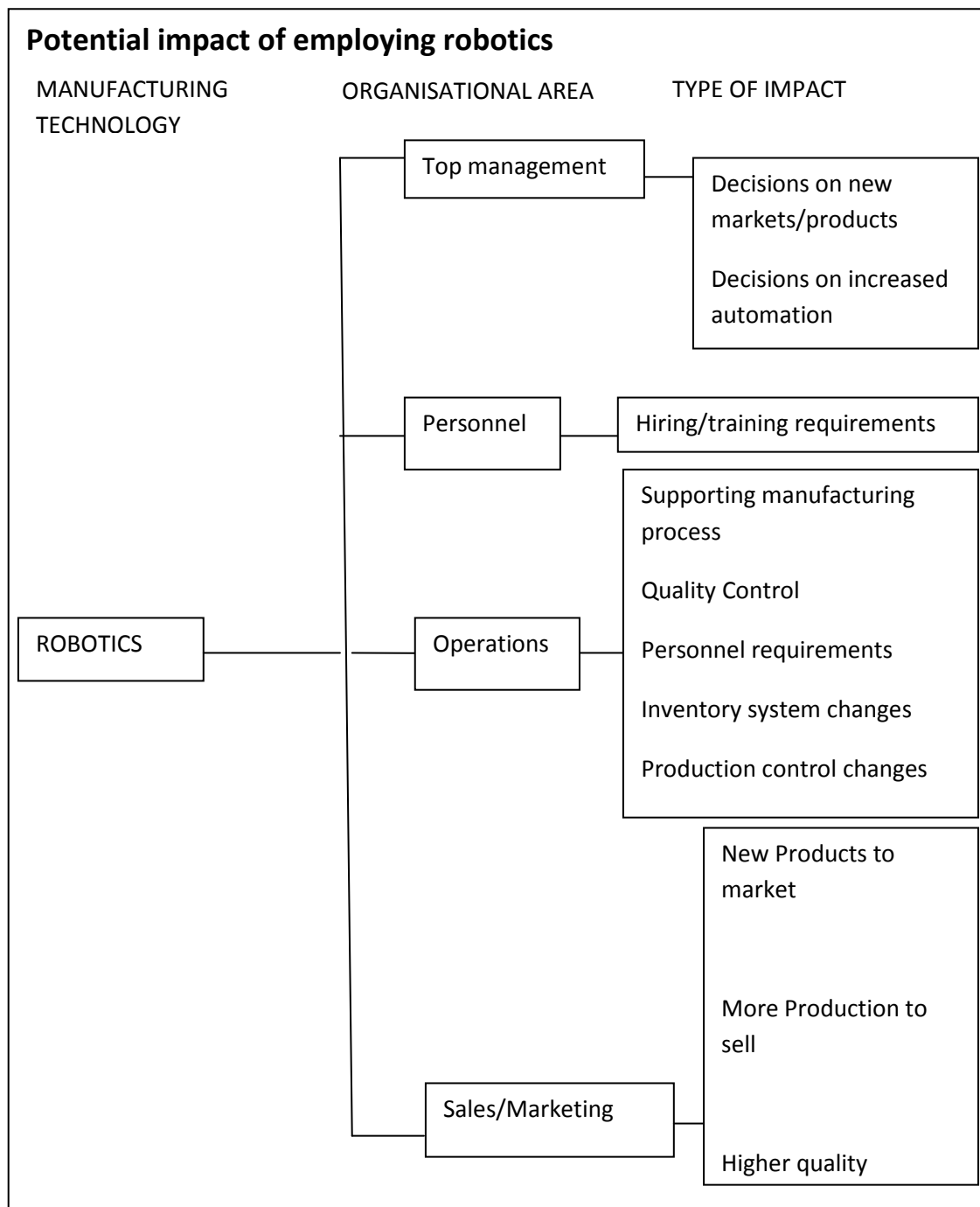
Machines have been replacing human labor for nearly a century but only recently have solutions become so accurate and reliable that they could automate a great deal of business decision-making and analysis. Google or Bing for example are at least a thousand times more effective than a traditional reference librarian in finding a quote or a fact. And, just in case you have not kept up on your reading of "*Robot Daily*," you should know that there are now 8.6 million robots in use around the world with application in military, police, aerospace, and medicine.

...robots will take over approximately 50% of the jobs in the U.S. economy over the course of just a decade or two –*Marshall Brain*

Technology has many advantages over people, including the ability to work 24/7, no demand for overtime pay, predictable maintenance (healthcare) cost, and no threat of unionization.







Source: J. Michael Alford, Ph.D., ROBERT E. KRIEGER PUBLISHING COMPANY, MALABAR, FLORIDA 1988

### ROBOT- LABOR

The automobile industry has already seen the beginning of the robotic revolution. 2010 robots, only performing at an intelligence level of "insects" are capable of performing simple, repetitive tasks found on an assembly line. The military is using them to search and disarm bombs, and robots helped seal the gushing oil well in the Gulf of Mexico. Hospitals and Business are even experimenting with robo-docs and robo-employees. Army and BP robots require a human at one end controlling the machine. In effect, they are complex puppets with virtual strings ranging worldwide. robots of 2040, then these future machines will be able to perform far more complicated programs without human controllers.

Machines capable of creative human thought or human inspiration. These are not robots capable of inventing a new food recipe or designing a house. In 2040, I imagine there will still be a demand for creative chefs and architects.

Rather conservatively, his robots of 2040 are capable of running extremely complex multi-step programs. Imagine a robot that can cook and prepare a fast-food meal, or a robot that can assemble a building. Imagine robots that can lead a customer to the proper shelf at department and ring-up that sale.

### DO ROBOTS TAKE PEOPLE'S JOBS?

The real purpose of automating manufacturing is to eliminate skilled workers and replace them with low paid button pushers—preferably offshore," "As jobs at all levels, from McDonald's to college-educated knowledge-workers, are increasingly automated, there will be more unemployment."

### ARE ROBOTS TAKING OVER THE WORKPLACE?

It's been happening for decades; Robots performing jobs that were once done only by humans. It began with manufacturing; Mass production. Why pay for 10 humans to do something when one single machine can do it faster, better and cheaper? Machines aren't superior to humans, but they don't take breaks, days off or sick leave and they perform a task exactly the same way over and over. There's never any variation.

## HUMAN Vs. ROBOT LABOUR

Humans, on the other hand, have to be paid week after week, year after year. They go on vacation and still have to be paid. They get sick and still have to be paid. They retire and never come back and still, they have to be paid. And this is for slower work, lower efficiency and a reduced likelihood that the task will be performed identically every time.

That was why robots were originally brought into the workplace. These days, however, there are myriad reasons that robots are doing jobs once performed by humans. Some jobs have become too large scale for humans. Using a robot to do the job allows it to be done on a scale that was previously impossible. The opposite is true as well. Robots are also used to do things that are too small or sensitive for humans to handle. One of the latest technological trends these days is nanotechnology, the creation and use of robots so tiny that they can't be seen by human eyes. Eventually they'll be able to repair nerves or unclog arteries from the inside without having to do surgery.

## DO ROBOTS MAKE THE WORLD SAFER FOR PEOPLE?

Another reason why robots take human jobs is to reduce the danger to humans. There is still plenty of danger for workers on many jobs, but more and more these days the most dangerous tasks are being relegated to robots.

Today, robots have replaced many thousands of humans in the workplace, but the jobs being replaced are the low-end jobs; repetitive jobs that don't require any thinking. That may not always be the case. In the September 2008 issue of Popular Science Steven Dick, Chief Historian for NASA, says some scientists speculate that within just a few decades the most complex machines will become sentient, self-aware, thinking beings

## THE NEXT WAVE – FUTURE ROBOTICS

- Robots in both physical and electronic forms will become integrated into our society.
- Robots can already express functional emotions and reasoning.
- Advanced robots-androids have begun appearing similar to human beings and fill roles in retail commerce, community, and government. For example, machine kiosks and unmanned vehicles
- Robotic efficiency and precision will transform manufacturing, medicine, space travel, research, and industry and displace skilled human workers.
- The robotics industry is rapidly becoming a multi-billion dollar global business, spawning many new careers and business opportunities.
- Human beings will adopt robotic human enhancements to achieve super-human capabilities both physical and mental processing using biotechnology
- Cyborgs-part human, part robot-will develop skills superior to natural humans to meet the demand of specialized jobs. Medical applications for disabled are also available now.
- We will encounter serious ethical, security, and social issues due to our robotic creations.
- Robots will provide convenience, safety, and productivity that will benefit humanity and profoundly impact lifestyles.
- Androids will achieve basic levels of self-awareness able to interact naturally

## ROBOTS IN 2015

When the robots start arriving in massive numbers to take half the jobs effects will be profound. At this moment in history, we are standing right on the edge of the transformation to a robotic nation.



## REPLACING ALL THE PILOTS

Robots in the workplace will be a very popular idea because they will eliminate labor costs. Pilots will be the first to go because pilots are incredibly expensive and their jobs are largely automated already.

Let's say that, in 2015, one airline decides to completely automate the cockpit and eliminate its pilots. Since pilots are expensive, that airline will have a real price advantage over its competitors. That airline will also have far more scheduling flexibility because it will not have to worry about crew availability.

## ROBOTS IN RETAILERS

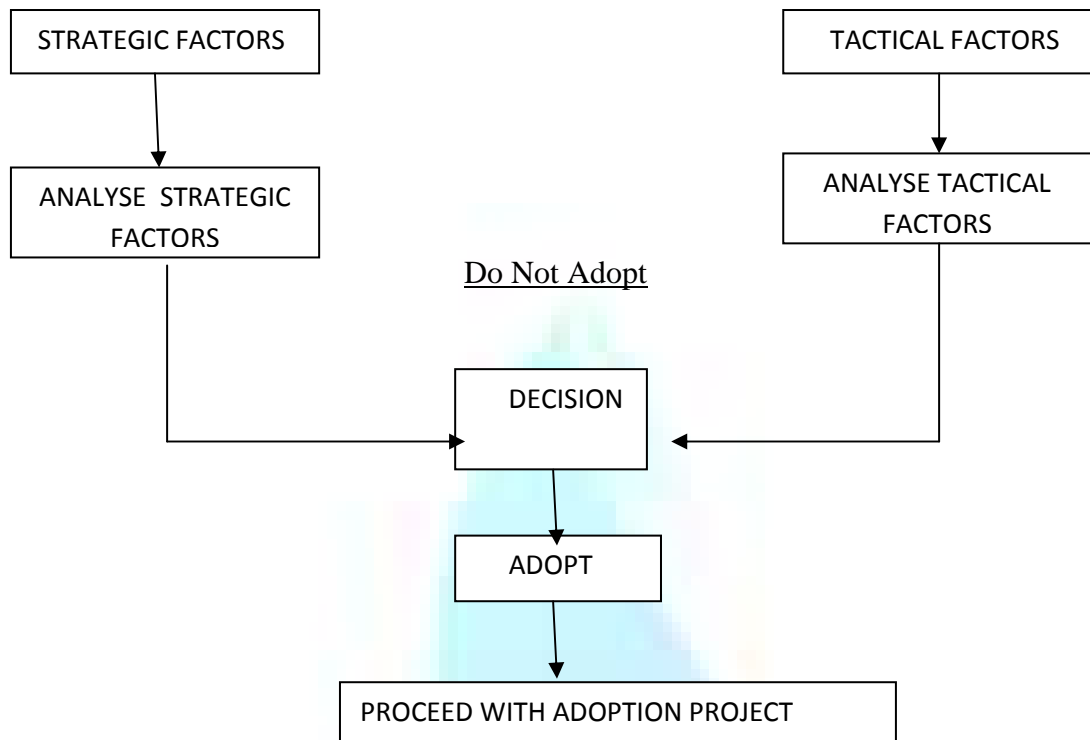
Wal-Mart or Target or some other large retailer will be introducing a totally automated inventory management system. Every shelf will be fitted with RFID tags and bar codes, allowing a mobile pick-and-place robot to find the exact shelf location of every product in the store. Every individual product in the warehouse will also be fitted with an RFID tag and bar code, so the robot will be able to pick up and identify every product that it needs to shelf. A relatively simple computer vision system will allow the robot to stack items on the shelves. These inventory management robots will operate 24-hours-a-day shuttling merchandise from the back of the store onto the shelves as items are sold. The robots will also constantly straighten the shelves and re-shelve merchandise. All of the technology needed to do this is nearly in place today.

By 2015, every big box retailer will be using automated checkout lines. Robotic help systems will guide shoppers in the stores. The automated inventory management robots will allow the first retailer to lay off a huge percentage of its employees.

## CREATING NEW JOBS

Why won't all the new companies that are making these robots create millions of new jobs in 2015? Why won't these new jobs absorb all of the unemployed pilots and service-sector employees?

**DECISION MODEL FOR ROBOTICS ADOPTION**  
NEW TECHNOLOGY ROBOTICS



**STRATEGIC FACTORS**  
 Capital investments  
 Competitive position  
 New Markets/Products  
 Industry structure  
 Product/Market Growth Stage  
 Economic Analysis  
 Organizational Structure  
 Demographics

**TACTICAL FACTORS**  
 Productivity increase  
 Quality, Scrap, Rework  
 Technological change  
 React to Product Changes  
 React to Market Demands  
 Inventory  
 Production Process Impact  
 Economic Analysis Cost  
 Work Force Training

Source: J. Michael Alford, Ph.D., ROBERT E. KRIEGER PUBLISHING COMPANY, MALABAR, FLORIDA 1988

### ETHICAL AND SOCIAL IMPLICATIONS

The application of rapidly advancing fields of software and hardware engineering and biotechnology to recreate life or intelligence raises ethical and social issues. There is an ethical responsibility on the part of the creator to ensure that the robot or virtual pet causes no harm. There is also the impact of new technology on society. On the one hand, replacing people with robots may reduce labour costs and contribute to unemployment in society, but new jobs in the information technology industry are created.

### ETHICAL IMPLICATIONS

Robots appeared in fiction as early as 1917, and by the 1920s writers were already depicting the robot as a mechanical worker or servant that could be either an aid or a menace to humanity. The word robot was first used in the 1921 play *R.U.R.* (Rossum's Universal Robots), by Czech writer, Karel Capek. Remember that in Mary Shelley's novel *Dr Frankenstein* was so terrified of his creation that he ran away, leaving the 'monster' to fend for himself, with nobody to care for him and teach him. The creation carried out a terrible plan of revenge on its maker. The message in this is a question of ethics. If we start making creatures that are alive and intelligent, then we have to start thinking about how we will treat them, or suffer the consequences.

### SOCIAL IMPLICATIONS

Since the introduction of automation in industry (the first major automation was achieved on weaving looms, and its opponents were called luddites) there has been an understandable fear of the introduction of technology. Automated looms were designed to do the same job as the weavers. Thousands of workers lost their jobs when these machines were introduced. More recently the introduction (from 1980) of automated tellers has displaced thousands of jobs in the banking industry.

Labour-intensive heavy industries were quick to adopt robotic technologies in the interests of perceived efficiencies, safety and economy. Robots can work round the clock, are easier to repair, don't get sick and don't require staff amenities. Replacing people with robots was seen as a way of reducing labour costs, workers' compensation and union influence. The replacement of people by automated systems contributes to unemployment in society, especially for the most disadvantaged group — unskilled workers — which can result in long-term unemployment.

Robots have also created new jobs directly and can create wealth, leading to the development of new industries and jobs.

### STRATEGICAL IMPLICATIONS OF EMPLOYING ROBOTS

The strategic implications of the employment of robotics are those related factors which have the potential for affecting the long-term operations and providing a competitive advantage to the firm.

## AUTOMATION AND EMPLOYMENT

Robotics is an essential component in any modern manufacturing environment. As factories increase their use of robots, the number of robotics related jobs grow and have been observed to be on a steady rise.

## EFFECTS ON UNEMPLOYMENT

Robots and other forms of automation will ultimately result in significant unemployment as machines begin to match and exceed the capability of workers to perform most jobs. At present the negative impact is only on menial and repetitive jobs, and there is actually a positive impact on the number of jobs for highly skilled technicians, engineers, and specialists. However, these highly skilled jobs are not sufficient in number to offset the greater decrease in employment among the general population, causing structural unemployment in which overall (net) unemployment rises.

As robotics and artificial intelligence develop further, some worry even many skilled jobs may be threatened. In conventional economic theory this should merely cause an increase in the productivity of the involved industries, resulting in higher demand for other goods, and hence higher labour demand in these sectors, off-setting whatever negatives are caused. Massive unemployment causes a sharp downward spiral that hurts the entire economy and the entire nation.

## ARE ROBOTS A BOON OR A BURDEN TO THE ECONOMY?

Automation is going to do more than just play a game of musical chairs with the available jobs in the world. In the short term, robotics and artificial intelligence may create a battle between out-sourcing and automation. Eventually, however, every side is going to use robots. Everyone is going to be developing AIs that replace human labor. With the increasing inter connectivity of the global economy it's going to become less important whether jobs are being sent to India or the US, and much more important about how the shift in employment affects the average (global) citizen.

## ROBOTS AND THE ENVIRONMENT

Robots eliminate pollution, save lives and gauge environmental damage. Robots are valuable environmental tools.

- They have investigated and cleaned up after nuclear power plant disasters, saving countless people from exposure to deadly radiation.
- Some robots are built to withstand intense temperatures, navigate through smoke with ease, and lift heavy items.
- Robots clean asbestos from pipes, and safely strip paint from ships.
- They have helped biologists tackle pollution and safeguard the environment.



## CONCLUSION

Robots offer specific benefits to workers, industries and countries. If introduced correctly, industrial robots can improve the quality of life by freeing workers from dirty, boring, dangerous and heavy labor. It is true that robots can cause unemployment by replacing human workers but robots also create jobs: robot technicians, salesmen, engineers, programmers and supervisors.

The benefits of robots to industry include improved management control and productivity and consistently high quality products. Industrial robots can work tirelessly night and day on an assembly line without an loss in performance.

Consequently, they can greatly reduce the costs of manufactured goods. As a result of these industrial benefits, countries that effectively use robots in their industries will have an economic advantage on world market.

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## PERFORMANCE APPRAISAL ACT AS A MAJOR MOTIVATIONAL SOURCE

**NAILA IQBAL**  
**ASST. PROFESSOR**  
**DEPARTMENT OF MANAGEMENT**  
**RAJIV GANDHI COLLEGE**  
**BHOPAL**

### ABSTRACT

*Performance Appraisal is a continuous process and done annually as a formal exercise before completion of the financial year. Appraisal has tremendous motivational impact on people through meaningful feedback and is a powerful tool for recognition. A performance appraisal is a method by which the job performance of an employee is evaluated typically by the corresponding manager or supervisor. A performance appraisal is a part of guiding and managing career development. It is the process of obtaining analyzing and recording information about relative worth of an employee to the organization.*

### KEYWORDS

performance appraisal, motivational sources.

### INTRODUCTION

In simple terms, appraisal may be understood as the assessment of an individual's performance in a systematic way, the performance being measured against such factors as job knowledge, quality, and quantity of output, initiative, leadership abilities, supervision, dependability, co-operation, judgment, versatility, health, and the like. Assessment should not be confined to past performance alone. Potentials of the employee for future performance must also be assessed.

A formal definition of performance appraisal is:

**"It is the systematic evaluation of the individual with respect to his or her performance on the job and his or her potential for development."**

It is a structured formal interaction between a subordinate and supervisor, that usually takes the form of a periodic interview (annual or semi-annual), in which the work performance of the subordinate is examined and discussed, with a view to identifying weaknesses and strengths as well as opportunities for improvement and skills development. Performance appraisal is the process of obtaining, analyzing and recording information about the relative worth of an employee. The focus of the performance appraisal is measuring and improving the actual performance of the employee and also the future potential of the employee.

According to Flipppo, a prominent personality in the field of Human resources, "performance appraisal is the systematic, periodic and an impartial rating of an employee's excellence in the matters pertaining to his present job and his potential for a better job." Performance appraisal is a systematic way of reviewing and assessing the performance of an employee during a given period of time and planning for his future.

### OBJECTIVES OF PERFORMANCE APPRAISAL

- To review the performance of the employees over a given period of time.
- To judge the gap between the actual and the desired performance.
- To help the management in exercising organizational control.
- Helps to strengthen the relationship and communication between superior – subordinates and management – employees.
- To diagnose the strengths and weaknesses of the individuals so as to identify the training and development needs of the future and also to provide feedback to the employees regarding their past performance.
- Provide information to assist in the other personal decisions in the organization.
- Provide clarity of the expectations and responsibilities of the functions to be performed by the employees in order to reduce the grievances of the employees.
- To judge the effectiveness of the other human resource functions of the organization such as recruitment, selection, training and development.

### PURPOSES OF PERFORMANCE APPRAISAL

Performance appraisal of employees is needed for the following two broad purposes:

(A) Administrative purposes

(B) Self-improvement/Self-development of employees.

#### (A) ADMINISTRATIVE PURPOSES

**(1) Promotion and Placement of Employees:** One major administrative purpose of performance appraisal is to promote employees as per their competence and performance in the previous period. Quality of performance serves as a base for promotion particularly when promotions are given by merits. Appraisal indicates whether the employee can contribute still more at a higher level job and accordingly decision about his promotion is taken. This promotion on appraisal basis is in the *interest* of both-the management and employees. Performance appraisal is useful for the selection of right person for the right type of promotion. This is because it clearly distinguishes between effective and ineffective performers of jobs assigned. Placement of an employee in the right department and also at the right position is possible through performance appraisal as such appraisal suggests the position at which an employee can give his best performance.

**(2) Transfers and Demotions:** In an organization, certain personnel actions such as \ transfers, demotions, disciplinary actions and discharges are required to be taken by the management. Such actions need to be taken in a fair and impartial manner. Here, performance appraisal reports can be used for taking final decisions. A suitable employee for the transfer can be selected by using the performance appraisal reports. Performance appraisal is also useful for the identification of employees for deputation, for allowing an employee to cross efficiency bar and also for the confirmation of the employees in an organization. Finally, performance appraisal is useful as a criterion for validating selection devices and training programmes.

**(3) Wage and Salary Payment:** Wage/salary payment is normally linked with the performance appraisal. Wage increase (yearly increment or special increments) is based on the performance appraisal reports. It also provides the rational foundation for the payment of wages, bonus, etc. Wage payment is normally related to the contribution of employees at the work place. Better performance at the managerial level is normally rewarded by additional salary payment. For judging the performance of executives, periodical appraisal is essential. It is a fact that wages are linked with many other factors such as cost of living and profitability of a business unit. It is also useful for allocating rewards to deserving employees.

**(4) Training and Manpower Development Programmes:** Performance appraisal indicates the strengths and weaknesses of an employee. It acts as a performance feedback of employees which can be used for different purposes. This information can be used fruitfully for formulating a suitable training and manpower development programmes to improve the performance of employees in their present jobs. Such appraisals also suggest the areas of skills where numerous employees are not up to the mark. This enables the management to adjust the training programmed which will be useful to employees for self-

improvement also to the organisation in raising overall efficiency. Performance appraisal also suggests the managers with potentials to learn and develop quickly.

**(5) Personnel Research:** Performance appraisal serves as a feedback to the management in the field of personnel research. It serves as a base for the conduct of research activities in personnel management. Various theories regarding incentives to employees, training of employees, selection of employees and motivation of employees developed through such research activities. The appraisal system gives valuable information which can use purposefully in personnel management.

**(6) Favorable Impact on Employees:** Performance appraisal creates a favorable impact on the employees. It serves as an incentive to the employees who feel assured of the management's continued interest in them and of their continuous possibility to grow/develop. Employees feel that they are given attention by the management. They get a feeling that performance appraisal record will be taken into consideration for their promotion, training, etc., and that injustice will not be done to them. Sincere and honest employees get a moral support through such appraisal. Supervisors may be transferred /shifted but the appraisal reports will avoid injustice to employees.

**(7) Miscellaneous Administrative Purposes:**

**(a)** To confirm the services of probationary employees after the completion of probationary period successfully.

**(b)** To improve internal communication. It provides a format for dialogue between the superior and subordinates.

**(B) SELF IMPROVEMENT OF EMPLOYEES:**

Along with the administrative purposes, performance appraisal facilitates self improvement and self development (career development) of an employee. In fact, this purpose is more important as it relates to human resource development in an organization. Such appraisal suggests the weaknesses and shortcomings of the rates. It serves as a feedback to the employee. This is followed by discussion between the rater and the rate in a spirit of co-operation and mutual understanding. Counseling of employees for improving their performance is always through such post appraisal interviews. This gives opportunity to an employee to overcome his weaknesses and to improve his skills, abilities, performance, behavior and so on. Guidance is offered to an employee for his self-development and also for improving his overall performance in the job assigned. Thus, performance appraisal is needed for performance improvement of employees.

## TRADITIONAL METHODS OF PERFORMANCE APPRAISAL

**(1) Confidential Reports:** In this method, superiors are asked to prepare confidential reports on the subordinates assigned to them. Such reports are prepared in the case of supervisory staff and managers. Various aspects such as achievements, weaknesses, major mistakes, merits, good work done, etc. are recorded in such reports. This is an old and popular method of performance appraisal of employees of all categories. It is used even at present in government departments and educational institutions, where superiors prepare confidential reports about their subordinates.

**(2) Ranking Method:** Ranking method is the oldest and also the simplest method of rating of employees. According to ranking method, each employee is compared with all others performing the same job and then is given a particular rank order in the descending scale. It states that A is superior to B; B is superior to C and so on. Ranking method is simple to understand and easy to use. It is less expensive and less time consuming. Trained raters are not essential as it is simple to operate. In order to remove some deficiencies of ranking method, the paired comparison technique of ranking was introduced. In this paired comparison technique, every employee in a job is compared with every other employee to determine who is the better worker.

**(3) Grading Method:** In the grading method, a number of grades or classes are first established and carefully defined. The rater evaluates the performance of an individual employee against these standards and places him in one of these grades. The grades are related to qualities of employees and grades are given to such qualities. The qualities may be like job knowledge, judgment, leadership, cooperative attitude and so on. The grades may be like A (for outstanding), B (for very good), C (for good), D (for fair) and E (for poor). The rater judges the performance of an employee and puts him under suitable category. This method is simple and quick but the rating of employees may not be accurate particularly when the rater has to complete the rating of large number of employees within a short period.

**(4) Graphic Rating Scale Method:** This is one of the oldest and most widely used methods of performance appraisal. Here, four to twelve factors are selected, depending upon the category to which the employee belongs. Some of these factors are quantity of Output, quality of output, initiative, integrity, dependability, etc. These factors and their degrees are marked on a graph paper provided in the appraisal form. The rater has merely to check on the scale where he thinks the employee belongs.

The graph paper used in graphic rating scale method is as shown below:

Factors/Considerations ->	Quantity of Output	Quality of Output	Integrity	Initiative
Excellent				
Very Good				
Good				
Average				
Below Average				

**(5) Checklist Method:** In the checklist method, a list consisting of a number of statements about the qualities of employee and his behavior is prepared. The statements or questions, for example, may be as noted below:

- (a) Does the employee work best under tension? ( )
- (b) Does he make mistakes frequently? ( )
- (c) Does he keep ahead of schedule? ( )
- (d) Does he follow the instructions of his superior? ( )

Each statement on this list is assigned a value depending upon its importance. While rating an employee, the rate is asked to place a plus sign, a minus sign or a question mark in front of each statement, depending on whether he feels the description applies, does not apply, or there is doubt. The worker's final rating is taken as the average of the scale values of all statements that his superior has checked while rating him. The rating of employees, by this method, is impartial as the rater reports only the facts but the j values are assigned separately.

**(6) The Forced Choice Rating Method:** This method aims at reducing if not eliminating the possibility of bias and prejudice in the rating. It requires him (rater) to choose between a numbers of descriptive statements of apparently equal value. He has to select out of four or five statements only the one, which is most characteristic of the employee, as well as the one, which is least applicable to him. His evaluation is then checked by reference to a secret score key. In this way, the personal bias of the rater is sought to be removing from the rating process. As a result, the rating of employees is more accurate, objective, fair and away from partiality by the rater.

**(7) The Critical Incident Appraisal Method/Technique:** The research scientists developed the critical incident method with the American Armed Forces during the Second World War. The theory behind it is that, there are certain key acts of behavior, which make the difference between success and failure in a job. These acts arise out of the incidents, which occur in the performance of a job. The supervisor is required to make note of all such critical incidents and as a rater, examine the performance of the candidate and record his rating. An experienced supervisor knows what type of action or behavior leads to success and which leads to failure. Thus, a study of the actions of a candidate in the critical incidents over a period of time enables the supervisor to rate the employee correctly e.g., an employee who helps a fellow-worker to avoid accident is given positive entry in the critical incident book.

**(8) The Essay Appraisal Method:** In this method, a rater is required to write a small paragraph as regards his subordinate's strengths, weaknesses, and potentials and so on. It need not be treated as rating in an exact manner but a general opinion of a superior in relation to his subordinate. Comparison of performance of one employee against that of another is not possible under this method.

**(9) Group Appraisal:** Under this method, a group of evaluators assess employees. The group is composed of: (a) supervisors (b) head of the department and (c) personnel expert. The group is given free hand to determine the standards of performance, measures actual performance analyses the causes of poor performance and offers suggestions for improved work.

**(10) Field Review Method:** Under this method, a training officer from HRD department interviews line supervisors to appraise the subordinates working under them. The supervisors are expected to answer the questions prepared by the interviewer in advance. The supervisors have to answer about promotion potential, level of performance, progress of work, strengths and weaknesses. The findings are placed in the service file of employees.

## MODERN METHODS

**(1) Human Resource Accounting Method:** Human resource is the most invaluable asset of an organization. This asset can be valued in terms of money. When competent and trained employees leave an organization, it will cost business in many ways. This method assesses performance in terms of costs and contributions of employees. Costs of human resources consist of expenditure on recruitment, selection, training, remuneration, human resource planning, etc. Contribution of human resource is the money value of labor productivity.

**(2) Appraisal by Results or MBO:** It is a modern method of appraisal and has been evolved by Peter Ducker. In this MBO method, (also called goal setting approach) the subordinate employees are required to set their own standards of performance along with their superiors. Thereafter, the actual performance of subordinates is evaluated against such standards. This is how appraisal is not imposed on the employees but is introduced with their cooperation and participation. This method is a participative appraisal method and is a new development based on democratic principles.

**(3) Assessment Centre:** Assessment centre is a group of employees drawn from different work units. The selected employees work together on an assignment similar to the one they would be handling when promoted. They participate in job related exercises evaluated by trained observers. Managers are evaluated over a period of time say one day to three days. Their skills and behavior are carefully observed. The evaluators are experienced managers with ability. They evaluate all participants both individually and collectively by using simulation techniques, role playing, business games, etc. Assessments are done in order to determine employee potential for promotion. The evaluators prepare a summary report.

**(4) Behaviorally Anchored Rating Scales (BARS):** It is a modern method of performance appraisal. Behaviorally anchored scales are rating scales whose scale points are determined by statements of effective and ineffective behaviors. They are said to be behaviorally anchored because scales represent a range of descriptive statements of behavior varying from the least to the most effective. A rater must indicate which behavior on each scale best describes the performance of an employee.

**(5) 360 Degree Appraisal method:** It is a system or process in which employees receive confidential, anonymous feedback from the people who work around them. In this raters include: Boss, colleagues & internal customers, Peers – immediate and functional colleagues, direct reporters. Some companies use **rating committees** to evaluate their employees. The committees consist of supervisors, peers and subordinates. The members of the committee have adequate capacity to intelligently evaluate same aspects of employee's performance. This method is better than giving the entire responsibility of rating to one individual.

## CONCLUSION

Performance appraisal is the process of reviewing employee performance vis-à-vis the set expectations in a realistic manner, documenting the review, and delivering the review verbally in a face-to-face meeting, to raise performance standards year over year through honest and constructive feedback. The employees want the improvement in the current performance appraisal system. There is no format to be filled by the employees for their appraisal. They also want that there suggestions should be taken before designing and performing the performance appraisal of the organization. Performance appraisal encourages systematic and regular joint-stocking and planning for the future.

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## FOREIGN DIRECT INVESTMENT FLOWS INTO INDIA AND THEIR CAUSAL RELATIONSHIP WITH ECONOMIC GROWTH SINCE LIBERALISATION

**S. GRAHALSKSHMI**

**ASST. PROFESSOR**

**THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN**

**SIVAKASI**

**DR. M. JAYALAKSHMI**

**ASSOCIATE PROFESSOR**

**THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN**

**SIVAKASI**

### ABSTRACT

*Though foreign direct investments (FDIs) in India were significant in the 1950s and 1960s, FDI inflows were meager in the 1970s and 1980s. By the mid-1980s, the stagnation and technological obsolescence in Indian industry led to a push for economic reform and deregulation of exchange controls. As a result of the reforms agreed with the IMF, FDI boomed in post reform India and FDIs in India are considered to be a major stimulus in our economic growth as it has the ability to curtail the shortage of financial resources and the shortage of technology and skill consequently. But the researchers are also of the opinion that FDI may exert a negative impact on economic growth of the recipient countries by extracting their labour and other resources. Hence this study is an attempt to overcome this ambiguous and mixed opinion by assessing the causal relationship between FDI Flows and Indian Economic Growth using the quarterly figures for investment flows and General Index of Industrial Production (IIP) for the period starting from Quarter 1 of 1994-95 to Quarter 4 of 2010-11. The results provide the evidence of unidirectional causality running from FDI Net Flows to IIP and explain the existence of both long-run and short-run relationship between FDIs and IIP. Thus the findings of the study unambiguously suggest that FDIs have not been established as a major dominant factor for the economic growth of India and the Indian policy makers should offer the foreign investors with the real prospects to invest in Indian markets by offering them the most constructive economic conditions as these things positively influence foreign investments in India.*

### KEYWORDS

Causal Relationship, Economic Growth, Foreign Direct Investments, Liberalisation.

### FDI – AN OVERVIEW

Domestic firms that are contemplating to enter the international market require information and knowledge that may be costly to obtain. Foreign firms are an obvious source of such information to enable the host country's access to the world market. Moreover, Foreign Direct Investment implies an element of risk sharing between the capital owners and the capital importing countries that make this type of capital flow more desirable than loans. Unlike borrowings from foreign sources which involve contractual obligations from day one, direct foreign investment does not involve any fixed charges. Moreover, dividends would have to be paid only when the firms earn profit. FDI can also stimulate employment generation in the host country because everything else being equal, the establishment of foreign firms increases the demand for labour and the demand for intermediate goods and services from local suppliers.

FDI flows are usually preferred over other forms of capital flows because they are non-debt creating and non-volatile. In a world of increased competition and rapid technological changes, their complimentary and catalytic role can be very valuable. FDI can contribute directly and indirectly to building national capabilities. FDI as an important means to reorganize the production facilities globally, it is regarded as an important vehicle for economic development particularly for developing economies. Thus foreign direct investment is considered a desirable route amongst various forms of capital inflows for bridging this gap, as it is not prone to quick reversal unlike portfolio investment. The importance of FDI also lies in the fact that assistance from multilateral and bilateral sources is either stagnant or declining in comparison with FDI inflows. Further, apart from the long-term additional capital that it brings in, FDI also facilitates technology upgradation and introduction of modern production and management practices.

### DETERMINANTS OF FDI INFLOWS

The volume and the quality of FDI in a country depend on the following factors:

- a. Natural Resources:** Availability of natural resources in the host country is a major determinant of FDI. Most foreign investors seek an adequate, reliable and economical source of minerals and other materials. FDI tends to flow in countries which are rich in resources but lack capital, technical skills and infrastructure required for the exploitation of natural resources.
- b. National Markets:** The market size of a host country in absolute terms as well as in relation to the size and income of its population and market growth is another major determinant. Large markets can accommodate more firms and can help firms to achieve economies of large scale operations.
- c. Availability of Cheap Labour:** The availability of low cost and skilled labour has been a major cause of FDI in countries like China and India. Low cost labour together with availability of cheap raw materials enables foreign investors to minimize costs of production and thereby increase profits.
- d. Socio-Economic Conditions:** The size of the population of the host country, its infrastructural facilities and income level of the country also influence direct foreign investment.
- e. Political Situation:** Political stability, legal framework, judicial system, relations with other countries and other political factors prevailing in the country also influence movements of FDI from one country to another.
- f. Rate of interest:** Differences in the rate of interest prevailing in different countries stimulate foreign investment. Capital tends to move from a country with a low rate of interest to a country where it is higher. FDI is also inspired by foreign exchange rates. Foreign capital is attracted to countries where the return on investment is higher.
- g. Government Policies:** Policy towards foreign investment, foreign collaborations, foreign exchange control, remittances, and incentives – both monetary and fiscal offered to foreign investors exercise a significant influence on FDI in a country. For example, Export Processing Zones (EPZs) have been developed in India to attract more FDI inflows and to boost exports.

### ADVANTAGES OF FDI

FDI plays an extraordinary and growing role in global business. It can provide a firm in the home country with new markets and marketing channels, cheaper production facilities, access to new technology, products, skills and financing. For a host country FDI is said to be an important factor for spurring the development of a nation in the following ways.



- a. Economic development:** Foreign Direct Investment helps in the economic development of the particular country where the investment is being made. It has also been observed that FDIs helped several countries when they have faced economic hardships.
- b. Transfer of technologies:** FDI also permits the transfer of technologies. This is done basically in the way of provision of capital inputs. It also assists in the promotion of the competition within the local input market of a country.
- c. Human capital resources:** The countries that get FDIs from another country can also develop the human capital resources by getting their employees to receive training on the operations of a particular business. The profits that are generated by the FDIs that are made in that country can be used for the purpose of making contributions to the revenues of corporate taxes of the recipient country.
- d. Job opportunity:** Foreign direct investment helps in the creation of new jobs in a particular country. It also helps in increasing the salaries of the workers. This enables them to get access to a better lifestyle and more facilities in life. It has normally been observed that foreign direct investment allows for the development of the manufacturing sector of the recipient country.
- e. Income generation:** FDI assists in increasing the income that is generated through revenues realized through taxation. It also plays a crucial role in the context of rise in the productivity of the host countries. In case of these countries, their companies get an opportunity to explore newer markets and thereby generate more income and profits.
- f. Export:** It also opens up the export window that allows these countries the opportunity to cash in on their superior technological resources. It has also been observed that as a result of receiving FDIs from other countries, the recipient countries can keep their rates of interest at a lower level. It becomes easier for the business entities to borrow finance at lesser rates of interest.
- g. Linkages and spillover to domestic firms:** Various foreign firms are now occupying a position in the Indian market through Joint Ventures and collaboration concerns. The maximum amount of the profits gained by the foreign firms through these joint ventures is spent on the Indian market, which in turn benefits the domestic firms.

## STATEMENT OF THE PROBLEM

During the early 1990s an imminent foreign exchange crisis loomed large before the Indian economy, with an unsustainable external debt burden. Rangarajan Committee Report on Balance of Payments during 1991 recommended a compositional shift away from debt to non-debt-creating flows by removing the restrictions on the share of foreign enterprises for most sectors and by progressively raising the upper bounds for automatic approval of direct investment. Foreign investment income has become fully convertible to foreign currency for repatriation. Foreign Direct Investments are considered to be a major stimulus in our economic growth as it has the ability to curtail the shortage of financial resources and the shortage of technology and skill consequently. Thus this work is an attempt to study the impact of liberalisation on these FDIs for the period 1990-91 to 2010-11 and the importance of these capital flows in the growth Indian Economy.

## OBJECTIVES OF THE STUDY

The main objectives of this study are

1. To assess the determinants and benefits of foreign direct investments.
2. To analyse the growth and direction of Foreign Direct Investments in India.
3. To assess the causal relationship between FDIs in India and Indian Economic Growth.
4. To advance concrete suggestions from the study to transform India as a favourite destination for the foreign investors.

## METHODOLOGY OF THE STUDY

This study is entirely based on secondary data. The required data have been collected from the secondary sources namely – RBI Bulletin, World Investment Reports, Releases of Ministry of Statistics and Programme Implementation and other related websites

### TREND ANALYSIS

Trend Analysis was used to assess the trend and pattern of inflows in the form of FDIs from 1991-92 to 2010-11. Since the inflows in the form of Foreign Direct Investments vary radically over the years, it was considered better to use nonlinear trend than linear trend. Amongst the non-linear models namely Exponential Model, Quadratic Model and Cubic Model, Cubic Non-Linear Model being the model with the smallest standard error value and the biggest R-square value was found suitable for FDI inflows.

$$T_t = a + bY_t + cY_t^2 + dY_t^3$$

### JOHANSEN AND JUSELIUS CO-INTEGRATION AND VECTOR ERROR CORRECTION MODEL

The causal relationship between Foreign Direct Investments and India's economic growth can be clearly understood by analyzing the quarterly figures for investment flows and General Index of Industrial Production (IIP). IIP index has been taken as a proxy variable for Gross Domestic Product since the quarterly figures of GDP are not available. The IIP Index includes all the three sectors namely industry, agriculture and service sector. And hence, the Index of Industrial Production (Base 1993-1994) is considered as a proxy variable for GDP. Considering this base year and the year in which FDIs and FPIs actually gained its momentum, Johansen and Juselius Co-integration and Vector Error Correction Model was applied for Capital inflows and IIP index for the period starting from 1994-95 to 2010-11.

The long-term and short-term relationship and the causal nexus between foreign direct investments in India and the Economic Growth of the country was found out using Johansen and Juselius Cointegration and Vector Error Correction Model in the following order.

- a. The necessary lag length of the data series was selected using Schwarz Information Criterion, Akaike information criterion and Hannan-Quinn information criterion.

- b. Stationarity is defined as a quality of a process in which the statistical parameters, both mean and standard deviation, of the process do not change with time. Augmented Dicky-Fuller and Phillips-Perron tests were employed to determine whether the data have unit roots indicating the data is non-stationary.

Augmented Dicky-Fuller Model:

$$y_t = \rho y_{t-1} + u_t$$

where,  $y_t$  = variable of interest,  $t$  = time index,  $\rho$  = coefficient, and  $u_t$  is the error term.

Phillips-Perron Model:

$$\Delta y_t = \rho y_{t-1} + u_t$$

where  $\Delta$ , is the first difference operator.

- c. Further Johansen and Juselius Cointegration test was employed between the two variables foreign direct investments and economic growth to identify whether the variables included in the system are co-integrated and thus tied in the long-run relationship. There are two likelihood ratio tests that are to be employed to identify the co-integration between the two series.

$$\lambda_{\text{trace}}(r) = -T \sum_{i=r+1}^n \ln(1 - \hat{\lambda}_i)$$

$$\lambda_{\text{max}}(r, r+1) = -T \ln(1 - \hat{\lambda}_{r+1})$$

where,  $\hat{\lambda}_i$  are the eigen values obtained.

d. And then Vector Error Correction Model was employed to verify the direction of long-run and short-run relationship between the two variables using the following two models.

$$\Delta \ln FC_t = c_1 + \sum_{k=1}^n \alpha_{1k} \Delta \ln FC_{t-k} + \sum_{k=1}^n \beta_{2k} \Delta \ln IIP_{t-k} + ECT_{t-k} + u_{1t}$$

$$\Delta \ln FC_t = c_1 + \sum_{k=1}^n \alpha_{1k} \Delta \ln FC_{t-k} + \sum_{k=1}^n \beta_{2k} \Delta \ln IIP_{t-k} + ECT_{t-k} + u_{1t}$$

where,  $\Delta$  = first difference operator and  $u_{1t}$  and  $u_{2t}$  are white noise disturbance terms.  $FC_t$  and  $IIP_t$  are Foreign Private Capital Flows and Index of Industrial Production respectively at the time  $t$  and  $ECT_{t-k}$  is the lagged error correction term.

### INDIA - 'THE HOT SPOT FOR FDI'

During the early nineties, Indian economy faced severe Balance of payment crisis. Exports began to experience serious difficulties. The crippling external debts were debilitating the economy. Inflation touched its highest level of 13%. In this critical face of Indian economy, the then finance Minister of India Dr. Manmohan Singh with the help of World Bank and International Monetary Fund introduced the macro – economic stabilization and structural adjustment programme. As a result of these reforms India open its door to Foreign Direct Investment inflows and adopted a more liberal foreign policy in order to restore the confidence of foreign investors.

In the present context, India has a number of advantages to offer to potential foreign investors, namely, suitable congenial business climate, political stability, steady economic growth, a vast domestic market, a large pool of trained manpower, an efficient legal and judicial system, social and psychical infrastructure, exchange rate and price stability, availability of raw materials and other inputs, availability of domestic and export market for the final output and rapidly expanding capital market. As a result the country has emerged as the latest and the most sought-after destination for FDI. India has a large reservoir of skilled labour available at competitive prices, large entrepreneurial base and diversified manufacturing structure that make it easy to find partners for collaborations. All these have opened up innumerable options for the foreign investors to expand their businesses at a global level.

Besides, India has a vast domestic market of 300 million strong middle-class population power and another 700 million people whose purchasing power is gradually improving. The country also has a huge network of technical and management institutions of international standard for development of excellent human resources. The country has a strong English language base for business correspondence. Ongoing initiatives, such as further simplification of rules and regulations and improvements in infrastructure are expected to provide the necessary impetus to increase Foreign Direct Investment inflows in future. The inflows of FDI depend on domestic economic conditions, world economic trends, and strategies of global investors.

### TOTAL FDI FLOWS INO INDIA

Though foreign direct investment flows were significant in the 1950s and 1960s, FDI inflows were meagre in the 1970s and 1980s. By the mid-1980s, growing concern about stagnation and technological obsolescence in Indian industry led to a push for economic reform and deregulation. As a result of the reforms agreed with the IMF, FDI boomed in post reform India. The growth and direction of FDIs in the post liberalization era can be clearly understood from Table 1 given below, showing Five Year Average, 10 Year average and Overall Average analysis. In this analysis the term total FDI inflows represents the equity flows till 1999-00 and the sum of equity flow, re-invested earnings and other capital since 2000-01. The component-wise FDI inflows, outflows and net flows since 1990-91 is given in Annexure I.

TABLE 1: INDIA'S TOTAL FOREIGN DIRECT INVESTMENTS GROWTH TREND (1991– 92 TO 2010-11)

Years	Total FDI Inflows (US \$ Millions)	Growth Rate (%)	Five year average (%)	Ten year average (%)	Overall average (%)
1991-92	147	0.00	78.35	49.43	40.33
1992-93	345	134.69			
1993-94	651	88.70			
1994-95	1351	107.53			
1995-96	2173	60.84			
1996-97	2864	31.80	20.51		
1997-98	3596	25.56			
1998-99	2518	-29.98			
1999-00	2170	-13.82			
2000-01	4101	88.99			
2001-02	6229	51.89	21.67	31.24	
2002-03	5168	-17.03			
2003-04	4464	-13.62			
2004-05	6087	36.36			
2005-06	9178	50.78			
2006-07	23590	157.03	40.80		
2007-08	37322	58.21			
2008-09	38941	4.34			
2009-10	38500	-1.13			
2010-11	32944	-14.43			

Source: Compiled and computed from [www.rbi.org.in](http://www.rbi.org.in)

While analyzing the saga of FDI Flows into India as per Table 1, over the last twenty years, it shows a rising trend, with 40.33 per cent growth rate on an average, with volatile oscillations. It clearly indicates the confidence the global investors have on India. The liberalization measures that were undertaken during 1990s provide India with all-season investment enabling climate. Splitting the twenty year span into two decades, the FDI growth rate shows an almost consistent level to the overall percent, being 49.43 per cent during the first decade and 31.24 per cent during the second decade. Over the years, three financial years (1992-93, 1994-95 and 2006-07) were remarkable with FDI growth rates crossing 100 percent over the immediate preceding years. It can be inferred from the above data that foreign investors were waiting at the door steps of India, as they rushed in when the economy started opening up.

Foreign investments in the country have seen a growing trend during the period 2007-08 and 2008-09, in spite of the Global Financial Crisis. But India witnessed a sharp fall in the inflows after 2008-09. This decline was influenced by weak inflows into services like computer software, hardware, financial services, banking, and construction sector. The decline in inflow during 2010-11 had become a cause for concern, as most of the emerging nations had been able to attract huge amounts of FDI inflows. Economists believed Foreign Direct Investments, which are stickier than volatile portfolio flows, would be supported by several large proposals in the oil & gas, metal and telecom sectors and also the gradual opening up of the retail sector would also lead to increased inflows over 2011-12 and 2012-13. But the FDI Inflows, being hit by global imbalances, witnessed sharp fall during Q3 of the financial year 2011-12. The trend and pattern of FDI inflows since liberalisation can be understood from the non-linear model presented below. Table 2 gives Total FDI inflows and their trend values as per Cubic Non-Linear Model.

**TABLE 2: FDI INFLOWS TO INDIA AND THEIR TREND VALUES: 1990-91 TO 2010-11 (US\$ Millions)**

S.N.	Year	FDI Inflows (Y)	T <sub>i</sub> [Trend Values]
1	1991-92	147	1121.83
2	1992-93	345	2801.89
3	1993-94	651	3991.47
4	1994-95	1351	4788.75
5	1995-96	2173	5291.89
6	1996-97	2864	5599.03
7	1997-98	3596	5808.36
8	1998-99	2518	6018.02
9	1999-00	2170	6326.18
10	2000-01	4101	6831.00
11	2001-02	6229	7630.64
12	2002-03	5168	8823.26
13	2003-04	4464	10507.03
14	2004-05	6087	12780.10
15	2005-06	9178	15740.64
16	2006-07	23590	19486.81
17	2007-08	37322	24116.76
18	2008-09	38941	29728.67
19	2009-10	38500	36420.68
20	2010-11	32944	44290.97

Figure 1 gives the comparative picture of lines fitting the Total FDI inflows in India and the trend values as per Table 2.

**FIGURE 1**

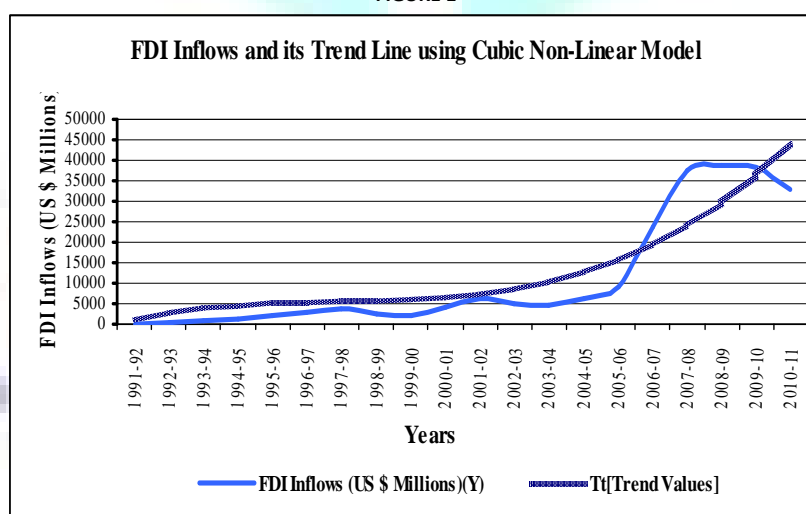


Figure 1 clearly indicates an upward trend of Total FDI inflows. The lines depicting actual inflows and the trends values rarely coincide, indicating that there are radical differences in the inflows over this period. The tiny peaks and troughs in the line showing actual FDI inflows when compared to trend line are caused by the sharp fall in the inflows during 1998-99 and 1999-00 due to lower FDI approvals and higher risk perception of emerging economies; thereafter the slow pace of growth till 2005-06 and the heavy surge in the flows during 2008-09 following the consistent attempts by the policy makers to provide better infrastructure and a more vibrant financial sector. These hasty changes make these curves not to settle on each other.

**FDI AND ECONOMIC GROWTH**

Nations' progress and prosperity is reflected by the pace of its sustained economic growth and development. Investment provides the base and pre-requisite for economic growth and development. Developed economies consider FDI as an engine of market access while less developed and developing countries, like India, view FDI as a mean for their own technological progress and in maintaining their own economic growth and development.

**FOREIGN DIRECT INVESTMENT AND GDP**

Foreign Direct Investments in terms of, India's foremost significant economic growth indicator, Gross Domestic Product will provide an indication of the role of FDIs in the country's development. Percent of FDI inflows to India on India's GDP shows the level and the degree of FDIs on India's Gross Domestic Product. The higher the percent the more will be the role of FDI in Indian economy. Table3 gives the FDI inflows as a percent on India's GDP.

**TABLE 3: FDI INFLOWS TO INDIA AS A PERCENT OF INDIA'S GDP: 1990 TO 2010**

Year	FDI as Percent of GDP
1990	0.07
1991	0.03
1992	0.11
1993	0.20
1994	0.30
1995	0.60
1996	0.63
1997	0.87
1998	0.64
1999	0.48
2000	0.78
2001	1.14
2002	1.11
2003	0.76
2004	0.79
2005	0.82
2006	1.90
2007	1.70
2008	3.57
2009	2.58
2010	1.40

Source: [www.nationmaster.com](http://www.nationmaster.com) and World Investment Reports

Table 3 reveals that Foreign Direct Investment was only 0.03 percent in 1991 and went up to 0.87 in the year 1997. But during 1999 and 2000 it declined to 0.64 percent and .48 percent respectively due to heavy fall in the FDI approvals; slowly the percent progressed over the years to reach 3.57 percent during 2008, the period during which the Global Financial Crisis was at the peak. While the concrete recovery is still due in FDI inflows, the percent of FDI on GDP also have not shown any positive sign of improvement.

However, the percent of FDI to GDP are extremely smaller, that is the FDI inflows are very meager when compared to the GDP. Thus it is not possible to conclude that as the per cent of FDI on GDP raises FDI inflows determine the economic growth of India.

**CAUSALITY RELATIONSHIP BETWEEN FDI AND ECONOMIC GROWTH**

For years, many researchers and economists are analysing the impact of foreign direct investment inflows into developing countries. The results they find are based two theories namely, Economic Theory and Dependency School Theory.

According to economic theory, the three principal contributions of FDI to a host country are: (1) the financial capital invested by foreign firms; (2) the export market access provided by them; and (3) the faster technology development that is expected to occur through technology transfer as part of the FDI package. Each of these is believed to help the host country to achieve faster industrial catching-up than it is feasible otherwise, and thus, contribute to the host country's economic growth and development. As per the economic theory, Alfaro et al. (2004), Sissoko (2006), Jackson and Markowski (1995), Mahmoud Al-Iriani et al. (2007), Kasibhatla and Sawhney (1996), Rodrik (1999) and Bengoa et al. (2003) proved that FDI plays an important role in contributing to economic growth, and those countries with well-developed financial markets gained significantly from FDI, suggesting that countries with better financial systems can exploit FDI more efficiently.

To the contrary of Economic School Theory, the dependency school theory argues that foreign investment from developed countries is harmful to the long-term economic growth of developing nations. It asserts that First World nations became wealthy by inadequately compensating the Third World nations for their natural resources and thereby sentenced to conditions of continuing poverty. This kind of capitalism based on the global division of labour causes distortion, hinders growth, and increases income inequality in developing countries as per the studies by Stoneman (1975), Bornchier (1980) and O'hearn (1990). Studies by Singer (1950), Prebisch (1968), Griffin (1970) and Weissikof (1972) supported the traditional view that target countries of FDI receive very few benefits because most benefits are transferred to the multinational company's country

In the Indian context, still there is a raging debate whether FDI in India drives growth or stunts it. FDI has been a booming factor that has bolstered the economic life of India, but on the other hand it is also being blamed for ousting domestic inflows. Studies at the national level by Chakraborty and Basu (2002) found that the causality runs more from real GDP to FDI flows into India. On the other hand, Alam (2000) stressed that the impact of FDI on Indian Economic growth is not satisfactory. The study of Bhat et al. (2004) provides no evidence of causality in either direction.



Since the above literatures present an ambiguous and mixed opinion, it is worthwhile to identify the causal nexus between foreign direct investments and economic growth in India. The Johansen and Juselius Co-integration test and the Vector Error Correction Model were applied in order to detect the causality between these two variables using the quarterly data set of FDI Net Flows and Index of Industrial Production for the period Q1 of 1994-95 to Q4 of 2010-11, as given in Annexure II. In this process, the optimal lag length essential for the unit root tests is determined by using three criterions namely Schwarz Information Criterion (SIC), Akaike information criterion (AIC) and Hannan-Quinn information Criterion (HIC), as given in Table 4.

TABLE 4: LAG ORDER SELECTION CRITERIA FOR FDI NET FLOWS AND IIP

Lag	Log L	LR	FPE	AIC	SIC	HQ
0	42.40693	-	0.000871	-1.37	-1.30	-1.34
1	52.09921	18.40	0.000719	-1.56	-1.35	-1.48
2	61.64530	17.47	0.000596	-1.75	-1.40	-1.61
3	82.09684	36.05*	0.000342*	-2.31	-1.81*	-2.12*
4	104.7365	38.37	0.000182	-2.94	-2.31	-2.69
5	117.9814	21.55	0.000134	-3.25	-2.48	-2.95
6	121.2467	5.09	0.000138	-3.23	-2.31	-2.87
7	123.9724	4.07	0.000145	-3.19	-2.13	-2.77
8	130.5347	9.34	0.000134	-3.27*	-2.08	-2.81
* indicates lag order selected by the criterion						
LR – Likelihood Ratio: sequential modified LR test statistic (each test at 5% level)						

Most of the criteria in the Table 4 suggest that the significant lag length is Three for FDI Net Flows and Index of Industrial Production series.

If the variables in the regression model are stationary, then it can be proved that the standard assumptions for asymptotic analysis are valid and thus we can validly undertake hypothesis tests about the regression parameters. To test the stationarity, the null hypothesis of 'FDI Flows and IIP has a unit root and the series are non-stationary' is tested by applying Augmented Dickey-Fuller test and the Phillips-Perron unit root test with intercept, with intercept and trend, and without intercept and trend; Table 4 reports the results of stationary tests as levels and first differences.

TABLE 5: UNIT ROOT TEST RESULTS FOR FDI NET FLOWS AND IIP

Augmented Dickey-Fuller Test				
SN	Variables	Intercept	With Intercept & trend	Without Intercept & trend
I. Levels				
1.	FDI	-1.75	-1.92	0.15
2.	IIP	0.51	-1.39	1.27
II. First Difference				
1.	FDI	-3.47**	-3.51**	-3.53*
2.	IIP	-4.35*	-4.47*	-2.06**
Phillips-Perron Test				
I. Levels				
1.	FDI	-0.05	-2.67	1.50
2.	IIP	-0.11	-2.75	1.39
II. First Difference				
1.	FDI	-12.14*	-12.15*	-12.11*
2.	IIP	-14.79*	-14.80*	-14.76*
Notes: * (**) – indicates significance at one and five per cent level, respectively.				

Table 5 indicates that the null hypothesis of a unit root in FDI flows and IIP cannot be rejected in level while the hypothesis of a unit root in these variables is rejected as a first difference at the 5 percent level of significance, indicating that both the data set are non stationary in levels and stationary at the first difference level, and hence they are integrated in the order of I (1).

Under Johansen and Juselius Co-integration test, two likelihood ratio tests namely  $\lambda_{\max}$  test and  $\lambda_{\text{trace}}$  were employed to capture the co-integration between the two series. The variables are co-integrated if and only if a single co-integrating equation exists. To prove the integration between these variables, the Null Hypotheses of ' $r=0$ ', where  $r$  is the number of co-integrating vector present under  $\lambda_{\text{trace}}$  test and 'Single co-integrating vector is not sufficient' under  $\lambda_{\max}$  test were framed in this co-integration test and the results are reported in Table 6.

TABLE 6: CO-INTEGRATION TEST RESULTS BASED ON JOHANSEN AND JUSELIUS APPROACH

Null Hypothesis ( $H_0$ )	Alternative Hypothesis ( $H_1$ )	Eigen Value	Likelihood Ratio Tests	95 % Critical Value
			$\lambda_{\text{trace}}$	
$r = 0$	$r \geq 1$	0.3069	31.458**	20.26
$r \leq 1$	$r \geq 2$	0.1160	8.0206	9.164
			$\lambda_{\max}$	
$r = 0$	$r = 1$	0.3069	23.834**	15.89
$r = 1$	$r = 2$	0.1106	7.6237	9.164
Notes: $r$ is the number of co-integrating vectors.				
Critical values are noted from Johansen and Juselius (1990), and				
** - denote the significance at five per cent level.				

Since the Johansen's trace ( $\lambda_{trace}$ ) and maximum eigen statistics ( $\lambda_{max}$ ) are greater than the upper bound with 31.46 and 23.83 respectively, under Alternate Hypothesis, it indicates that the null hypothesis of non co-integration that is  $r = 0$  is rejected and also the null hypothesis of one co-integrating vector is not sufficient is also ruled out, implying the existence of a single co-integrating vector in the model between the two series at 5% level and ultimately there is a stable long-run linear equilibrium linkage among the variables under study.

Since Index of Industrial Production and FDI flows are co-integrated causality must exist in at least one direction. Vector Error Correction Model can explore the short-run relationship between the data series and identify whether the two variables move one after the other or contemporaneously in the long-run and in the short-run. When they move contemporaneously, one provides no information for characterising the other. Table 7 given below narrates the results of Vector Error Correction Mode.

TABLE 7: RESULTS OF VECTOR ERROR CORRECTION MODEL

Dependent Variable: $\Delta IIP$			Dependent Variable: $\Delta FDI$			Inference
Variables	Estimate	t-value	Variables	Estimate	t-value	IIP $\rightarrow$ FPI in the Short-run and Long-run
$\Delta FPI_{t-1}$	-0.0179	-1.234	$\Delta FDI_{t-1}$	0.5346	1.520	
$\Delta FPI_{t-2}$	-0.0034	-0.328	$\Delta FDI_{t-2}$	0.2657	1.048	
$\Delta FPI_{t-3}$	-0.0019	-0.322	$\Delta FDI_{t-3}$	0.0374	0.260	
$\Delta IIP_{t-1}$	-0.9070	-18.28*	$\Delta IIP_{t-1}$	-0.9670	-0.807**	
$\Delta IIP_{t-2}$	-0.8945	-16.76*	$\Delta IIP_{t-2}$	2.4682	2.140**	
$\Delta IIP_{t-3}$	-0.9457	-19.60*	$\Delta IIP_{t-3}$	-0.8668	-1.989**	
$EC_{t-1}$	0.0253	1.426	$EC_{t-1}$	-1.9447	-4.538*	
c	-0.0015	-0.5406	c	0.0196	0.285	
Adj. $R^2$	0.91	-	Adj. $R^2$	0.68	-	
Notes: Optimal lag length is determined by the Schwarz Information Criterion (SIC), *, ** and *** denote the significance at the one, five and ten per cent level, respectively.						

It can be observed from the results of Table 6 that the unidirectional relationship subsists between the foreign direct investments and economic growth in India. The FDI flows are found to be determined by the economic growth and not vice versa. The negative and significant error correction coefficient  $EC_{t-1}$  at -4.54, when FDI flows are dependent variable, is statistically significant at one per cent level which confirms the direction of causality runs from growth to FDI flows in the long-run. And the lagged coefficients the lagged coefficients,  $\Delta IIP_{t-1}$ ,  $\Delta IIP_{t-2}$ , and  $\Delta IIP_{t-3}$ , of index of industrial production in FDI equation with -0.807, 2.140 and -1.989 are found to be statistically significant at five per cent levels indicating that IIP leads to FDI in the short-run.

## FINDINGS

The results of Johansen and Juselius Co-integration test and the Vector Error Correction Model provide the evidence of unidirectional causality running from FDI Net Flows to IIP for the period 1994-95 Q1 to 2010-11 Q4 and explain the existence of both long-run and short-run relationship between FDIs and IIP at a lag length of 3. This shows that the real economic growth of India determines the volume of foreign direct investment flows into India. Thus, Reserve Bank of India must ensure that the economy remains on a healthy and sustainable growth path so as to maintain investor confidence in the economy.

## SUGGESTIONS

1. Thus the finding of the study unambiguously suggest that Foreign Direct Investments has not been established as a major dominant factor for the economic growth of India. The Indian policy makers should offer the foreign investors with the real prospects to invest in Indian markets by offering them the most constructive economic conditions as these things positively influence foreign investments in India.
2. In order to attain favourable sustained economic conditions the government should improve the investment environment with the ensured political and economic stability in the country. Policy makers need to ensure transparency and consistency in policy making along with comprehensive long term development strategy. India needs to build on its current savings and investment levels so as to assure Indian Economic Growth.

## CONCLUSION

FDI inflows dominate the capital flows in terms of the benefits derived from these flows by the country. India has certainly reaped all the benefits as now the country is recognized as an emerging economy. Foreign Direct Investments really boosts our industrial and social growth and also provided the savings to undertake essential infrastructure development works. The country is coming out of the 'Less Developed Country' tag. Hence FDI is beneficial to India's growth and India's growth is beneficial for FDI. FDI, if monitored and nurtured duly, will bring more skills and resources to India. Giving importance to the dependence of Indian Economy on the FDI flows, the study analysed the causal nexus between FDI and Economic growth and found that the economic growth determines the quantum of FDI flows and not vice versa.

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## ANNEXURE

ANNEXURE I: COMPONENT-WISE FDI FLOWS IN INDIA: 2000-01 TO 2010-11 (US\$ Millions)

Year	Inflows				Outflows				Net Flows			
	E. C.	R.E.	O. C.	Total	E. C.	R.E.	O. C.	Total	E. C.	R.E.	O. C.	Total
2000-01	2469	1352	280	4101	414	340	75	829	2055	1012	205	3272
2001-02	4195	1644	390	6229	674	700	121	1495	3521	944	269	4734
2002-03	2898	1832	438	5168	743	1104	104	1951	2155	728	334	3217
2003-04	2371	1460	633	4464	1264	552	260	2076	1107	908	373	2388
2004-05	3814	1904	369	6087	1737	248	389	2374	2077	1656	-20	3713
2005-06	6192	2760	226	9178	4043	1092	1009	6144	2149	1668	-783	3034
2006-07	17245	5828	517	23590	13455	1076	1366	15897	3790	4752	-849	7693
2007-08	29342	7680	300	37322	17007	1084	3338	21429	12335	6596	-3038	15893
2008-09	29132	9032	776	38940	14957	1084	3083	19124	14175	7948	-2307	19816
2009-10	27887	8668	1945	38500	14294	1084	4351	19729	13593	7584	-2406	18771
2010-11	22868	9424	652	32944	16750	1084	7968	25802	6118	8340	-7316	7142

Source: Compiled and computed from www.rbi.org.in

E. C. – Equity Capital  
R. E. – Re-invested Earnings  
O. C. – Other Capital

ANNEXURE II: FDI NET FLOWS AND IIP GENERAL INDEX: 1994-95 Q1 TO 2010-11 Q4

Period		IIP General Index [Base year 1993-94]	FDI Net Flows (US\$ millions)
1994-95	Q1	100.97	170
	Q2	103.60	303
	Q3	110.90	309
	Q4	120.93	561
1995-96	Q1	114.40	471
	Q2	117.77	449
	Q3	124.17	664
	Q4	137.03	559
1996-97	Q1	127.50	595
	Q2	125.53	538
	Q3	130.17	831
	Q4	140.13	878
1997-98	Q1	133.67	1164
	Q2	134.77	795
	Q3	140.83	782
	Q4	148.83	821
1998-99	Q1	140.20	904
	Q2	140.00	543
	Q3	145.37	365
	Q4	155.40	668
1999-00	Q1	148.10	452
	Q2	149.70	648
	Q3	155.17	400
	Q4	166.43	667
2000-01	Q1	157.13	924
	Q2	157.50	804
	Q3	164.07	704
	Q4	171.10	840
2001-02	Q1	160.63	808
	Q2	161.43	1293
	Q3	168.77	1133
	Q4	177.13	1500
2002-03	Q1	167.47	1240
	Q2	171.93	532
	Q3	178.50	676
	Q4	188.67	769

FDI Netflows and IIP General Index: 1994-95 Q1 to 2010-11 Q4 [Continues]

Period		IIP General Index [Base year 1993-94]	FDI Net Flows (US\$ millions)
2003-04	Q1	177.10	386
	Q2	183.30	702
	Q3	191.53	587
	Q4	203.97	713
2004-05	Q1	195.93	963
	Q2	205.73	1334
	Q3	215.23	582
	Q4	227.60	834
2005-06	Q1	210.50	1350
	Q2	212.80	1076
	Q3	223.73	1368
	Q4	239.03	-760
2006-07	Q1	232.50	1738
	Q2	237.93	2116
	Q3	248.83	2898
	Q4	268.93	941
2007-08	Q1	256.37	2874
	Q2	258.60	2266
	Q3	269.43	2120
	Q4	287.67	8633
2008-09	Q1	270.03	9196
	Q2	270.73	5610
	Q3	271.50	710
	Q4	289.17	4300
2009-10	Q1	280.40	4827
	Q2	295.20	7503
	Q3	307.93	3039
	Q4	350.70	3402
2010-11	Q1	324.57	2933
	Q2	332.63	3003
	Q3	337.77	629
	Q4	369.10	577

Source: Compiled and computed from www.rbi.org.in



**INCLUSIVE GROWTH AND REGIONAL DISPARITIES IN ANDHRA PRADESH****V. VANEENDRA NATHA SASTRY****ASST. PROFESSOR****DEPARTMENT OF HUMANITIES & SOCIAL SCIENCES****NALLA MALLA REDDY ENGINEERING COLLEGE****DIVYA NAGAR****ABSTRACT**

*This paper deals with inclusive growth and regional disparities in Andhra Pradesh. The Eleventh Five Year Plan, approved by the National Development Council on 19<sup>th</sup> December 2007 reaffirms India's commitment to a planned economic development to improve the economic conditions of our people and an affirmation of the role of the government in bringing about this outcome through varied social, economic, and institutional means. It provides a comprehensive strategy for inclusive development, building on the growing strength of the economy, while addressing weaknesses that have cropped up. The aim of strategy for growth in the 11<sup>th</sup> five year plan is to achieve a growth process that meets the objectives of inclusiveness and sustainability. It also includes policies that are sector specific to ensure that the structure of growth that is generated and the institutional environment in which it occurs achieves the objective of inclusiveness in all its many dimensions. To meet the needs of a growing economy and to promote social equality, education and skill development sectors receive high priority in the 11<sup>th</sup> plan. This can be achieved by empowering those currently excluded due to unequal access to education and skills to participate in the growth process. The main objective of this paper is to explain the factors that are neglected in the 11<sup>th</sup> five year plan in the context of social sector development. Immediately after the state was formed, the challenge of development policy was to form a single economic entity from the existing diverse units and to hasten the growth of its productive sectors along with the promotion of adequate opportunities to ensure broad based participation by all sections of society. This paper identifies the important elements of inclusive growth as: agricultural growth, employment generation and poverty reduction, social sector (health and education) development and reduction in regional and other disparities. Here, we confine our discussion to health and education from the four elements of inclusive growth.*

**KEYWORDS**

Inclusive growth, Social sector, Regional disparities, Poverty, Education, Health.

**INTRODUCTION**

The five year plans in our country are aimed at achieving a balanced development. However, the structure of the economy and social set up underwent many changes with the economic liberalization followed in the early 90s. Though the main strategies of the five year plans were growth with justice, alleviation of poverty, etc., it was noticed before the 11<sup>th</sup> five year plan that there are various reasons that were dividing the society vertically as well as horizontally. So, the 11<sup>th</sup> plan followed a strategy by bringing the marginalized sections into the development process that is called "Inclusive Growth".

The spending on the social sector has been increased to Rs. 1, 37, 674 crores in 2010-11 which is 37% of the total plan outlay of the 10<sup>th</sup> five year plan with special focus on the education and health sectors. Plan allocation for school education increased from Rs. 26, 800 crores in 2009-10 to Rs. 31, 036 crores in 2010-11 which constitutes a 16% increase. Additionally, under the Thirteenth Finance Commission grants for 2010-11, states will have access to Rs. 3, 675 crores for elementary education. In the health sector, an Annual Health Survey is proposed to be conducted in 2010-11 to prepare the District Health Profile of all districts. Plan allocation for health and Family Welfare increased from Rs. 19, 534 crores in 2009-10 to Rs. 22, 300 crores in 2010-11, which is an increase of 14%.

In a diverse country such as India, caste issue and the problems of inequality related to it, discrimination, regional imbalances, etc are hindrances to achieve inclusive growth. The time has arrived to discuss the issues that cropped up while inclusive strategies are implemented. The contribution of the economic development in the enhancement of the quality of life of the people evaluates the economic development of the country.

Human development is a measure to estimate the process of inclusion. The relationship between economic growth and human development suggested that nations may enter either a virtuous cycle of high growth in human development or a vicious circle of low growth of human development. The existence of these cycles depends on the strength of the links between economic growth and human development. The human development ratio of 2009 clearly illustrates that good education and health contribute to the economic growth and rise in people's income.

**OBJECTIVES**

1. Examine how inclusive growth is building bridges or creating tensions between groups and regions.
2. Examine the various social problems of SC, ST, OBC, women and religious minorities during the implementation of inclusive policies.
3. Assess the impact of inclusive policies on women empowerment.
4. Examine the hurdles in the path of inclusive growth.
5. Evolve certain strategies to formulate inclusive policies to uplift the weaker sections.

Globalization and economic reforms have been criticized that they have not achieved inclusive growth or equitable development. It is agreed internationally that we should have policies that achieve inclusive growth. Though there has been a significant growth in the economic condition of our country in the post reform period, the exclusion problems have not been addressed by the programmers and strategies of the government.

Andhra Pradesh has been formed into a state by combining regions of different historical legacies, backgrounds and institutional arrangements. The challenge of development policy immediately after the formation of the state was to integrate these different units into a single economic entity and accelerate the growth of its productive sectors by providing all sections of the society opportunities to participate in it. Though growth was higher in the last two decades, inclusive growth or equitable development is missing. The important elements of inclusive growth are: agricultural growth. Employment generation and poverty reduction, social sector (health and education) and reduction in regional and other disparities.

Before dealing with the health and education elements which are the focus of this paper, we examine the performance of economic growth, analyze the issues and challenges in social sector development, provide some suggestions to achieve inclusive growth and give concluding observations. An examination of Gross Salaried Domestic Product (GSDP) growth rates for Andhra Pradesh (A.P.) reveals that in the last ten years (1994-95 to 2004-05) GSDP was lower at 5.8% as compared to 6.4% during the decade 1984-85 to 1993-94. Growth rate in per capita GSDP increased significantly from 2.8% in the 80s to 3.9% in the 90s and to 4.8% during 2000-05. The higher growth rate in per capita GSDP was compared to all India in the last five years was partly due to lower population growth in A.P. than all India.

The per capita income in terms of net SDP in A.P. has always been lower than all India. The ratio of A.P. to all India per capita net SDP was 95.7% in the period 1993-96 which increased to 99.3% in the period 2002-05. Thus, A.P. seems to be catching up with all India in per capita income in recent years. Thus, we can conclude that, the economy of A.P. seems to be on a relatively high growth path of 7 to 8% in recent years. The fiscal performance is satisfactory. Population growth also declined significantly in the state. However, inclusive growth is important to reduce poverty and various types of inequalities in the economy and society.

Structural transformation in terms of workers shifting from agriculture sector to non agriculture sector is also important for alleviation of poverty. There are many challenges for achieving inclusive growth even if the economy records high growth of 7 to 8% per annum in GDP. In other words, achieving inclusive

growth is much more challenging than achieving 7 to 8% in GDP. There have been improvements in education and health in A.P. However, the state is backward in human development with a rank of 10 for Human Development Index. There are basically five problems in social sector in A.P.

1. The levels of social sector indicators in A. P. are much lower and progress slower than many other southern states of the country. The 61<sup>st</sup> Round NSS Survey shows that the literacy rates of A.P. are very low compared to other states. A. P. has the lowest literacy level among the rural males. 74% of rural males and 86% of rural females were either illiterate or educated only up to primary level. Only 7% of the rural females were educated up to secondary level. The literacy levels of the rural males and females are 55.8% and 39.1% which are less compared to that of urban males and females which are 76.7% and 62.5% respectively. The literacy rates among Muslims both male and female have been lowest among all religious minorities. The Sanchar Committee Report found that enrolment of Muslim children aged between 6 and 14 years was 81.8% which was lower than that of all-India level of 85.3% for all communities though it was higher than that of SCs and STs which was 79.3%. The literacy rate of Muslim girls is very low for many reasons such as risk due to growing communalism, dependency of the younger ones on older siblings for care, child labour for self employment due to high level of poverty etc. Muslim parents want to provide religious education along with the general curriculum to their children and the school timings clash with those of Madrasas and Maktabas. Regarding health indicators, in spite of decline in infant mortality rate from 7% in 1992-93 to 5.3% in 2005-06, A. P. ranks 11<sup>th</sup> among 17 states in the year 2005-06. In case of malnutrition among children, A. P. ranks 6<sup>th</sup> out of 17 states in the year 2005-06 though there is a decrease in percentage of underweight children from 4.5 in 1992-93 to 3.7 in 2005-06.
2. There are considerable social, regional, gender and rural-urban disparities in social sector indicators. For instance, female literacy rate varies from 32.8% in Mahabubnagar to 70% in West Godavari district. Infant mortality rate is lower in Krishna and Guntur compared to Vijayanagaram. Similar disparities exist among social groups and human development progress is lower in women than men.
3. Public expenditure on health and education is low. Lower funds are allocated to social sector expenditure in the post reform period than in the pre-reform period. Finance Ministry argues that enhanced public financing must be preceded by reform of the delivery mechanism. In A.P., the social sector expenditure as per cent of GDP was between 6 and 7 % in 2002-06 and social sector expenditure as per cent of total expenditure was between 30 and 35 %. In A.P., the expenditure on education and health has been between 10 and 13% compared to 12 to 17% in the country.
4. Infrastructure and quality of services are bad in health and education sectors. To ensure good quality of instruction, is the most difficult task. A recent study conducted at all India level revealed that 38% of children who completed 4 years of schooling are unable to read a small paragraph of short sentences and perform simple divisions. Similar problems exist in our state too which urges the need to improve quality of secondary and higher education.
5. Privatization of the health and education sectors is causing problems for the poor. The NSS data shows that the role of private sector in health care increased in A.P. The private sector accounted for about 70% inpatient care in rural areas as compared to 62% in urban areas in 1980s, which increased to 77.5% in rural areas in mid 90s. In case of outpatient care, the share of private sector was high in A.P. along with other states. Similarly, there are developments in education sector also. The suicides of some farmers are due to higher private expenditures on health and education in the state. These problems have to be dealt with for improving human development in A.P.

The Government of A.P. is implementing a statewide rural poverty eradication programme known as 'Velugu' or 'Indira Kranti Pathakam' based on social mobilization and empowerment of rural poor women which aims at enhancing assets, capabilities and the ability of the poor to deal with shocks and risks. This programme has contributed a lot to the improvement in the women's empowerment at the household and community level. The National Rural Employment Guarantee Scheme (NREGS) is another important scheme in wage employment programmes, the initial reports of the working of which have been positive though there are a few ground level problems. This scheme is better implemented in our state as we can efficiently track its progress with IT, social audit, post-office involvement etc.

## REGIONAL DISPARITIES IN ANDHRA PRADESH

One of the important elements of inclusive growth is reduction in regional disparities. Growth rate in district domestic product (DDP) provided by the Directorate of Economics and Statistics, shows that 7 districts of Telangana and 2 districts of North Coastal Andhra recorded higher growth rates than that of state average, while all the districts of South Coastal and Rayalaseema, 3 districts of Telangana and 1 district of North Coastal Andhra showed lower growth than that of state average.

In terms of per capita income, the gap between the poorest 4 districts and the richest 4 districts has widened. The high growth rates could be due to low base in some districts. However, out of 9 districts that recorded high growth rates compared to the state average, 4 have low base. Thus, definitely quality of growth is important. We are not sure of the quality of growth and whether it is inclusive growth in the Telangana districts with high growth rates.

Secondly, there are significant disparities in social development despite some favorable trends in DDP. The literacy rates for Telangana (excluding Hyderabad) and North Coastal Andhra were much lower than that for South Coastal Andhra. Female literacy rate is lowest in the Telangana districts. The drop out rate at primary education level for boys and girls were quite high in Telangana especially for SCs and STs. With regard to health care, private sector concentrated mainly on developed districts which lead to regional inequalities in the availability of medical facilities. The infant mortality rate is quite high in North Coastal Andhra, Rayalaseema and South Telangana.

Let us now check the progress of Millennium Development Goals in A.P. The recent study by CESS on the achievement of MDGs in A.P. tracks the progress at the state level and disparities across regions, social and economic groups in rural areas, considering 14 indicators including poverty, education, health, and gender equity. In case of education, the MDG is to ensure that by 2015, the net primary enrolment ratio is 100% and are retained until grade 5. There is a considerable progress in the enrolment in A.P. However, 100% completion rate is not likely to be met by all the groups in the state. Retaining enrolled children is the major task. Similarly, the gender equality in education will not be achieved by all groups except in urban areas. The rate of decline of infant mortality slowed down in rural A.P. In this trend, the goal of reducing the infant mortality rate by two-thirds is not achievable.

## SUGGESTIONS FOR ENHANCING INCLUSIVE GROWTH IN ANDHRA PRADESH

Though there is an increase in economic growth in the state, inclusive growth has to be improved. The following are some suggestions to improve inclusive growth.

1. Inclusive growth is important for enhancing growth and development. Growth is enhanced by reducing rural-urban disparities and regional disparities. Inclusive growth and economic growth go hand in hand if equity is defined in terms of empowerment and increase the participation of the poor.
2. Agriculture is the strength of our state and so its development has to be given top priority to enhance inclusive growth. Irrigation and water management, land issues, credit, marketing etc have to be improved to reduce farmers' suicides and improve agricultural growth.
3. Investment in infrastructure is important for inclusive growth, for which sequencing of reforms or phasing of public policy is important. Priority should be given to policies that improve quality and quantity of employment growth. Priority to public. Investment in physical and human infrastructure is one of the important factor responsible for inclusive growth.
4. Structural change in economy should follow agriculture-industry-service sequence. In GDP shares, A. P. jumped from agriculture to services without concentrating on manufacturing. Also, the share of employment in agriculture which is more than 58% is higher than the share of employment in manufacturing. Thus, industry has to be developed to improve employment.
5. It is important that opportunities for better health and education must be equally distributed to all the people. The state government should implement policies that focus on social change ending discrimination on the basis of caste, class and gender. Access to better health care and high quality education must be provided to one and all in the state. A constant emphasis on quality education and proper health care is required for inclusive growth.
6. In order to improve MDGs and reduce regional disparities in our state, it is necessary to concentrate on economic growth in agriculture and employment to reduce poverty. If gender disparity is reduced, the relevant MDG will be achieved. There is a need to target resources geographically to reduce poverty and

increase public expenditure on health and education. Sector specific interventions must be carefully targeted to achieve MDGs. Plans of action must be developed and implemented to bring about reduction in infant mortality rate and malnutrition in children. AIDS is another problem in the state that has to be tackled. Several institutions have failed in delivering better services in health and education in rural areas. To improve the performance of service sector, institutions have to be developed and the present service delivery institutions have to be strengthened. Public expenditure on health and education has to be increased and less developed areas have to be focused.

7. Globalization with better initial conditions has increased employment and income of workers and lead to equitable development.
8. The spread of green revolution in the state shows that small farmers have benefited from technology as the gains from it are widely distributed. So, development of technology is important for inclusive growth.
9. Better governance is very important for inclusive development, for better implementation of sectoral policies and poverty alleviation programs. For this, social mobilization, community participation and decentralized approach are required. Decentralization of power to local councils is important for rural development.
10. Economic reforms in line with socio-political factors must be related to socio-economic environment.
11. Rights approach has an important role in improving development programmes as the rights put pressure on governments to deliver services to the people. Thus, there is a need for an operational plan to achieve inclusive growth during the current five year plan and beyond in our state. This plan should cover agriculture, employment and social sectors, remove economic and social deprivation across all regions and socially disadvantaged sections.

## CONCLUSION

Though Andhra Pradesh is improving its economic growth, the post reform period witnessed increase in regional disparities and disparities among social groups and between rural and urban areas. A broad based and inclusive growth is needed to benefit all sections of the society. Lack of inclusive growth leads to unrest among the people. The measures that raise equity also promote economic growth. Clearly, the development process in the state must become more socially and economically inclusive, to reduce exclusion, social tensions, inequality and to improve overall economic development. So, government interventions must be focused and civil society must be enlightened for the success of pro-policies, sectoral interventions, targeted poverty alleviation programmes and to go beyond MDGs. The state has to learn from its five decade experience and focus on the priority areas of agriculture, health and education in social sector in the present and coming decade to achieve 'Swarna Andhra Pradesh', otherwise it may lag behind in achieving broad based development.

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## STRATEGIES TO COPE UP WORK - PLACE STRESSORS: AN EMPIRICAL STUDY IN EDUCATIONAL INSTITUTIONS

**B. LAVANYA**

**ASST. PROFESSOR**

**SCHOOL OF MANAGEMENT STUDIES**

**CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY**

**GANDIPET**

### ABSTRACT

*In modern societies, stress has become a widespread phenomenon and therefore an issue of major concern to employees as well as to organizations. Higher education is not immune to this problem. Teachers' work has always been considered to be very stressful. A host of factors cause stress. It has been identified that poor workplace relations are one of Organizational Stressors. If not developed coping strategies that encourage Workplace Camaraderie, faculty stress will have more negative than positive consequences and thwarts the Organizational effectiveness. The aim of this research is to investigate what aspects of Workplace relations cause stress on an individual and to find out the coping strategies that encourage Workplace Camaraderie that combat stress operatively and strategically in Educational institutions. The sample for the study was faculty from engineering colleges in Hyderabad. A well framed questionnaire was used as primary source of information regarding organizational stressors. The secondary sources of data are used for framing strategies to handle stress at workplace. The Analysis of the study resulted in framing a model that consists of appropriate measures that helps an individual to manage stress effectively in educational institutions.*

### KEYWORDS

camaraderie, coping strategies, educational institutions, stress, workplace relations.

### INTRODUCTION

Stress is a common complaint of employees worldwide, in which individuals experience an emotional state in which both physical and mental discomfort are present. Stress is an interactive concept. It does not simply arise from internal organs of an individual, but comes from the interaction of human beings with the environment. Thus environment has profound influence on the stress (Sarma, V. S. Velluri, 2010). When it is observed that over last two decades the transformation that has been taking place worldwide at higher educational institutions has resulted in significant changes in the nature of work at the institutions and there is increased stress on the staff. This would result in physiological, psychological, behavioral, job and organizational consequences. It has been identified that poor workplace relations are one of Organizational Stressors. Work place camaraderie is one of the ways to cope up with the organizational stress. Camaraderie is the spirit of familiarity and trust existing between friends. In meeting personal and group needs, and in regulating employee's behavior constructively, stress management strategies that focus on improving Workplace relations can be very helpful to the Organization. An Organization may not find always the ways to manage workplace stress by making huge changes or rethinking career ambitions, but rather it can focus on improving the Camaraderie among its subjects.

### REVIEW OF LITERATURE

In the words of Fred Luthans, Stress is defined as "an adaptive response to an external situation that results in individual psychological, and/or behavioral deviations for organizational participants. When stress is experienced by an individual, its symptoms can surface as physiological, psychological and behavioral outcomes. Variables like individual perception, job experience, social support, belief in locus of control and hostility differentiates people in terms of their ability to handle stress. Social support acts as a palliative, mitigating the negative effects of even high-strain jobs (Stephen P. Robbins, 1996).

Teacher stress is defined by Kyriacou (1987) as "the experience by a teacher of unpleasant emotions, such as tension, frustration, anxiety, anger, and depression, resulting from aspects of work as a teacher". Job Control, Resources, Communication and Work Relationships were found to be problematic stressors that mainly influenced organizational commitment (Mostert, et.al, 2008). Teaching is the most stressful occupations out of 26 other occupations. Office/workplace is where one spends many hours of life, so getting along and working productively with colleagues is very important. Unfortunately, many employees experience stress because team members argue, give each other the silent treatment or allow one person to do all the work (Johnson, S. et.al. 2006). Low levels of social support are associated with psychological distress. Teachers employed far away from home and family, opportunities for group interaction can offer much-needed assistance. A network of groups—both social and professional—can support teachers in coping with acculturation (Zoe Ann Brown and Denise L. Uehara).

There is need to build a repertoire of techniques and strike a balance between work and social activities to effectively manage stress. This will invariably reduce the enormity of economic costs to both organizations and the employees characterized by consequences of unmanaged stress (Elizabeth & Godswill, 2009). An assumption that we can live without distress would be very naive. Stress is a feeling produced by an individual in relationship with the environment so it can also be controlled and managed. Stressful situations can be turned to one's profit and kept in the area of a good stress or eustress (Marija Rok, 2011). Less secure employment and work-life imbalance strongly predicted increased psychological distress. Consideration of contemporary academic work by both academic staff associations and university administrations with respect to the implementation of changes in policies and procedures that might lead to reductions in work-related stress and strain (Catano, Vic, et.al., 2010).

It's proven that in a business, big or small, having each member feel uniquely vital to the organization, and who have friends within the organization, not only reduces turnover but also increases production and profitability (Nick Morris, www.ideamarketers.com). Firms that rank high on the consulting and research group's lists of great employers have three traits in common: employee trust in management, pride in the company and camaraderie with colleagues (Laura Petrecca, www.usatoday.com).

### NEED OF THE STUDY

Stress is a universal phenomenon. A lot of research has been carried on organizational stress, but very few studies were conducted regarding faculty stress in higher educational institutions. The reason behind this lies in perception that teaching is generally a low stress job when compared to other professions. Occupational stress is becoming a key concern for both faculty members and administrators at higher educational institutions. It has been identified that lack of Workplace Camaraderie is one of the organizational stressors. So, this study has been initiated to identify the aspects of Workplace relations that cause stress on an individual and then propose a model that includes coping strategies that encourage Workplace Camaraderie resulting in reducing stress.

### OBJECTIVES OF THE STUDY

The study has been carried with the following objectives.

1. To investigate what aspects of workplace relations cause stress on an individual in the educational institutions.



2. To develop a model proposing the strategies that can be applied to encourage Workplace Camaraderie to confront stress in the educational institutions.

## METHODOLOGY

To identify what aspects of Workplace relations cause stress, questionnaire has been used as a major source of data. Primary data for the study is collected from the Employees (faculty) working with engineering colleges in Hyderabad who represented the respondents of the study. To identify the issues relating to this study, secondary data sources i.e., texts, journals, magazines, newspaper and websites were used. The questionnaire was administered to sample of 100 faculty members based upon their convenience, interest levels and availability. Out of 100 questionnaires 76 are used for the analysis as others were incomplete. The relevant quantitative technique, average Mean score is adopted for gaining insight in to the study and there by a model has been proposed showing Workplace stressors with corresponding coping strategies for educational institutions.

## RESULTS AND DISCUSSIONS

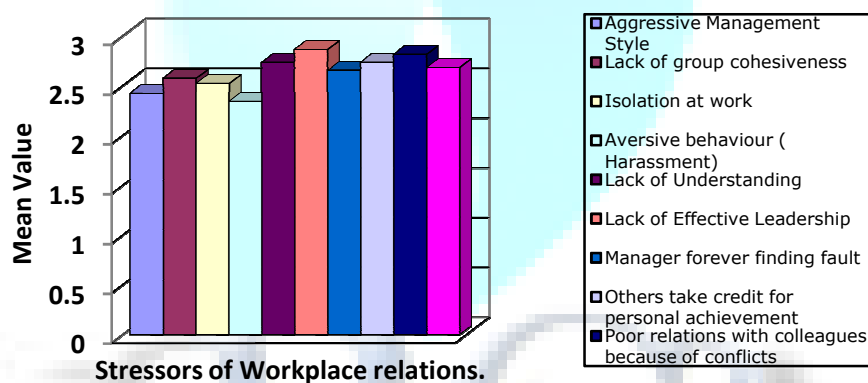
The aim of this study is to propose a model with stress coping strategies that help Workplace Camaraderie by identifying the Workplace relation's stressors. To identify the aspects of workplace relations that causes stress, ten questions were framed based on five-point scale (1- Never, 2- Rare, 3- Sometimes, 4- Often and 5- Very Often), a average score of 3 and around indicate a moderate stressor on the aspect of Workplace relations, while around 5 and 1 indicates a high stressor to the employees and low stressor to the employees on the aspects of workplace relations that cause stress on an individual. The responses are summarized in table-1.

TABLE-1: STRESSORS RELATING TO WORKPLACE RELATIONS AND MEAN VALUES

Aspects of Workplace relations	Mean values
Aggressive Management Style	2.42
Lack of group cohesiveness	2.57
Isolation at work	2.52
Aversive behaviour ( Harassment)	2.34
Lack of Understanding	2.73
Lack of Effective Leadership	2.86
Manager forever finding fault	2.65
Others take credit for personal achievement	2.73
Conflicts with colleagues because of conflicts	2.81
Miscommunication	2.68

The identified stressors related to Workplace relations in Educational institutions are Aggressive Management Style, Lack of group cohesiveness, Isolation at work, Aversive behaviour ( Harassment), Lack of Understanding, Lack of Effective Leadership, Manager forever finding fault, Others take credit for personal achievement, Poor relations with colleagues because of conflicts and Miscommunication. Based upon the responses (table-1) under the study, mean value of the each stressor is calculated. Lack of Effective Leadership (Mean value 2.86) ranks the top most factors leading to stress. This is followed by poor relations with colleagues because of conflicts (2.81). On the other side employee feel that Aggressive Management Style (2.42) and Aversive behaviour (Harassment) (2.34) cause less stress than other aspects of workplace relations that cause stress on an individual in Educational institutions. It is also observed from the Table-1, that the other stressors have mean values around 2.5 indicating that all these factors are causing stress moderately. The mean values are as follows: Others take credit for personal achievement and Lack of Understanding (2.73), Miscommunication (2.68), Manager forever finding fault (2.65), Lack of group cohesiveness (2.57) and Isolation at work (2.52).

FIGURE 1: WORKPLACE STRESSORS IN EDUCATIONAL INSTITUTIONS.



From the fig-1, it is clear that among the stressors, lack of effective leadership and poor relationship with colleagues due to conflicts are found to be the major factors causing stress. Management style and aversive behavior are considered as having low impact compared to other factors. This indicates that the management style can be implemented based on the type of employees and their enthusiasm levels. The more enthusiasm, creativity, commitment and talented, the more would be participative style of management. Otherwise autocratic style of management is advisable.

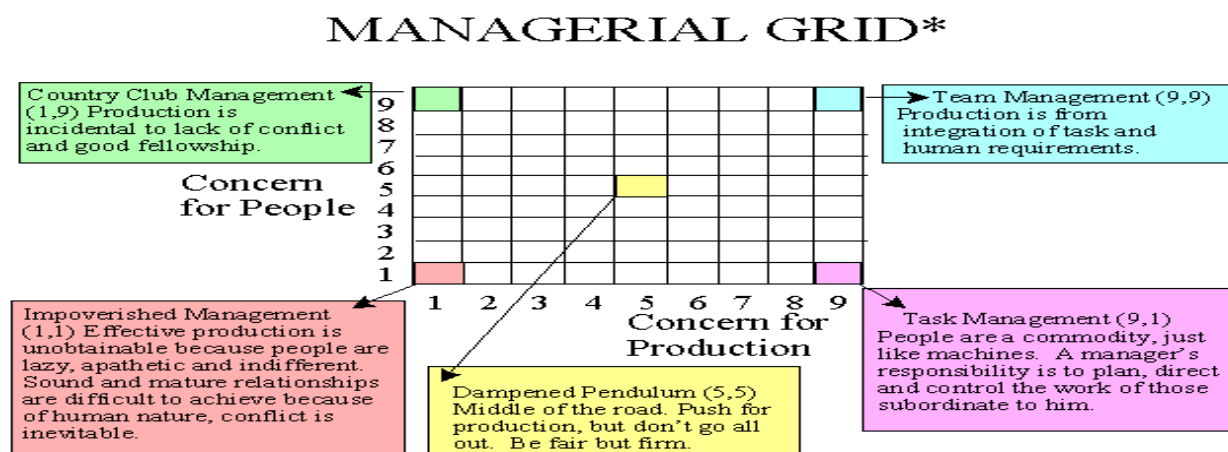
Stress management is of paramount importance in modern organizational settings. Although management of stress is primarily the responsibility of an employee, the role of Organizations cannot be undermined. The figure-1 explains the Stressors and the related techniques that help in understanding the creation of stress-free environment and the significance of Work place Camaraderie.

FIG-2: STRESS COPING STRATEGIES WITH RESPECTIVE OUTCOMES IN EDUCATIONAL SERVICES



Fig-2 shows the stressors among the faculty in educational institutions (analysis based upon the primary data, table-1); coping strategies and its impact on individual, group and the organization. It is found in table-1, that all the stressors identified for the study were causing moderate stress among the faculty. Based upon the stressors, various strategies have been developed to have a positive outcome in the institute. The result is depicted in the form of model in fig-2. To minimize the effect of Aggressive management style, the organizations can adopt different kinds of management styles given by 'Grid Technique' depending upon the situations in the organization. Blake and Mouton (1964) devised a 'Grid' model showing how concern for people and production can be combined in varying proportions and what kind of Management Style would be used according to the nature of the organization. Aggressive management style is one of the management styles. It is found from the study that this style is one among the stressors. In Aggressive Management style, the superior gets his/her own ways regardless of others by personal dominance. Even though the Mean value of this stressor is less when compared to other stressors in educational institutions, it cannot be ignored. The figure-3 shows the five different Management styles in managerial grid. They are 1. Impoverished (1, 1), 2. Country club (1, 9), 3. Task (9, 1), 4. Middle road (5, 5) and 5. Team (9, 9).

FIG-3: BLAKE &amp; MOUTON'S MANAGERIAL GRID



\* Adapted from Blake, R. R. and J. S. Moulton. 1962. The managerial grid. *Advanced Management Office Executive* 1(9).

The most efficient management combines high concern for the task with high concern for people. Even the management of educational institution can reduce the stress on the individuals by developing efficient teams with respect and trust among the individuals. As employees are shown concern along with assignment of the task, the morale is increased.

Group cohesiveness is the degree of attachment and agreement of the members in a group. In educational institutions too, goal conflicts and personal differences leads to lack of group cohesiveness, which in turn cause stress. From table-1 it is observed that lack of group cohesiveness is causing considerable stress on the faculty. In order to avoid this, the Organization should develop group norms that include rules of behavior or proper ways of action which are accepted as legitimate by the faculty members. These group norms should be aligned with Organizational goals so that productivity is ensured.

Sometimes employees feel detached from the world around (isolated) at work place when they lack warm interpersonal relations. Generally these are the individual with strong need for independence. They sacrifice fulfillment of their social need to achieve success and fail to develop close attachments with friends and colleagues and undergo stress. Promoting social support by conducting activities that provide task, informational and emotional assistance can help the individuals manage stress as they will slowly develop sense of belonging.

Harassment and name calling exhibits the aversive character of an individual. Though the employees in educational institutions are not facing this problem seriously, it has to be addressed as little of this can have immense impact on the individual performance. Self-management techniques can render a helping hand to handle such behavior. These help an individual to understand themselves in a free and fair manner. Some individual with their aversive behavior puts others in a stressful situation. Personal audits can help individuals to analyze their capacities and limitations and gives them a scope to improve one's skills and capacity to overcome limitations in scientific way. The Organizations can conduct Self management programmers for employees so that they result in an all round development.

Lack of Interpersonal relations and miscommunication leads to lack of understanding. Employees can feel stress free environment only when they find trusting relationships and it is observed that misunderstanding never leaves any room for trusting relationship. Developing Interpersonal relations by questioning and providing alternatives can reduce misunderstandings among the individuals so that they can manage Workplace stress.

It is observed from figure- 1 that the majority of faculty members who are undergoing stress because of workplace relations is due to Lack of effective leadership. The employees feel strained when they feel tasks that they are carrying are ambiguous and stressful. In order to be an effective leader a superior has to motivate, create confidence and build morale in his/her subjects without any discrimination (Directive leadership). Mental and emotional involvement of a person in a group situation encourages him to render greater performance as they enjoy job satisfaction.

Employees express that when their superior criticize, dissuade and find fault they feel stressed. In order to avoid such situation the management should encourage persuading process where employees can surface their feelings and values. It is sometimes observed that many employees get disturbed when they notice that others are taking credit instead of them. These kinds of situations happen when there is incompatibility and miscommunication among the members. The Organizations have to realign workgroups with increasing interdependence and ensuring group cohesiveness. This kind of strategies can ultimately result in Organizational efficiency.

Conflicts results in poor relationships and increased employee turnover. Personal differences that individual surface in their behavior is the greater reason for this. It can observe from the figure -1 that the poor relationship with colleagues because of conflicts is one of the major stressors in educational institutions. A serious consideration has to be given to this problem. The Organization can introduce conflict management techniques. It can make conflicting parties sit together and solve the differences (problem solving) and it can also set super ordinate goal for the conflicting parties where they cannot ensure success unless they work together. This kind of activities can increase group performance and reduce the employee's turnover.

Attitude of the superior and their fear of challenge to authority and selective perception are the major sources of miscommunication. Significant consideration has to be given to this problem as the employees are often experiencing stress because of misunderstanding. Periodic measurement of effectiveness of communication has to be carried so that credibility in the communication process is observed. The Organizations have to create vertical, lateral and informal channels of communication so that uncertainty is reduced and group performance is increased.

Thus strategies so developed for the stressors identified in educational institutions, not only help improving workplace relations but they promote Workplace Camaraderie among the employees. When the educational institutions seriously give a thought to Organizational behavior techniques that are used in the model and apply accordingly, it would be creating a great workplace for its employees.

## CONCLUSION

It can be concluded from the study that unhealthy Work place relations cause significant stress on the employees. Ineffective leadership and poor relationships with colleagues because of conflicts are important stressors of workplace relations. The model developed with stress coping strategies helps the employees of educational institutions to effectively manage stress with a condition that the Organization should have true intension to help the individual by implementing the initiatives with commitment. At the same time the individuals should also contribute to the process so that the entire Organization enjoys Workplace Camaraderie by promoting stress free environment.

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# DETERMINANTS OF JOB SATISFACTION AMONG EMPLOYEES IN INFORMATION TECHNOLOGY INDUSTRY IN DELHI

**BRAJESH KUMAR**  
**ASST. PROFESSOR**  
**BABASAHEB BHIMRAO AMBEDKAR UNIVERSITY**  
**LUCKNOW**

**DR. AWADHESH KUMAR**  
**FREELANCE WRITER**  
**ALUMNI**  
**BANARAS HINDU UNIVERSITY**  
**VARANASI**

## ABSTRACT

*The process of globalization and economic reforms has not only changed the structure of occupation but also brought about instability of tenure. In such a situation employees face low job satisfaction and tend to change job frequently. This in turn poses a fundamental challenge for human resource management particularly in Information Technology industries. This study seeks to describe the determinants of job satisfaction among employees in Information Technology industry in Delhi. A sample of 212 employees from five Information Technology industries completed the questionnaire. T-test, one-way analysis of variance and correlation analysis is performed to arrive at results. Among the socio-demographic variables gender and caste does not seem to have any influence on job satisfaction. However age, educational level and length of service in IT industry significantly influence job satisfaction. Similarly organizational experiences of employees such as cooperation and autonomy also have significant influence on job satisfaction. The human resource managers in IT industry need to change their strategies to retain employees.*

## KEYWORDS

Employee, Information Technology, Job satisfaction, Retention.

## INTRODUCTION

It is the process of globalization and economic reforms that give rise to the multinational corporations (MNCs) in India. The economic reforms initiated by government since 1991 has brought about fundamental change in labour market. The occupational structure has changed. There is steep rise in Information Technology (IT) industry in and around Delhi. With the rise of services sector work has become more flexible, especially in IT industries. Market uncertainties and instability of tenure give rise to job insecurity in IT industries.

Job satisfaction refers to how well employees personal expectations at work are in line with outcome. Low job satisfaction is one of the major reasons for poor retention of employees in IT industry. Various factors contribute to job satisfaction in IT industry. These factors can be classified into two categories: socio-demographic (age, gender, caste, educational level, length of service in IT industry) and organizational experience (cooperation and autonomy).

## LITERATURE REVIEW

With respect to age it can be said that job satisfaction increases as age increases (Clark, et al., 1996). This is because older worker unlike younger worker have spent more time in job and adjust into satisfying job; or as worker grows older, they may have adjusted their expectations of job satisfaction and therefore it takes less to satisfy them. There is mixed result about influence of gender on job satisfaction. Some study report that women's job satisfaction is low as compared to that of men (Lefkowitz, 1994). However other studies report that there is no difference in the job satisfaction of women and men (Clark, et al., 1996). Still other studies hold that women exhibit higher job satisfaction as compared to men (Hickson & Oshagbemi, 1999).

Due to lack of studies, it is difficult to say if job satisfaction varies with caste. However sociological literature argues that Indian society is moving from caste based close society to class based open society (Sharma, 1997). This is more the case in urban India. Therefore, it can be said that caste has no influence on job satisfaction. On the question of education some studies have reported that job satisfaction decreases as education increases (Clark, 1996). A variety of factor could be responsible for this result, such as work load, reservation about adequacy of salary, unsatisfactory career advancement and so on.

There is only miniscule of studies on effect of length of service on job satisfaction. Some studies report that job satisfaction increases with length of service (Abraham & Medoff, 1984; Oshagbemi, 1997). This is because promotion is associated with the length of service and employees derive satisfaction out of this (Hickson & Oshagbemi, 1999). Promotion and other benefits associated with length of service increases job security and hence increase job satisfaction.

The cooperative relationship among coworker, superordinate and subordinate is an important determinant of job satisfaction. The emergence of individualized employment relations is seen in the absence of collective identity among software workers (Upadhyay & Vasavi, 2006). In such a situation one can expect low cooperation from coworker, superordinate or subordinates. Some studies report that support of coworkers and superordinate has an important influence to job satisfaction (Oshagbemi, 1999; Adams & Bond, 2000).

Autonomy is defined as the amount of job related independence individuals have over their daily work activities. In many studies autonomy has been reported to be contributing positively to job satisfaction (Deci & Ryan, 1985; Kreis & Brockopp, 1986). These studies related to job satisfaction guide us to formulate null hypothesis tests them for employees in IT industry.

## HYPOTHESES

The objective of this research is to investigate job satisfaction among Employees working in IT industry in Delhi. This study examines the relationship between job satisfaction and socio-demographic variables (age, gender, caste and educational level, length of service in IT industry) and organizational variables (autonomy and cooperation). Following two hypotheses have been formulated in consideration for age and gender.

H1: Employee's age has no correlation with their job satisfaction.

H2: Gender has no effect on employee's job satisfaction.

Caste system is something that is unique to Indian society. Caste based discrimination is well debated in sociological literature. As there are employees from all caste groups in Indian IT sector, the third objective is to discover whether job satisfaction varies with caste group. So the third null hypothesis is also formulated.

H3: Caste has no effect on employee's job satisfaction.

It is argued that education level increases one's prospects in job market. This is true for IT industry as well. But there are employees in IT industry that does not have any university degree in computers or IT. To find the effect of education level on job satisfaction fourth null hypothesis is formulated.

H4: Employee's educational level has no effect on their job satisfaction.

Further to find the effect of length of service in IT industry on job satisfaction fifth null hypothesis is formulated.



H5: Employee's length of service has no effect on their job satisfaction.

To find the relation between cooperation and autonomy on job satisfaction sixth and seventh null hypothesis have been developed.

H6: There is no correlation between cooperation and job satisfaction.

H7: There is no correlation between autonomy and job satisfaction.

## DATA AND METHODS

To test the above mentioned hypothesis a sample of 250 employees were selected randomly from five IT industries located in Delhi. All these respondents shared questionnaire to collect data. The final data set contained 212 responses with 84.4 percent response rate.

As far as variables are concerned, Job satisfaction is dependent variable while age, gender, caste, educational level, length of service in IT industry, cooperation and autonomy are independent variables.

Based on Job Diagnostic Survey (Huckman & Oldham, 1975) five items are used to construct job satisfaction scale. Each item is to be answered on five point scale (strongly disagree = 1 to strongly agree = 5). An example item is, "Overall, I feel very satisfied with my job". Factor analysis with these five items loaded the scale into one factor. However to increase the reliability one item is removed. So the final construct for job satisfaction scale consists of four items only. The total score of these four items represent job satisfaction. A high score indicates higher job satisfaction. The Cronbach's alpha for reliability comes out to be 0.729.

Further eight more items are used to measure organizational attributes that contribute to job satisfaction. Each of these items are to be answered on five point scale (very less extent = 1 to very great extent = 5). These items relate to autonomy, motivation, recognition and cooperation. When these eight items are subjected to factor analysis, they get loaded into two factors called 'cooperation' and 'autonomy'. Cooperation basically refers to the help that one gets from coworkers. It improves task performance (Jehn & Shah, 2003) which in turn gives job satisfaction. The cooperation scale consists of four items. An example item is, "To which extent you get the support of your coworkers". The total score of these four items give the extent of cooperation. High score represent higher cooperation. The Cronbach's alpha for cooperation comes out to be 0.894.

Autonomy basically refers to job related independence that individuals have over their work. It is measured as a degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and determining the procedures to be used in doing work (Hackman & Oldham, 1980). It gives professional identity and recognition to individuals at workplace. The autonomy scale also consists of four items like, "To which extent you are allowed to make your own decision about your work". The sum of these four items gives the extent of autonomy. Higher the total score of four items, more the autonomy. The Cronbach's alpha for autonomy comes out to be 0.741.

## ANALYSIS AND RESULTS

Appropriate statistical tests have been performed keeping in view the nature and level of measurement of variables. The descriptive statistics of 212 respondents is given in table 1.

IT industry is the industries that give equal opportunities to both men and women. An independent sample t-test is performed to compare if job satisfaction differs between men and women. The result shows that there is no significant difference in the job satisfaction between males ( $M = 12.54$ ,  $SD = 3.10$ ) and females ( $M = 12.81$ ,  $SD = 3.20$ );  $t(210) = 0.632$ ,  $p = 0.528$ . Thus we fail to reject null hypothesis H2. So gender does not have any effect on job satisfaction of employees in IT industries.

TABLE 1: DESCRIPTIVE STATISTIC (PERCENT/ MEAN AND STANDARD DEVIATION) OF THE VARIABLES USED IN THIS STUDY (N = 212)

Characteristics	Frequency(n)	Percent/ Mean (M)	Standard Deviation (SD)
Age	--	33.67	7.41
Gender			
Male	112	52.80	--
Female	100	47.20	--
Caste			
General	107	50.50	--
Other Backward Class (OBC)	62	29.20	--
Scheduled Caste (SC)	43	20.30	--
Educational Level			
No university education	51	24.10	--
University education - General	116	54.70	--
University education – Computers/ IT	45	21.20	--
Length of service in IT industry	--	4.74	2.16
Cooperation	--	13.31	4.07
Autonomy	--	14.41	2.69
Job satisfaction	--	12.66	3.15

A one-way analysis of variance (ANOVA) is performed to find the effect of caste on job satisfaction. Three categories of caste are: general, OBC and SC. Numbers of respondents in these castes are 107, 62 and 43 respectively. The result of ANOVA is summarized in table 2. Levene's test upholds the assumption of equality of variances. The result shows that there is no significant difference in job satisfaction among three caste groups:  $F(2, 209) = 0.492$ ,  $p = 0.611$ . Therefore we again fail to reject the null hypothesis. Although Indian society is largely a caste based society but caste is not a determinant of job satisfaction in IT industry.

TABLE 2: ONE-WAY ANOVA SUMMARY FOR EFFECT OF CASTE ON JOB SATISFACTION

Source	df	Sum of squares	Mean square	F	p
Between-group	2	9.82	4.92	0.492	0.611
Within-group	209	2081.38	9.96		
Total	211	2091.22			

Again one-way analysis of variance (ANOVA) is performed to find the effect of educational level on job satisfaction. Three categories of educational level are: no university education, university education - general, and university education – computers/ IT. Numbers of respondents in these categories are 51, 116 and 45 respectively. The result of ANOVA is summarized in table 3.

TABLE 3: ONE-WAY ANOVA SUMMARY FOR EFFECT OF EDUCATIONAL LEVEL ON JOB SATISFACTION

Source	df	Sum of squares	Mean square	F	p
Between-group	2	545.18	272.59	36.85	0.000
Within-group	209	1546.04	7.40		
Total	211	2091.22			

There is a statistically significant difference at  $p < 0.05$  level in job satisfaction according to educational level of youth:  $F(2, 209) = 36.85, p = 0.000$ . So the null hypothesis  $H_4$  is rejected. Post hoc comparison using Games-Howell method indicates that the mean job satisfaction for those who do not have university education ( $M = 10.23, SD = 2.59$ ) is significantly different from those who have university education – general ( $M = 12.84, SD = 2.91$ ). The Games-Howell procedure is the most powerful but can be liberal when sample sizes are small (less than or equal to 5). Games-Howell is also accurate when sample sizes are unequal (Field, 2000). In the present study the sample sizes are unequal but greater than 5. So Games-Howell method is used.

Further job satisfaction for those who have university education – general is significantly different from those who have university education – computers/ IT ( $M = 14.98, SD = 2.31$ ). Also there is significant difference between those who do not have university degree and those who have university degree – computers/ IT. Overall results suggest that job satisfaction varies according to educational level of employees.

Pearson product-moment correlation coefficient is determined to find the correlation of age, length of service in IT industry, cooperation and autonomy with that of job satisfaction. Table 4 summarizes the result of the correlation analysis among these five variables. The result shows that there is a positive correlation between age and job satisfaction:  $r = 0.227, p < 0.01$ . Thus null hypothesis  $H_1$  is rejected. However low value of coefficient tells that there is low positive correlation between age and job satisfaction.

TABLE 4: PEARSON PRODUCT-MOMENT CORRELATION BETWEEN JOB SATISFACTION, AGE, LENGTH OF SERVICE IN IT INDUSTRY, COOPERATION AND AUTONOMY (N = 212)

Variables	1	2	3	4	5
1. Job Satisfaction	1				
2. Age	0.227**	1			
3. Length of service in IT industry	0.872**	0.080	1		
4. Cooperation	0.543**	0.349**	0.424**	1	
5. Autonomy	0.747**	0.140*	0.623**	0.490**	1

\*\* Coefficients are significant at  $p < 0.01$

\* Coefficients is significant at  $p < 0.05$

The length of service in IT industry is positively correlated with job satisfaction:  $r = 0.872, p < 0.01$ . Therefore null hypothesis  $H_5$  is rejected. The value of coefficient indicates that there is strong positive correlation between length of service in IT industry and job satisfaction.

Cooperation is also positively correlated with job satisfaction:  $r = 0.543, p < 0.01$ . Therefore null hypothesis  $H_6$  is also rejected. There exists a strong positive correlation between cooperation and job satisfaction.

Finally autonomy is also found to be positively correlated with job satisfaction:  $r = 0.747, p < 0.01$ . Thus null hypothesis  $H_7$  is also rejected. There is strong positive correlation between autonomy and job satisfaction.

These findings suggest that human resource managers need to take care of a lot of issues to improve recruitment process and ensuring better working conditions. A cautiously adopted human resource strategy keeping in mind the factors discussed in this study will help in greater retention of employees in IT industry.

## CONCLUSION

Of the seven variables that are considered in this study five variables comes out to be significant determinants of job satisfaction among employees in IT industry. Two variables that do not come out to be significant determinant of job satisfaction are gender and caste group. This reveals that gender and caste are not a challenge for job satisfaction in IT industry. However educational level of employees is a significant determinant of job satisfaction. Further correlation analysis shows that age, length of service in IT industry, cooperation and autonomy are positively correlated with job satisfaction. While age is weakly correlated with job satisfaction, other three variables are strongly correlated with job satisfaction. The human resource managers in IT industries need to change their strategies to retain employees.

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## MODERN CHALLENGES TO WOMEN ENTREPRENEURSHIP DEVELOPMENT: A STUDY OF DISTRICT RAJOURI IN JAMMU AND KASHMIR STATE

AASIM MIR  
ASST. PROFESSOR  
SCHOOL OF MANAGEMENT STUDIES  
BGSB UNIVERSITY  
RAJOURI

### ABSTRACT

Entrepreneurship is a modern innovation which is getting rapid popularity because of its unique characteristics. Entrepreneurship now a day's offers multiple employment opportunities to youths and also acts as a strong source in the development of a nation's economy. Women entrepreneurship is also a modern concept with its roots in general entrepreneurship. This concept has been latterly introduced so that women can get opportunities for jobs and display their talents. Women entrepreneurship as is a modern development needs a concern on various issues which include new opportunities as well as challenges. Present study seeks to interpret the perception of women entrepreneurs regarding various factors which could act as barriers to women entrepreneurship development in future in Rajouri district of Jammu and Kashmir. The paper further highlights various factors which could have a strong impact on entrepreneurship business. The study documents a survey of two hundred and sixty four women entrepreneurs involved in different fields of business in Rajouri district of Jammu and Kashmir.

### KEYWORDS

entrepreneurship development, entrepreneurship mechanism, complementary policy, strategic Allianz, contingencies etc

### INTRODUCTION

Entrepreneurship is generally defined as a dynamic process of creating incremental wealth. This wealth is created by the persons who assume the major risk in terms of equity, time and career commitment of providing value for some product or service. The product or service itself may or may not be unique but the unique value must be infused by entrepreneur through proper allocation of necessary skills and resources. An entrepreneur is thus an individual who bears the risk of operating a business in the face of uncertainty about future conditions.

The process of entrepreneurship is actually very complex. Its certain characteristics make it quite different for an ordinary person. A person involved in entrepreneurship business should have or immediately need to develop certain traits such as risk taking ability, self confidence, optimism, independence, creativity, foresight, effectiveness, future oriented etc. Women entrepreneurship is relatively a new phenomenon for developing countries. The percentage of women in involved in entrepreneurship business is quite high in case of developed countries like Norway, Australia, UK, USA etc . The concept of entrepreneurship among women is showing a rising trend in India from the last ten years. With the growing recognition that women also have their unique talents which could be harnessed for development and creating employment opportunities for others who are not suited for a entrepreneurship career.

Developing women entrepreneurship has become an important part in national development. But the concept of women entrepreneurship which is gaining popularity also faces multiple obstacles in its way. In past, the concept of entrepreneurship among women was confined to certain identified areas of business only. These areas were agricultural development, handicrafts, weaving, cottage and other small businesses. But in present era women entrepreneurship is changing its roles and responsibilities at a faster rate and is indulging into its new trends of development. This rapid change in entrepreneurship phenomenon is bringing a new challenge for women.

In the present investigation, an attempt has been made to identify and highlight some factors which as per the perception of respondents are acting as major challenges to women entrepreneurship. The paper also pin points the factors which are considered to be more challenging and also the factors which have a low or moderate level of affect on women entrepreneurship development in the area under consideration. The paper further assesses various strategies and tools which could be used to reduce the impact of identified factor on the development of women entrepreneurship in Rajouri district of Jammu and Kashmir.

### OBJECTIVES

1. To access the perception of women towards factors which can obstruct entrepreneurship development among women.
2. To highlight major factors which can hinder women entrepreneurship development mechanism in future.
3. To study the impact of different factors on women entrepreneurship development process.
4. To access the degree of impact of each factor on women entrepreneurship in future.
5. To recommend different strategies which can bring uniformity and flexibility in implementing new processes for women entrepreneurship.

### MATERIAL AND METHODS

Present study has been worked out with the help of primary data. The primary data has been collected from different women involved in entrepreneurship business in different sectors of the economy. The data was collected on the basis of a pretested questionnaire along with an ordinary rating scale to rate the factors under consideration. All the women involved in entrepreneurship business were personally visited and primary impact analysis has been designed to determine the ground reality. The data and information so collected has been analyzed statistically and certain cartographic has been applied to represent the impact of each factor on women entrepreneurship development.

### RESULT AND DISCUSSION

There have been a lot of factors which are continuously creating hurdles in development of socio economic conditions of women. The impact of these factors in different in different segments depending upon the nature and characteristics of different cultures and areas. The factors which are greatly responsible for degrading women entrepreneurship have been given as follows:

#### 1. MALE DOMINANT SOCIAL ORDER

The values for factor "Male dominant social order" has been tabulated in table 1.

The analysis of values reveals that 27% respondents consider this factor as one of the biggest challenge in women entrepreneurship development while 33% consider that this factor will have an impact but of secondary nature. 13% of respondents have a neutral opinion regarding this factor. Moreover 16% respondents consider that the impact of this factor can be neglected but up to some extent only while 11% respondents consider that this factor can never affect entrepreneurship growth among women in future in the region which is under consideration.

TABLE 1:- MALE DOMINANT SOCIAL ORDER

Strongly Agree	Disagree	Neutral	Disagree	Strongly Disagree
71	88	34	42	29
27%	33%	13%	16%	11%

## 2. UNFAMILIAR BEHAVIOR OF FINANCIAL INSTITUTIONS FOR ISSUING LOANS

The value for factor "Unfamiliar behavior of financial institutions for issuing loans" has been tabulated in table 2.

The analysis of table values reveals that 25% of respondents predict a great impact of this factor in future while 38% respondents consider its impact but up to some level only. 17% of the total respondents have no decided opinion. Moreover 14% consider that the impact of this factor can be controlled to a maximum level while remaining 6% respondents consider that this factor can never affect the development of entrepreneurship process among women.

**TABLE 2:- UNFAMILIAR BEHAVIOR OF FINANCIAL INSTITUTIONS FOR ISSUING LOANS**

Strongly Agree	Disagree	Neutral	Disagree	Strongly Disagree
66	99	46	38	15
25%	38%	17%	14%	6%

## 3. FAMILY OBLIGATIONS

The values for factor "family obligations" has been shown in table 3.

The analysis of values shows that 18% respondents believe that this factor will be one of the biggest challenges to women entrepreneurship development while 21% consider its future impact up to some defined level only. 25% respondents have a neutral opinion. Moreover 23% respondents don't consider its impact and remaining 13% deny considering this factor as a source which could hinder the development of entrepreneurship among women in the region.

**TABLE 3:- FAMILY OBLIGATIONS**

Strongly Agree	Disagree	Neutral	Disagree	Strongly Disagree
48	56	67	60	33
18%	21%	25%	23%	13%

## 4. PERCEPTION OF HAVING LOW MANAGEMENT SKILLS

The values for factor "Perception of having low management skills" has been tabulated in table 4.

The analysis of values shows that 14% respondents consider a strong impact of this factor in future on women entrepreneurship while 19% considers its moderate effect. 22% respondents have a neutral opinion. Moreover 29% doest consider its impact to some extent while remaining 16% consider it as an irrelevant factor to be taken as to predict future arena of women entrepreneurship in the region.

**TABLE 4:- PERCEPTION OF HAVING LOW MANAGEMENT SKILLS**

Strongly Agree	Disagree	Neutral	Disagree	Strongly Disagree
38	50	59	75	42
14%	19%	22%	29%	16%

## 5. MALE-FEMALE COMPETITION

The values for factor "Male-female competition" have been tabulated in table 5. The analysis of values shows that 11% respondents consider that the factor male- female competition will have a great impact on women entrepreneurship development in future while 15% considers its effect but of moderate nature. 26% respondents have undecided opinion regarding this factor.

Moreover 31% consider its negligible effect on women entrepreneurship while remaining 17% believe that this factor will never act as a constraint to the entrepreneurship development among women.

**TABLE 5:- MALE-FEMALE COMPETITION**

Strongly Agree	Disagree	Neutral	Disagree	Strongly Disagree
28	41	68	83	44
11%	15%	26%	31%	17%

## 6. KNOWLEDGE OF ALTERNATIVE SOURCE OF RAW MATERIAL AVAILABILITY

The values for factor "Knowledge of alternative source of raw material availability" has been tabulated in table 6.

The analysis of table values reveals that 11% respondents consider a far reaching impact of this factor while 17% respondents consider a moderate effect of this factor on women entrepreneurship. A large group i.e. 37% respondents have a neutral opinion. Moreover 23% respondents consider no impact of this factor on women entrepreneurship while other 12% respondents consider this as an irrelevant factor to be taken to examine its negative impact on entrepreneurship progress among women.

**TABLE 6:- KNOWLEDGE OF ALTERNATIVE SOURCE OF RAW MATERIAL AVAILABILITY**

Strongly Agree	Disagree	Neutral	Disagree	Strongly Disagree
27	46	97	62	32
11%	17%	37%	23%	12%

## 7. KNOWLEDGE OF LATEST TECHNOLOGY

The values for factor "Knowledge of latest technology" has been shown in table 7.

The analysis of values shows that 22% respondents strongly believe that knowledge of latest technology can affect entrepreneurship process while 36% consider its impact up to some extent only. 17% respondents have a neutral opinion.

Moreover 14% respondents don't think that Knowledge of latest technology can affect the ongoing process while 11% totally deny considering it as a factor which can act as a constraint in the way of entrepreneurship development.

**TABLE 7:- KNOWLEDGE OF LATEST TECHNOLOGY**

Strongly Agree	Disagree	Neutral	Disagree	Strongly Disagree
58	96	44	37	29
22%	36%	17%	14%	11%

## 8. EDUCATION LEVEL

The value for factor "Education level" has been tabulated in table 8.

The analysis of values reveals that 15% respondents consider a strong impact of education level on entrepreneurship development while 13% consider a small level of impact. 23% respondents have a neutral opinion regarding this factor. Moreover 33% respondents don't consider the impact of this factor while remaining 16% strongly condemn to the statement that education level will have an impact of women entrepreneurship development in future in the district under consideration.

**TABLE 8:- EDUCATION LEVEL**

Strongly Agree	Disagree	Neutral	Disagree	Strongly Disagree
40	33	60	89	42
15%	13%	23%	33%	16%

## 9. LOW RISK TAKING ATTITUDE

The values for factor "Low risk taking attitude" have been tabulated in table 9.



The analysis of values reveals that 14% respondents a higher level of impact of this factor on women entrepreneurship while other 18% consider its impact to be very low or moderate. 35% respondents have no decided opinion. Moreover 20% respondents don't consider its impact while 13% witness its irrelevancy to be considered as a factor which could affect women entrepreneurship development.

TABLE 9:- LOW RISK TAKING ATTITUDE

Strongly Agree	Disagree	Neutral	Disagree	Strongly Disagree
37	48	92	54	33
14%	18%	35%	20%	13%

#### 10. MOTIVATION LEVEL

The values for factor "Motivation level" has been tabulated in table 10.

The analysis of values reveals that 14% respondents predict that motivation level will have a great impact on the development of women entrepreneurship while other 16% consider its impact but up to certain limit only. 14% respondents have a neutral opinion. Moreover 32% don't consider the impact of motivation level of women on entrepreneurship development while remaining 24% strongly deny considering this factor for evaluating status of women entrepreneurship in future in the region under consideration.

TABLE 10:- MOTIVATION LEVEL

Strongly Agree	Disagree	Neutral	Disagree	Strongly Disagree
37	42	38	84	63
14%	16%	14%	32%	24%

#### 11. HIGH PRODUCTION COST

The values for factor "High production cost" has been tabulated in table 11.

The analysis of values reveals that 23% respondents predict great impact of this factor on entrepreneurship process while 29% consider its moderate impact in near future.

22% respondents have a neutral opinion. 11% respondents don't consider its impact at all while remaining 15% suggest its irrelevancy for consideration as a factor which can affect women entrepreneurship in Rajouri district of Jammu and Kashmir.

TABLE 11:- HIGH PRODUCTION COST

Strongly Agree	Disagree	Neutral	Disagree	Strongly Disagree
61	76	58	29	40
23%	29%	22%	11%	15%

#### 12. LACK OF PARTICIPATION IN DECISION MAKING

The values for factor "Lack of participation in decision making" have been tabulated in table 12.

The analysis of values reveals that 18% respondents believe that this factor will have a great impact on women entrepreneurship while 27% consider moderate effect of this factor. 25% respondents have no decided opinion regarding this factor. Moreover 17% respondents don't consider its impact up to some level while remaining 13% consider that this factor can never have any impact on women entrepreneurship development process in Rajouri district of Jammu and Kashmir.

TABLE 12:- LACK OF PARTICIPATION IN DECISION MAKING

Strongly Agree	Disagree	Neutral	Disagree	Strongly Disagree
48	72	66	44	34
18%	27%	25%	17%	13%

#### 13. SHORTAGE OF TRAINING PROGRAMS FOR WOMEN

The values for factor "Shortage of training programs for women" have been shown in table 13.

The analysis of values reveals that 17% respondents consider that Shortage of training programs for women can greatly hinder the process of women entrepreneurship while 18% consider that this factor can effect but up to some defined limit. A greater percentage of respondents i.e. 36% have no decided opinion.

Moreover 15% accept that this factor cannot affect entrepreneurship among women while 14% totally oppose the statement that this factor can effect entrepreneurship development among women in future.

TABLE 13:- SHORTAGE OF TRAINING PROGRAMS FOR WOMEN

Strongly Agree	Disagree	Neutral	Disagree	Strongly Disagree
45	49	93	41	36
17%	18%	36%	15%	14%

#### CONCLUSION

The present assessment of various factors identified for acting as constraints to women entrepreneurship development showed a dominant effect on women entrepreneurship development process in Rajouri district of Jammu and Kashmir.

All the identified factors have some level of impact as per the perception of women involved in entrepreneurship business. The factors which showed a higher level of effect have been identified as male dominant social order, unfamiliar behavior of financial institutions for issuing loans, knowledge of latest technology and high production cost. The other factors which showed a low or moderate concern by respondents as factors affecting women entrepreneurship have been identified as family obligations, perception of having low management skills, education level and level of motivation among entrepreneur women.

#### RECOMMENDATIONS

1. The complementary policy issues in entrepreneurship education should include increasing women enrolment in various training programs.
2. More seminars and workshops should be sponsored for women who could help them to start new business and prepare business plans for their business.
3. The govt. and other supporting agencies should provide a separate framework so that there could be a separate allocation of funds for women who are involved in entrepreneurship business.
4. The women involved in entrepreneurship business should be allowed in greater percentage to participate in decisions both at business as well as at operational level.
5. The women should seek and keep tracks of sources from where they could get raw material at an affordable price.
6. There is a need for proper maintenance of environment in terms of policy making, gender issues, contingencies and working environment.
7. The women should be exposed to modern technology so that they can upgrade and modify their production processes.
8. There is a need for the development of a strategic Allianz of women who can properly discuss business issues and take feasible actions.
9. The entrepreneur women should seek out knowledgeable advisors, coaches etc for the purpose of their carrier enhancement and development.
10. There is a need for proper installation of information centre's which could provide information regarding all business issues to entrepreneur women.
11. The govt. should also arrange for marketing stalls at local as well as at national level so that entrepreneur women can easily get their products sold to masses.

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## INTERNATIONAL HRM CHALLENGES FOR MNC's

B. G. VENKATESH PRASAD

ASST. PROFESSOR

MBA DEPARTMENT

DAYANANDA SAGAR ACADEMY OF TECHNOLOGY &amp; MANAGEMENT

UDAYAPURA

N. CHETAN KUMAR

ALUMNI

DON BOSCO INSTITUTE OF BIOSCIENCES &amp; MANAGEMENT STUDIES

BANGALORE UNIVERSITY

BANGALORE

## ABSTRACT

The firms operating in international market face different conditions and competitions. Multinationals are characterized by an interdependence of resources and responsibilities across all business units regardless of national boundaries. These companies have to cope with large flows of components, products, resources, people and information among their subsidiaries, while simultaneously recognizing the specialized resources and capabilities of each. This demands a complex process of coordination and cooperation involving strong cross-unit integrating devices, a strong corporate identity and well developed worldwide management perspective. People play a key role in any type of business activity but their role has become very critical in the new economy and service sector.

## KEYWORDS

Autocratic, Cultural Assimilators, Culture Shock, Expatriates, Globalisation.

## INTRODUCTION

International dimensions of business and the globalization of business have a significant impact on the human resource management. Major measures initiated as a part of the liberalization and globalization strategy in the early nineties included scrapping of the industrial licensing regime, reduction in the number of areas reserved for the public sector, amendment of the monopolies and the restrictive trade practices act, start of the Privatisation Programmes, reduction in tariff rates and change over to market determined exchange rates. "Each day India now brings news of foreign and Indian companies discussing joint venture agreements", commented Nicoll (1994) of the financial Times. Over the years there has been a steady liberalization of the current account transactions, more and more sectors opened up for foreign direct investments and portfolio investments facilitating entry of foreign investors in telecom, roads, ports, airports, insurance and other major sectors.

According to Tom G. Palmer, "Globalization is the diminution or elimination of state enforced restrictions on exchanges across borders and the increasingly integrated and complex global system of production and exchange that has emerged as a result"

The United Nations Conference on Trade and Development (UNCTAD) in its annual Survey of foreign direct investment calculates what it refers to as an "index of Tran nationality" which is an average of ratios of foreign assets to total assets; foreign Sales to total sales; and foreign employment to total employment. Based on this index of Tran nationality, the most foreign-oriented multinational is Nestlé, with 87% of assets, 98% of Sales and 97% of Employees located outside of Switzerland.

The Top Ten Multinationals are as follows:

1. Nestle (Switzerland)
2. Thomson (Canada)
3. Holderbank Finaciére (Switzerland)
4. Seagram (Canada)
5. Solvay (Belgium)
6. Asea Brown Boveri (Sweden/Switzerland)
7. Electrolux (Sweden)
8. Unilever (Britain/Netherlands)
9. Philips (Netherlands)
10. Roche (Switzerland)

Morgan defines international HRM as the interplay among these three dimensions like human resource activities, types of employees, and countries of operation.

## RESEARCH METHODOLOGY

The paper is conceptual in nature and adopted the analytical approach to study the global. A literature review has been conducted to understand the viewpoints of experts. The period of study is from 2010 to 2011.

## OBJECTIVES OF THE STUDY

- To understand international HRM importance
- To study different kinds of International employees
- To study stages of Internationalization
- To understand the model of IHRM
- To study the different kinds of Management styles

## LITERATURE REVIEW

A Paper by Morgan (1986) on the development of international HRM is helpful in considering this question. He presents a model of international HRM (shown in Figure 1) that consists of three dimensions:

1. The Three broad human resource activities of procurement, allocation, and utilization. (These three broad activities can be easily expanded into the six HR activities listed above).

2. The three national or country categories involved in international HRM activities: (1) The host-country where a subsidiary may be located, (2) the home-country where the Firm is headquartered, and (3) "other" countries that may be the source of labor or Finance.

3. The Three Types of Employees of an International firm

(1) Host-Country Nationals (HCNs)

(2) Parent-Country Nationals (PCNs), and

(3) Third-Country Nationals (TCNs).

Thus, for example, IBM employs Australian Citizens (HCNs) in its Australian operations, often sends U.S. citizens (PCNs) to Asia-Pacific countries on assignment, and may send some of its Singaporean employees on an assignment to its Japanese operations (as TCNs).

### TYPES OF EMPLOYEES

1. **Foreign Parent Expatriates:** They are employees from the foreign parent headquarters assigned to the venture, usually in upper management positions.
2. **Host Country Nationals:** They are the employees directly recruited and employed by the venture and are nationals of the host country. They may occupy all levels in the organizations; however, initially they are not found in the upper management levels.
3. **Third Country Expatriates** of the foreign parent are employees in the foreign parent organization who are nationals of neither the foreign parent country nor the host parent country.

Third country expatriates of the new venture are employees recruited directly by the venture who are national of neither the foreign parent's country nor the host parent's country.

### STAGES OF INTERNATIONALIZATION

**Stage 1: Domestic Operations:** - Firms offer products or services that are designed to primarily serve consumers in the domestic market

**Stage 2: Export Operations:** - Products and services are opened up to markets in other countries, but production remains in home country. It provides sales force with skills and motivation to succeed in these foreign markets.

**Stage 3: Subsidiaries or Joint Ventures**

Some operational facilities (e.g., parts assembly) are physically moved to other countries.

Corporate headquarters in home country has high control over foreign operations. It provides expatriates and local employees with knowledge and skills to succeed in the foreign country.

**Stage 4: Multinational Operations**

Much more prevalent international dispersion of production and service provision facilities. Decentralization of decision-making more prevalent, but "major" personnel decisions still made within home country.

Expatriates still primarily manage foreign facilities.

**Stage 5: Transnational Operations**

Little alliance to the firm's country of origin. Large-scale decentralization of decision-making. Dominant role of expatriates is removed. Each business unit across the globe has the freedom to make and implement its own HRM policies and practices.

### EIGHT POINT STAR MODEL



1. **Global workforce:** - Human resources require distinctly different approaches and competencies in different contexts to match the demands of national and international labour markets. Human capital available in the international arena and across national border. Study important for understanding the supply and demand for labour
2. **International Context:** - The main focus is on industrialized countries like USA, Europe, Canada, Japan and Australia. How to converge domestic and international HRM systems? International agencies of labor (such as the International Labour Organization)
3. **National Context:** - Employment law, unions, society, culture and professionalization. The relationship Linkages between HRM effectiveness and the social context like (culture, climate and the political environment of an organization) .
4. **Strategic Issues:** -Strategies for identifying the supply and demand of Labour Location, Managing transfers, Standardizing or differentiating management Systems, Managing international mergers and acquisitions.



5. **Operational Issues:** - These include Recruitment, selection, education, training, participation, involvement, pay conditions, promotion, reward, career development, retirement, and downsizing of an international workforce.
6. **IHRM Career:** - The different roles played by IHR personnel are educating, training and development of International managers, career development, Retention.
7. **Professional Competencies:** - IHRM interact in more diverse and dynamic environments than their counterparts who are responsible from single-country operations. Competencies expected of an international human resource manager: learning and knowledge skills to transferable, affective and people management skills
8. **The Future:** - Qualitative, value based and ethical dimensions of IHRM, highlighting the significance and long-term relevance of value-based decision making in IHRM practice. Team building is very important.

## DIFFERENT MANAGEMENT STYLES

### 1. AMERICAN STYLE

According to **Marc Effron**, president, the talent strategy group, "American managers practice blend of participative management and an authoritarian style (top down direction and decision making). Most company's hierarchies have been flattened over the past ten years, so there are typically no more than six or seven layers between executives and front-line employee. An 'open door' approach to management would be rather common in many companies".

### 2. JAPANESE STYLE

According to **Daizo Ito**, president, Panasonic India, "The Japanese management style is very democratic in nature. It is people oriented and work oriented (thus focusing mainly on production and engineering functions including time management and quality control). The concepts of "Wa" (harmony), "Shage" (corporate constitution) and "Shakun" (code of behavior) are embedded in the Japanese management philosophy. The board of directors forms a significant authority within the management structure and this is where the democratic leadership shines."

### 3. EUROPEAN STYLE

According to **Dr. Manas Fuloria**, cofounder, Nagarro software, "The European style is more humanistic, less flamboyant, and less CEO-worshipping. For example, The German management style heavily favors leaders who are technically strong. The German organization is fairly hierarchical and it is not common for people lower in the organization to fraternize with the top bosses. The Austrian management culture is similar to the German in being hierarchical but there is an increased politeness and warmth in the conduct of work. The UK management culture is not technically oriented and is more like the US in that respect."

### 4. CHINESE STYLE

According to **John He**, CEO, Shenzhen Donjin Communication Tech co.ltd, Different industries in China follow different styles of management. The manufacturing industry is mostly driven by an autocratic style of management. However, in the elite industries like IT and Telecom, the management style is both democratic and parental. Some companies have a very flat structure and are driven mainly by the owner, while in some, the top management is generally a board and the decision of the organization is taken in consultation with the general mass of the company".

### 5. MIDDLE EASTERN STYLE

According to **Antony Jacob**, CEO, Apollo Munich Health Insurance, "In the middle East, there are Three Types of Companies -Local Companies, Joint Ventures and MNC's operating out of the region. Depending on the ownership pattern and organizational philosophy, the management style could either be autocratic or paternalistic or even democratic".

## SELECTION OF EMPLOYEES

While selecting a candidate care should be taken to assess the attitude like "Accept Change". If candidate is suddenly transferred to foreign location he/she should feel not uncomfortable to adjust. The some of the points to be kept in mind during selection are

1. Provide realistic country preview.
2. Measure ability to be sensitive to different cultures and/or comfort with specific foreign country's culture.
3. Have successful expatriates then make the selection decisions.
4. Require previous international experience
5. Assess family's willingness to live or work abroad.
6. Role of employee should be clear.

## TRAINING

### CULTURAL IGNORANCE IS BAD BUSINESS

An American company eager to do business in Saudi Arabia sent over a sales manager to get something going. The salesman began calling contacts soon after his arrival. After many disappointing appointments, the salesman ran into an old friend, who gave him an introduction to some basic rules of Saudi Etiquette and how to do business with the Arabs. The salesman learned that he had repeatedly insulted his contacts by his impatience, refusal of coffee, 'business first' attitude and aggressive selling. Even incidental acts such as handling people or papers with his left hand and exposing the side of his shoe while sitting not the floor were improper Saudi customs.

Most Expatriates, whether PCNs and TCNs

Cross-cultural training can address:

- Major cultural differences
- Foreign expectations regarding polite behaviour
- Foreign expectations regarding business behaviour
- How to avoid feeling insulted when no insult is made
- Career Development: - Ensure expatriates know that an international assignment helps in terms of advancement within the firm

**Tung (1982)** surveyed managers in Europe, Japan and the U.S and found six major types of cross-cultural training programmes:

- Environmental briefing is used to provide information about such things as geography, climate, housing and schools.
- Cultural orientation is designed to familiarize the individual with cultural institutions and value systems of the host country.
- Cultural assimilators using programmed learning approaches are designed to provide the participants with inter-cultural encounters.
- Language training is aimed at increasing communication effectiveness.
- Sensitivity training is designed to develop attitudinal flexibility.
- Field experience is arranged to make the expatriate familiarize with the challenge of assignment

### MAIN CHALLENGES IN IHRM

- Different Labour Laws of Different Countries
- Managing Diversity
- Managing Effective Communication
- Managing Effective Resourcing
- Managing Effective Resourcing
- Maintaining Uniformity & Fairness
- Different political climate

- Changes in Economic conditions
- Different stages of technological advancement
- Different values and attitudes e.g. time, achievement, risk taking
- Roles of religion e.g. sacred objects, prayer, holidays, etc
- Educational level attained
- Social organizations e.g. social institutions, authority structures, interest groups, status systems
- Career blockage ("the home office has forgotten about me")
- Culture Shock, resulting in frustration and poor cooperation abroad.
- Family Problems, due to poor adjustment and/or lack of contact if family is left behind.

## CONCLUSION

The study identifies various factors that companies have to keep in mind during recruitment and selection. The main emphasis should be given for cross culture training. Now the **"World is a Global village"**. The employees have to be open minded to adjust to different culture, leadership styles and working conditions. Cultural ignorance is Bad business. The study of different Management styles helps employees to understand managers.

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**INSIDER TRADING: GOVERNANCE, ETHICAL AND REGULATORY PERSPECTIVE****NIDHI SAHORE****LECTURER****BHAVAN'S USHA & LAKSHMI MITTAL INSTITUTE OF MANAGEMENT****NEW DELHI****ABSTRACT**

*The rational of potency along with protection is encouraged in the corporate form of business because of the agency logic. The corporate world of today has witnessed a number of trials where the voracious and malicious intentions of individuals have raised questions over certain corporate entities and actions of individuals who were at the helm. The kind of challenges and demands faced by managers of this era pushes them to leave their ethics behind and drive them to egg on financial irregularities, misuse confidential information and misrepresentation of facts. Though there are regulations to generate awareness on this issue but crafty managers take advantage of lacunae in the regulation to benefit them. The feebleness of governance mechanisms has created havoc time and again in the corporate world with a lot of financial shams in the past as well as in the present. One fresh instance is proven Insider trading allegations on Mr. Rajat Gupta which has some very useful insights for India to strengthen its regulation and increase the purview of its judiciary to punish the guilty.*

**KEYWORDS**

Corporate Governance, Ethics, Insider Trading, SEBI Regulation.

**INTRODUCTION**

There is growing evidence that fundamental ethical stances in life stem from underlying emotional capacities. The argument for emotional intelligence hinges on the link between sentiment, character, and moral instincts. All those who lack self control suffer from moral deficiencies of will and character and if there are any two moral stances that our times call for, they are precisely these, self control and compassion.

**Daniel Goleman**

The corporate form of business is an excellent example of an engineering kind of design where we strengthen the business interests by raising requisite amount of capital required and safeguard the stakeholder interests through corporate governance mechanisms. The rational of potency along with protection is encouraged in this form of business because of the agency logic. Since owners and managers are different people, the board of directors, who are governed by various rules and regulations, take decisions on behalf of the owners. Though a company is an artificial person but it is governed by people in the board, whose values and thought process affect the decision making of the company. While values are personal in nature, ethics are generalized value system which drifts through an organization structure. Values and ethics are very important for business managers because they are in a fiduciary relationship with various stakeholders of the company and manage the underlying wealth in it. It is quite a dare for the present day manager to 'prevent his personal values from affecting business strategy formulation and implementation' (Fernando A. C. 2012). The corporate world of today has witnessed a number of such trials where the voracious and malicious intentions of individuals have raised questions over certain corporate entities and actions of individuals who were at the helm.

The kind of challenges and demands faced by managers of this era drive them to egg on financial irregularities, misuse confidential information and misrepresentation of facts. Such lack of character may deliberate prospects in the short run but it surely leads to debacles in the long run. The various stimulations for wrong doings can be performance pressures, earnings expectations, tax evasions, divergence of funds, concealment of poor financial condition and raising of more funds. The factors which contribute to such possibilities are loopholes in accounting procedures, lacunae in internal controls, and lack of independence of auditors and directors leading to an overall frail governance structure.

The feebleness of governance mechanisms has created havoc time and again in the corporate world with a lot of financial shams in the past as well as in the present. One fresh instance is proven Insider trading allegations on Mr. Rajat Gupta; an Indian American whose rags to riches story would once leave corporate world who awestruck, is now leaving an awful impression about his plight.

**LITERATURE REVIEW**

"Given the competitiveness in the world today, many people are tempted to go outside of the rules and regulations of society in order to get ahead. Although many would argue that traits such as honesty and credibility are valued, temptations have lured some to act irresponsibly" (Gould M., 2008). The whole concept of Insider trading rests in the 'information', the possession of it and the use of it. If information is treated like an asset and it is used by the owner of such asset there is not much debate about the legality of it but if it is used by a non owner without permission the legal and ethical stances come inside the frame (Mc Gee, 2004). The three good reasons to study reported insider trading are science, profit and policy. While science point out towards the market efficiency, profit positions formation of optimal trading strategies, the policy helps to gauge the effectiveness of regulatory provisions to avoid unfair advantage to insiders and its effects on market performance (Jeng et al 1999). The focus of my paper is more on the policy side and how ethics certain times lead to the breakdown of even the stringent policies. But it will not be fair to totally exclude the efficiency aspect because efficient markets are important from investor protection point of view. The focus of policy is not just to prohibit but also is to protect. Unfair ethical stances by insiders certain times leave an unreasonable ground for outside traders, proving the regulatory provisions inadequate to arrest unfair trading practices. In order to enhance Effectiveness of corporate boards strict regulations are needed to control insider trading. There has been an evidence of positive association between Hong Kong executives managing reported earnings to maximize their private benefits from insider selling. The suggested recourse to this problem can be higher proportion of independent directors on corporate boards and limitation on the appointment of family members with majority ownership on board (Jaggi and Tusi, 2007). To further broaden the ambit of policy, the regulation prohibits insider trading not just by insiders i.e. directors, officials etc. but also by outsiders who execute trades on the tips provided by corporate insiders. It is also to be seen whether the insider is benefited directly, indirectly and in what form he is getting the benefit. Even the intangible gains should qualify for insider trading (Bainbridge 2004). In order to put some light on market efficiency with respect to Insider trading and to know the extent to which insider trading is connected to corporate governance Cruces and kawamura (2003) have tried to answer such questions like whether markets pay or charge premium for quality of governance or not in Latin America. Moreover when insider trading "acts as a replacement for public disclosure of the information" it harms the investor interest by duping them to buy or sell securities at wrong prices (Bainbridge 2000). It is not about any individual stakeholder getting affected such acts also increase the volatility of the overall stock market. Du and wei (2003) through their study found that "countries with more insider trading have more volatile markets" which may effect the economic fundamentals. Hence, this makes 'policing' of Insider trading all the more necessary to keep the faith of not just the domestic investors but also the international investors. In the year 1998 alone many countries such as Hong Kong, Malaysia, Vietnam, India, Egypt and Netherlands either came out with new measures to arrest insider trading or did additions/amendments to existing legislations (Newkirk & Robertson, 1998). Thus it is very important to have Insider Trading regulations to be in place because of increased capital flow across the borders due to foreign direct & institutional investments, mergers, cross border trading in securities. Though the regulations vary in scope and coverage of the issues in insider trading in different countries but their presence acts as a confidence booster for investors (Yoe, Victor CS, 2011).

**OBJECTIVES**

The study has been undertaken in order to fulfill the following objectives:

1. To study the policy regulation with respect to Insider Trading in India.
2. To analyze a recent case of Insider trading charges on Rajat Gupta in U.S.A. and the two such past cases in India.
3. To suggest measures how the Indian regulation can be strengthened by learning lessons from the past and a recent Insider Trading case outside India.

**THE INSIDER TRADING DEBATE AND STUDY OF POLICY REGULATION IN INDIA**

Before we discuss India's Regulation and for that matter regulation of any country the reference of U S regulations come by default, reason being the SEC's regulations keep influencing the development of regulations in other countries e.g. China (Shen, 2009 c). The Securities and Exchange Commission has highlighted two aspects of Insider Trading one is legal and the other one is illegal. "The legal version is when corporate insiders –officers, directors, and employees – buy and sell stock in their own companies. When corporate insiders trade in their own securities, they must report their trades to the SEC. Illegal insider trading refers generally to buying or selling a security, in breach of a fiduciary duty or other relationship of trust and confidence, while in possession of material, nonpublic information about the security. Insider trading Violations may also include "tipping" such information, securities trading by the person "tipped," and securities trading by those who misappropriate such Information. (U. S. Securities and Exchange Commission)

In order to understand the various aspects of Insider trading and to know the regulation with respect to it, SEBI's (Securities and Exchange Board of India) Prohibition of Insider Trading Regulations, 1992 as amended in 2002, 2004, 2008 and 2011 are there. These regulations as amended from time to time show that how SEBI has been trying to prohibit this evil by on one hand generating awareness about who the insiders are, what is inside information, who has power to inquire, inspect and investigate and on the other hand how to prevent misuse of sensitive information by adoption of voluntary codes of self compliance. The various terms used in the act as amended from time to time are:

**INSIDERS**

An insider is a person 'connected' or 'deemed to be connected'; who is expected to have, has received or has had access to unpublished price sensitive information with respect to the securities of a company.

**CONNECTED PERSON**

The meaning of connected person is divided into two parts:

1. "Connected person" means any person who is a director, officer, employee, a holder of professional and business relationship position (temporary or permanent) and who is expected to have an access to the unpublished price sensitive information with respect to the company. For all practical purposes connected person means connected for six months prior to act of insider trading.
2. "Person is deemed to be a connected person", if such person— is a company under the same management or group, any subsidiary, an intermediary, Investment company, trustee, company, Asset management company or an employee or director thereof, an official of a stock exchange or clearing house or corporation, merchant banker, registrar to an issue, debenture trustee, broker, portfolio manager, Investment Advisor, sub-broker, Investment Company or an employee thereof, or a member of the Board of Trustees of a mutual fund or a member of the Board of Directors of the Asset Management Company of a mutual fund or is an employee thereof who has a fiduciary relationship with the company; member of the Board of Directors or an employee of a public financial institution, an official or an employee of a Self-regulatory Organization recognized or authorized by the Board of a regulatory body, a relative of any of the aforementioned persons, banker of the company, relatives of the connected person, a concern, firm, trust, Hindu undivided family, company or association of persons.

**PRICE SENSITIVE INFORMATION**

Price sensitive information is any information which is related directly or indirectly to a company and which if published is likely to materially affect the price of securities of company. Information regarding periodical financial results of the company, intended declaration of dividends (both interim and final), issue of securities or buy-back of securities, any major expansion plans or execution of new projects, amalgamation, mergers or takeovers, disposal of the whole or substantial part of the undertaking, and significant changes in policies, plans or operations of the company comes under the purview of Price sensitive information.

**PROHIBITION ON DEALING, COMMUNICATING OR COUNSELING**

As per the regulation 3 and 3A with respect to Prohibition on dealing, communicating or counseling of unpublished price sensitive information, no insider shall deal either on his own or on behalf of any other person while in possession of such information. As per regulation 4 any person who contravenes the above regulation is guilty of inside trading while regulation 3B talks about the cases where 3A is not applicable.

**INVESTIGATION**

The regulation 4A gives power to the board to make inquiries and inspection of the books and records of the insiders if it suspects violation of any of provisions of regulation 3 and 3A. The regulation 5 gives right to the board to investigate on the basis of complaints of insider trading received from investors, intermediaries or any other person and also suo-motu in order to protect the interests of investors. As per regulation 6 either a suitable notice may be given to the insider or if the board is satisfied that in the interest of stakeholders no such notice be given, direct investigation can be conducted. Under regulation 7 it is the duty of every insider to produce and give access to all kinds of information for investigation purposes including recording of the statements. The investigating authority shall furnish the investigation report to the board and the board shall communicate the findings to the person suspected of Insider trading. Such person is supposed to reply within 21 days. After receiving the reply if any, the board may take such measures as it considers fit to protect the interests of investors.

**POLICY ON DISCLOSURES AND INTERNAL PROCEDURE FOR PREVENTION OF INSIDER TRADING**

Under chapter IV of the regulation the code for internal procedure and conduct for listed companies and other entities is provided and it is expected that a code as near to the Model code in schedule I will be framed by such entities and they shall abide by the code of corporate Disclosure practices as mentioned in Schedule II. The schedule III of the Act deals with the various forms for disclosures.

**MODEL CODE OF CONDUCT AND CODE OF CORPORATE DISCLOSURE PRACTICES FOR PREVENTION OF INSIDER TRADING**

Some of the highlights of voluntary code of self compliance adopted by a large number of corporates and other entities are:

1. To ensure least insider trading violation not just prompt disclosure of price sensitive information is required to be done but also a designation of specific senior official to act as compliance officer.
2. Trading to be done by directors only when the trading window is open.
3. Pre clearance of transactions before actual execution and signing of the undertaking that there is no price sensitive information and also all directors/officers/designated employees cannot hold any position in derivatives.
4. A separated code for analysis of institutional investors is also there.
5. A code restricting employees especially at top two levels to do trading at price sensitive periods. Price sensitive periods are the quarterly, half yearly and annual results. Also designation of limited trading window or closure of trading window during this period.
6. To create China walls within the company in order to prevent information leakage from sensitive (finance Department) to other departments at the time of public issues and new issues.
7. Responding to market rumors by designated officers to verify or deny certain information.
8. In time disclosure of share holding or ownership changes by major shareholders.
9. Prompt dissemination of price sensitive information to stock exchanges.



10. Quick and efficient dissemination of disclosures to investors by stock exchanges.  
(SEBI Prohibition of Insider Trading Regulations, 1992)

## INSIGHTS FROM CASES

The second part of the study focuses on the cases which help us to delve deeper into the various issues and perspectives attributed to corporate governance, ethics and regulation attributed to individual cases.

### RAJAT GUPTA: CLEAVE IN THE VENEER

On 16<sup>th</sup> June 2012 almost all the news dailies posted on their front page the 'fall from grace' (Raj, 2012 p1) of Rajat Gupta – an Indian –American business icon. A Manhattan jury convicted Gupta – a former director at Goldman Sachs and Procter and Gamble Co. (P&G) (Raj, 2012 p1) – on four out of six counts – three for securities fraud and one of conspiracy (Rajghatta, 2012 p1) of passing along confidential boardroom information about both companies to his hedge fund manager friend Raj Rajaratnam, enabling the latter's Galleon funds to make multi-million dollar profits and avoid losses. "The four week trial had as its backdrop the financial crisis that exploded in the fall of 2008, when Gupta was accused of giving Rajaratnam inside information on two issues crucial to Gold man's financial health: a \$5 billion investment by Warren Buffett's Berkshire Hathaway Inc. and the bank's first quarter loss as a public firm (Bray, Rothfeld, Albergotti, 2012 p1&3). Thus, proving the statement that very often time and again, increased attention on corporate governance is the result of financial crisis (Report of the SEBI Committee on Corporate Governance, 2003). Prosecutors said Gupta, who invested with Rajaratnam at Galleon in various ventures, tipped him because of their friendship and business interests" (Bray, Rothfeld, Albergotti, 2012 p1&3).

In order to defend and steer himself away from the wrong doings of his friend, Gupta contemplated about his law suit against Rajaratnam with respect to their failed venture Voyager Capital Partners. Although the Government agreed that Gupta never personally traded on the sensitive information but he turned out to be a tipper (a person who discloses information) who tipped Rajaratnam (Rajaratnam in this case is a tippy, the one who receives the disclosed information). The government further argued that Gupta did benefit indirectly from his stake in voyager, which invested in Galleon funds (Bray, Rothfeld, Albergotti, 2012 p1&3). Several other corporate managers of Indian-origin were also involved in the case and received lighter sentences in exchange for testimony. The two leading co-accused who testified against Rajaratnam were Anil Kumar, the one who co founded Indian School of business with Gupta and Rajiv Goel, Wharton classmate of Rajaratnam and MD at Intel when he passed tips to him. Anil Kumar once again a Wharton Classmate of Rajaratnam who became a partner at McKinsey & co, testified against him last year and on June 5 this year he took witness stand against Gupta (Times of India, 16 June 2012, p 21).

Mr Pratip Kar member, advisory council- India, Global Corporate governance Forum and Consultant, IFC and World Bank who responded to TOI's request for comments on Gupta's Conviction said, "When people with the stature of Rajat Gupta get involved in such cases, it brings to fore the question as to where the much professed ethical values of today are headed. When you have everything at your feet, why do you need to do all these?" The question raised by him is very apt and forces a person to try to find an answer to this dilemma that you have everything because you want more or you want more and more because you have everything (Times of India, 16 June 2012, p 21).

Though the Rajat Gupta's case comes under the issue of Insider trading but when its roots are followed we reach the mother root i.e. the ethical conduct of business. The ethical conduct of business in the corporate form of business to a great extent is exercised through corporate governance norms. Corporate governance as it is sometimes believed to be a legalese is rather a mechanism which is constituted in the light of business ethics and is implemented through its structures and processes. As a structure the main responsibility of governing a company lies with board of directors (BOD) who are in turn appointed by shareholders – the real owners of a corporate entity. Structurally the board appoints one or more than one of the BOD as the managing director/ whole time directors/ executive directors who are to be approved by the shareholders of the company. The board structure distinguishes between executive (one who occupy management positions) and non executive directors (those who don't occupy management positions). Further there are two variants of non executive directors the ones who are genuinely independent of company's affairs and the ones whose positions might bring their independence into question (Das, 2010). The moot point in order to answer the question raised above and that can be linked to the person in case is not the independence or non independence of a director but the formal or social independence of a director within the agency logic of corporate governance (Bednar, 2012).

Taking inference from the point of social independence the Rajat Gupta story becomes very critical because he has fallen from America's most respected corporate directors to an information abuser because of lack of social independence as a director. He was motivated not by quick profits but rather a lifestyle where inside tips were the currency of friendships and elite business relation ships (Bray, Rothfeld, Albergotti, 2012). To add to this statement in Times of India (16 June 2012, p 21) by Ranjit Shahani VC & MD, Novartis India turns out to be very apt he said, "We are saddened by the turn of events. This has many lessons for all of us on corporate sobriety and conduct in both public and private life." Although it can be very much argued that whether Rajat Gupta's current situation is a product of a director's intention to manipulate the prevailing institutional logic to his advantage, or just a natural outcome of him trying to respond to multiple external pressures (Bednar, 2012).

Also we cannot afford to ignore the fact that there is lack of awareness on this issue pertaining to corporate governance. The level of awareness is so low that almost 50 percent of corporate population in India indulges in insider trading without even knowing the illegality of this (Singhvi, 2004). To further add to the woes, the business environment in India is highly politicized and bureaucratic; a lot of deals are struck under the table and go unreported. Two factors responsible for aggravating the situation are personal aspirations of Indian business community and national aspiration of building an economically powerful country. Some of famous 'rags to riches' stories apparently portray the distorted version of capitalism and growth, where in money power, survival and growth at any cost are considered as epicenter of success (Fernando A. C., 2012). No doubt the Rajat Gupta story is a reflection of this phenomenon only. In the past also we can come across such examples, Satyam being one and most recent of the Indian story where insider trading issues were raised after HLL and BBLIL merger case. While former is a case where certain individual are alleged to have been indulged in insider trading and later is a case where the corporate entity as a whole was charged and penalized for insider trading.

### SATYAM SMOKE AND MIRRORS

On 7<sup>th</sup> January 2009 'India's Enron' – Satyam fraud came to light through a letter written by then Chairman of the board B Ramalinga Raju to the board of Satyam Computer Services Limited. The letter which started with the line "It is with deep regret and tremendous burden that I am carrying on my conscience" brought forward not just the financial irregularities in the company but was also insightful of Raju's apprehensions that something had gone wrong with his values consciously or unconsciously. There is no doubt about the fact that he wasn't aware of the illegality of his actions but beyond the debate of legality there comes the contemplation of intention (which may be to increase the size of business and diversify though by unfair means) and personal values which weighed heavy on the ethical conduct of the business. His own acts forced him to land in a perturbed situation where he himself said, 'it was like riding a tiger, not knowing how to get off without being eaten.'

Ramalinga Raju confessed to the board of directors of the company that he has falsified accounts by way of inflated profits, cash and bank balances, debtors, non existent accrued interest and understated liability. The gap in the balance sheet on account of inflated profits, which started as a marginal one grew to an unmanageable size across several years (Financial Express, 2009). This deliberate attempt to inflate profits was supposed to serve the dual purpose of surging the share prices and investing the money raised through selling such shares at increased prices in land buys. Investigations into this multi billion fraud by SEBI (Securities and Exchange board of India) and SFIO (Serious Fraud Investigation Office) established that promoters had indulged in 'systemic' insider trading. The heavy selling of shares by the Satyam bigwigs was first attributed to economic downturn of 2008 but interestingly later on it was found that none of these promoters purchased shares; it was the FIIs (Foreign Institutional Investors) who were purchasing the shares sold by them. Several Institutional Investors sold shares on large scale two days before Raju's confession. Apart from the Insider trading charges the role of independent directors was also questioned and it came to the fore that 'mere compliance of SEBI's rule of the minimum number of independent directors does not guarantee ethical practices.' Also the so called independent directors who had been allotted significant stakes by way of stock options cannot be called as genuinely independent (Fernando A. C., 2012).

**INSIDER TRADING PREDICAMENT IN HLL BBLIL MERGER**

In April 1996 there was unison of the two Indian entities of Uniliver to ensure that Uniliver had major stake in it. It is a classic case where SEBI's regulation with respect to Insider trading failed to establish the company guilty of various charges it alleged. Though no individuals were targeted but (the way Hindustan Liver, a subsidiary of parent Uniliver conducted itself in the merger) the whole merged entity was under scanner because of heavy buying of shares from one of its stakeholder i.e. UTI, an institutional investor. SEBI which strives to protect all kinds of investors took the side of UTI and charged HLL of misusing the inside information of merger to buy shares from UTI. SEBI alleged that a few top officials of HLL had information about the crucial swap ratio, on the basis of which they acquired shares before merger and benefited with the increased prices of shares post merger when the share price increased from Rs. 320 to Rs. 410. The regulator was posed with a challenge to prove that HLL was an insider ("connected person" or "deemed connected person") who had access to undisclosed price sensitive information and it acted on the basis of this information to buy shares from UTI (Desai and Allavaru, 1997). After SEBI's ruling of declaring HLL guilty of the charges, it appealed to the Ministry of finance which reversed the SEBI's ruling that it suffered from "procedural lapses" and that it has used powers beyond its jurisdiction. The defense given to the appellate authority by HLL was that it cannot be an insider to itself and the information about the merger was generally known. It also strongly defended that it had no idea about the crucial swap ratio. Though the appellate authority agreed to the SEBI's argument that HLL was an insider and a connected person but the information about the merger was known to the market through various media reports (Jayakar and Chhaya, 1998). This decision raised quite a controversy and debate as to how the Regulation of (Prohibition of Insider Trading) 1992 be interpreted and can media reports be taken as concrete and accurate information. Further SEBI and UTI decided to challenge the appellate's decision in both the Mumbai and Delhi High Courts (Frontline, 1998). For next three years the case remained adjourned in the Metropolitan Magistrate Court, Mumbai. When SEBI filed a criminal writ petition in the Bombay High Court, it ordered Metropolitan Magistrate Court to proceed in the case without any further delay. The metropolitan court sent summons to four former directors – S. M. Datta, Keki Dadiseth, A. Lahiri and R. Gopalakrishnan and then current director, M. K. Sharma for criminal prosecution (The Hindu, 2002). The story of India's 'first Insider trading litigation' (The Hindu, 2002) post the Insider trading regulation of 1992 proved to be an eye opener for everyone in the sense that it highlighted the intention and determination of SEBI to bring the wrong to fore. But in addition to that it actually brought the lack of clarity and loopholes in the SEBI's regulation on the subject which required review by the authority.

**FINDINGS ON THE BASIS OF STUDY OF SEBI'S REGULATION AND INDIVIDUAL CASES**

The Findings of this study has three aspects, first findings from the study of regulation in India, second findings from the study of prominent cases of Insider trading in India (HLL & BBLIL and Satyam) and outside India (Rajat Gupta) and third the specific outcomes from each of the above aspects discussed so that it helps us to approach the issue in a futuristic way.

1. **REGULATION WITH RESPECT TO INDIA:** The regulation as amended from time to time is quite exhaustive in its scope. It talks about mandatory as well as voluntary requirements to be fulfilled by the companies to protect the sensitive and confidential information and speedy disclosure of that so that it is not misused for personal gains by connected person and the interests of the stakeholders are not kept at ransom by them.
2. **LACUNAE IN THE REGULATION IN INDIA WHICH SURFACED IN INDIVIDUAL CASES IN CHRONOLOGICAL ORDER**
  - (i) **HLL BBLIL CASE:** It brought to the fore that though SEBI has all the right intentions to bring guilty to the justice but it got caught in its own cobweb because there was a difference between the way how SEBI intended the regulation of 1992 to work and how it was interpreted by the corporate house under the scanner. It rather highlighted the fact that regulation lacked clarity which led the company to get away with strong arguments such as "a company cannot be insider to itself" and "the information about the merger being generally known through various media reports" (Jayakar and Chhaya, 1998) to defend its case.
  - (ii) **SATYAM CASE:** The Satyam fiasco which inked the Indian corporate firmament almost after a decade of India's first reported case of Insider trading (HLL BBLIL) broke the myth that it is not sufficient to have a tight regulation and its compliance on paper. Rather compliance should be in full spirit based on the ethical standards of people complying with it. The role of independent directors should be protecting the interests of stakeholders and not to promote their own self interests. They should not be ignorant about what is cooking in the organization rather they should be the first ones to blow the whistle if they find anything which is questionable. In this particular case on one hand books were cooked up show the value which wasn't there in the company and on the other hand heavy selling of shares was done by people supposed to be having this price sensitive information. In both the ways the shareholders are being cheated and their wealth destroyed.
3. **USEFUL INSIGHTS FROM RAJAT GUPTA CASE:** This case in particular being the most recent one becomes very important. It has highlighted how a case of insider trading be approached in future and highlighted three factors which led to guilty getting caught and punished.
  - (i) **Role of Media:** Media played an important role to bring the guilty to justice and made sure that corporations today have nowhere to hide.
  - (ii) **Intentions of Judiciary:** The judiciary understood its responsibility to punish the guilty and in order to do that it enlarged its net to allow the use of 'wire taps' (Rajghatta, 2012) and 'phone calls' (Raj, 2012 p23) as evidence.
  - (iii) **Stronger regulations and punishments:** Further there was an exemplary rope tightening by the law when it accepted 'circumstantial evidence' (Raj, 2012 p23) and gave exemplary punishment to deter people from 'white collar crimes' (Rajghatta, 2012).

**CONCLUSION AND RECOMMENDATIONS**

The overall conclusion of the study is that the issue of insider trading is approached rightly by the regulation in India. As and when the prominent case of insider trading violations surfaced in prominent cases either the regulation was clarified or amended to make it exhaustive. The intent of the regulatory body i.e. SEBI is right but now the time has come to widen its ambit to catch the wrong doers. Further the judiciary should also come forward to make sure that such corporate crimes are not overlooked and guilty are punished appropriately.

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