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    HYPOTHESES

    RESEARCH METHODOLOGY

    RESULTS & DISCUSSION

    FINDINGS

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    SCOPE FOR FURTHER RESEARCH

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- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
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CONTRIBUTIONS TO BOOKS

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

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

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

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- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

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THE INTERMEDIATE COMMUNITY: A BEHAVIORAL/BARGAINING APPROACH FOR CONFLICT RESOLUTION AT THE LOCAL LEVEL/BAYESIAN ANALYSIS

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ABSTRACT

The paper explores the Nash' equilibrium point and the "Non Cooperative Games Theory" for extension of bargaining solution analyses, applied in the local development field. Social trust and social cohesion conditions (sensitization process) within the Community develop the necessity of building social capital at a local level. That presupposes that the local community builds up a "new local standard," based on local people's sensitized instant reflection behaviour. By its turn, sensitized behaviour must be considered in the frame of any "bargain", between two, taking place inside the Community. "Instrumental rationality" has been proved to be the main obstacle toward the socio-sensitized behaviour in the bargain process. Hence, a scientific dialogue in the socio-philosophical level has been developed on how "instrumental rationality" should co-exist with the "sensitized behaviour" at local levels leading to a "society of citizens." Nash' "bargaining solution" is based on binomial probabilities (p, 1-p) distribution, corresponding 1-1 with those utility functions "prices" (disagreement fear factor). In its extension, which may be the paper's contribution in this academic dialogue, the author hypothesizes that the Intermediate Community (the "C" factor) produces a new behavioural type that converges the interests of both sides at a local level. By converting a binomial distribution **(p, 1-p)** into a trinomial distribution, **(p_1, p_2, 1-p_1-p_2)** combined with 3 utility function "prices", the dynamic behavioural sensitization process may converge into the integrated local development limit–end. Thus, the resulted behaviour leads into the absolute cooperation, which steps on the same rules of globalization. The paper, then, argues that this resulted behaviour reflects the end point of the local development process.

KEYWORDS
Bargain, Behavioral Analysis, Game theory, Intermediate Community, win-win-win papakonstantinidis model.

INTRODUCTION-THE PURPOSE

The purpose of this paper is threefold. First, to point out the interaction between local development, as a part of social capital building in local areas   and the games theory, especially, the Nash "non Cooperative Game Theory" including the bargaining problem and focusing on conflict interests within local community, second, to formulate a quick overview on Nash equilibria in the frame of a bargain, as well as Harsanyi's Nash refinement, i.e games with incomplete information, played by bayesian players (or condition probabilities distributions), highlighting the welfare economics vs normative economics   and third, to create a base for alternative local development approach, coming from the above mentioned synthesis, so called the "win-win-win papakonstantinidis model"

LOCAL DEVELOPMENT/WELFARE ECONOMICS AND THE BARGAIN

Over past decades, the concept of local development, as well, as the "equivalent" social capital at the local level seemed to be out of the scientific dialogue, for the reason that Regional Development Science, coming from the decade of 50's(Isard W, 1956) was the dominant approach of the peripheries economics. Local development, mainly based on social capital building and social networks, has developed in the recent literature. Having its origins in Latin America, current interest in the concept of social capital in the field of national development stems from the limitations of an exclusively economic approach toward the achievement of the basic developmental goals: sustained growth, equity, and democracy Portes A ,   Landolt P, (2000). The record of application of neoliberal adjustment policies in less developed nations is decidedly mixed, even when evaluated by strict economic criteria. It was the dominant reason that   a scientific dialogue open, on Normative and Welfare Economics

In the first half of the twentieth century, most leading economists Pigou A,(1928), Kaldor N,(1939), Samuelson P.A, (1985) etc devoted a significant part of their research effort to normative issues, notably the definition of criteria for the evaluation (Samuelson P.A , 1977) of public policies. The situation is very different nowadays. "Economists do not devote a great deal of time to investigating the values on which their analyses are based. Welfare economics is not a subject which every present-day student of economics is expected to study", who regrets "the strange disappearance of welfare economics". Social capital and social cohesion at the local level with respect to physical, architectural and cultural environment, (Wilkinson K, 1991) may be proved to be the key-point for the local development process At the same time, local people have to continuously negotiate (bargain) each-other expected to derive individual profit from this bargain So it is necessary, costs and benefits of these negotiations be measured Gannon A, (1991).

INTERACTION BETWEEN BARGAIN AND BEHAVIOR (BEHAVIORAL APPROACH)

(Dewey J, and Bentley A, (1949) wrote: *"A behavior is always to be taken transactionally: ie., never as of the organism alone, any more than of the environment alone, but always as of the organic-environmental situation, with organisms and environmental objects taken as equally its aspect".*

In this frame, is there any correlation between bargain and behavior in the bargain and during the bargain?

Experiments in Strategic Interaction" Colin F. Camerer,(2003) defines the behavioral games theory: "Behavioral game theory is about what players *actually* do. It expands analytical theory by adding emotion, mistakes, limited foresight, doubts about how smart others are, and learning to analytical game theory. Behavioral game theory is one branch of behavioral economics, an approach to economics which uses psychological regularity to suggest ways to weaken rationality assumptions and extend theory. Interaction bargain-behavior is the main assumption in this paper Bargainers behavior, is shaped by many factors, but instrumental rationality may be the dominant criterion. At any case, recent literature provides us with the relation between knowledge and behavior So,   an overview is attempt (Papakonstantinidis L.A: (2005)", as to find the relation between "knowledge transfer and knowledge creation", in the frame of the "Modern Innovation Theory- M.I.T" (Fischer M.M, 2006 Nonaka and others) Behavior thus may resulted from this knowledge types' synthesis, as the following table.

TABLE: KNOWLEDGE CREATION/ INFORMATION/ TYPES OF BEHAVIOR

Type of Knowledge-1	Type of Knowledge-2	Synthesis	Resulted Behavior
tacit	tacit	Sympathetic	Socialization
tacit	codified	Conceptual	Externalization
codified	tacit	Procedural	Internalization
codified	codified	Systemic	Networking
sympathetic	**systemic**	**Conceptual**	**Sensitization**
systemic	systemic	Procedural	**Strategic**

Papakonstantinidis, 2003

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The different examples of knowledge types synthesis and the resulted 1-1 behavior leads us to understand the bargain-behavior assumption, based on information given. From the other hand, bargainer's information may be the dominant result of this cross-related knowledge types.

Despite Nash "complete bargainers information" Harsanyi distinguishes between complete and incomplete information, that each player has from the others bargaining behavior. Thus, the hypothesis of bargain-behavior interaction is very important in building the suggested "Intermediate Community" model: Following the Harsanyi's Bayesian Theorem original game can be replaced by a game "where **nature** first conducts a lottery in accordance with the basic probability distribution" Harsanyi J (1966-revised 1967). Suggested model is mainly based on this point: In my mind, the suggested in the paper "Intermediate Community" and its "win-win-win papakonstantinidis" methodological tool is fully aligned with the "Harsanyi's transformation", with a difference: original bargain between 2 can be replaced by a game, where **intermediate community** first conducts a lottery in accordance with the basic probability distribution. In addition, "Intermediate Community" (the "C" factor) should be seen as the result of a "new" suggested bargaining behavior, coming from sensitization process locally Papakonstantinidis L.A:(2005) In this frame, Intermediate Community is given in terms of a continuous sensitization process, tending to sensitization itself, inside the community

ASSUMPTIONS

1. The main hypothesis is that development (especially, local development) may be sighted as the output of the bargaining trends.
2. Social interactions regularly lead to mutually beneficial transactions that are sometimes puzzling
3. Bargaining is strongly correlated with bargainers behavior (as above mentioned)
4. We could imagine the intra-community relations as a continuous bargain between 2- It is rather a dynamic "winning strategies instant reflections" game, based on competitive interaction relations
5. All players have complete information about the game being played.- J. F. Nah, "instrumental rationality", 1950
6. Sensitization is a kind of "information", making the given information complete – Papakonstantinidis L.A , 2002)
7. Each player has a subjective probability distribution over the alternative possibilities – (Harsanyi, 1967),
8. If a type is associated with several states but cannot distinguish between the states, it assigns a probability distribution over the set of types. If a type is associated with only one state, then that type believes with certainty that it is in that state (Danford B, 2009).
9. The main assumption(Papakonstantinidis, 2004): Introducing the "Intermediate Community", as the third bargainer in a bargain between 2 ,a new state is resulted thus converting a binomial probabilities distribution (Nash win-win equilibrium) into trinomial probabilities distribution, so that each of the three(including the community) to win [win-win-win]
10. The assumption that local development is based on a continuous "sensitization process", trending to the limit end of the process (Papakonstantinidis, 2004), through the bargain: There is an interaction between people's (involved in each of the bargains) behavior and the bargain itself. A dynamic evolution characterizes the interaction which will pass in next generations by the memes Dawkins R(1976)
11. The limit of this continuous process may be proved to be the absolute players' sensitization, leading to the absolute cooperation, which is the best strategy for all the involved players in the bargain (under the Harsanyi's condition of a perfect players information)

A QUICK OVERVIEW ON NASH EQUILIBRIA IN THE FERAME OF A BARGAIN

In Social Sciences, we have to define a Rule such as to meet the majority needs, without neglecting the minority needs: In math terms, we have to define a differential equation in a model, setting the "Nature", "State" in the centre and then finding losses and benefits resulted by deviation from this function-rule This analysis provides us with knowledge in real as well as in non real situation. The bargain is highlighted as a "game", Decisions are concerned as "instant reflection winning strategies" Payoffs are weighting by individual probabilities distributions, by taking into consideration that **each player has complete information** about the other player's information conducted their bargaining behavior (Common Knowledge of Rationality- **C.K.R,** Varoufakis Y, (2001).

THE BARGAIN- NASH THEOREM [Nash J. F. (1951)]

During the decade of 40's John von Neumann and Oscar Morgenstern had developed the "zero sum two player's game" theory based on "maximin-minimax" strategic decision, as the reaction to a given winning strategy, coming from the other player: Maximizing the minimum profits and/or minimizing the maximum losses. This was a full competitive idea (win-loose) useful only for the war decision making but not for piece period.

Despite the maximin-minimax Neumann approach (Neumann von J., Oscar Morgenstern, 1944) John Forbs Nash proposed in 1951 ("Non Cooperative Game Theory"-Annals of Mathematic, 1951) a "solution" to the problem of how rational players would play, to win - now called Nash equilibrium. According to Nash, a priori coalitions must be excluded, *as they do not generate* "pure individual strategies". In the opposite, a game (bargain) based on *"instant reflection strategies"* may be accepted as it generates pure individual strategies

According to the Bargaining Problem in its math expression *"An n –person game is a set of n players or positions, each with an associate finite set of pure strategies and corresponding to each player i a payoff function pi which maps the set of all n-tuples of pure strategies into the real numbers"* (Kuhun- Nassar, 2000)

A concept of game theory where the optimal outcome of a game is one where no player has an incentive to deviate from his or her chosen strategy after considering an opponent's choice. Overall, an individual can receive no incremental benefit from changing actions, assuming other players remain constant in their strategies. A game may have multiple Nash equilibria or none at all. (invetodedia, 2010)

Following the literature (Kuhn W.H –Nasar S, 2002), Nash's idea, based on the idea of equilibrium in a physical system, was that players would adjust their strategies until no player could benefit from changing. All players are then choosing strategies that are best (utility-maximizing) responses to all the other players' strategies (Colin F. Camerer,(2003). Nash equilibrium is a solution concept of a game involving two or more players, in which each player is assumed to know the equilibrium strategies of the other players, and no player has anything to gain by changing only his own strategy unilaterally. If each player has chosen a strategy and no player can benefit by changing his or her strategy while the other players keep their unchanged, then the current set of strategy choices and the corresponding payoffs constitute a Nash equilibrium (win- win situation) A game may have multiple Nash equilibria or none at all (Aumann, R. J. 1976). (each strategy in a Nash equilibrium is a best response to all other strategies in that equilibrium(von Ahn, L. Von 2004)

Formal definition of Nash equilibrium Bernheim B. Peleg .D (2004), B., Whinston M. D. , (1987),

Let *(S, f)* be a game with *n* players, where S_i is the strategy set for player *i*, $S=S_1 \times S_2 ... \times S_n$ is the set of strategy profiles and $f=(f_1(x), ..., f_n(x))$ is the payoff function for $x \in S$. Let x_i be a strategy profile of player *i* and x_{-i} be a strategy profile of all players except for player *i*. When each player $i \in \{1, ..., n\}$ chooses strategy x_i resulting in strategy profile $x = (x_1, ..., x_n)$ then player *i* obtains payoff $f_i(x)$. Note that the payoff depends on the strategy profile chosen, i.e., on the strategy chosen by player *i* as well as the strategies chosen by all the other players. A strategy profile $x^* \in S$ is a Nash equilibrium (NE) if no unilateral deviation in strategy by any single player is profitable for that player, that is

$$\forall i, x_i \in S_i, x_i \neq x_i^* : f_i(x_i^*, x_{-i}^*) \geq f_i(x_i, x_{-i}^*).\ _1$$

A game can have either a pure-strategy or a mixed Nash Equilibrium, (in the latter a pure strategy is chosen stochastically with a fixed frequency). Nash proved later that if we allow mixed strategies, then every game with a finite number of players in which each player can choose from finitely many pure strategies has, at least, one Nash equilibrium Later (1995) R. Aumann, 1999) and Brandenburger , show that, if players' payoffs are mutually known, their rationality is mutually known, their beliefs (or "conjectures") about other players' actions are commonly known and they have a common prior, then, for each player *j*, the conjectures of all the other players about ;'s action agree and the η-tuple of such conjectures (one conjecture about each player) form a Nash equilibrium when viewed as a mixed strategy profile.

Besides,

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If the payoffs are commonly known to all bargainers, then the Common Knowledge of Rationality CKR), is the main Nash assumption. Harsanyi, suggested later (Harsanyi, 1967) that "Complete information requires that every player knows the strategies and payoffs available to the other players **but not necessarily the actions taken**. Games of incomplete information can be reduced, however, to games of imperfect information by introducing "moves by nature"

Bargain may lead either in agreement or disagreement Utility expresses the constraint or the "fear factor"(Papakonstantinidis L.A, (2002,8/14) of disagreement for the negotiator who desires negotiations to be led in agreement more than the other one. Who needs more, negotiation to be led in an agreement expects more utility, but –probably he has to loose in terms of "shares", due to risk lack In the opposite, who is indifferent about "agreement" or expects less utility /per unit, has- to win in "shares" under the dogma *"the more risk, the more profit"* Each of "negotiators" has, therefore to think twice (2-person anticipation) according to his & the other's expectations so both to win, maximising the outcome of negotiation (**win-win)**

JOHN HARSANYI: FROM INCOMPLETE TO IMPRFECT INFORMATION (SUB-GAME)

John Harsanyi made a major contribution to welfare economics by two different interventions:

The first one is often called the "impartial observer argument". An impartial observer should decide for society as if he had an equal chance of becoming anyone in the considered population. This is a risky situation in which the standard decision criterion is expected utility.

The second Harsanyi' s argument, worldwide as the "**aggregation theorem",** is about a social planner who, facing risky prospects, maximizes expected social welfare and wants to respect individual preferences about prospects.

The key step in (Harsanyi's,1955) Harsanyi's argument, based on Bayesian, or conditional probabilities distribution was the claim "….that expected social welfare would be the weighted sum of expected individual utility functions, assuming that whenever all individuals are indifferent between any two probability distributions over social states, then so is society.." (Stanford Encyclopedia, (2001) Players have initial beliefs about the type of each player (**where a belief is a probability distribution over the possible types for a player)** and can update their beliefs according to Bayes' Rule as play takes place in the game. In a Bayesian game, the incompleteness of information means that at least one player is unsure of the type (and so the payoff function) of another player (see below)
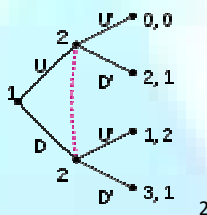
Harsanyi grappled with the analysis of "incomplete information's" games, where the players are uncertain about games situation parameters (or even some of them, as payoff functions, or about the other players' information about the game situation etc) Harsanyi's approach for modeling a Bayesian game in such a way, **allows** games of incomplete information to become games of imperfect information.

Games of "incomplete information" (between C- games and I-games) must not be confused with "games of imperfect information", although they have have been extensively discussed in the literature:

The first case concerns games where the players are uncertain about some important parameters of the game situation, such as the payoff functions, the strategies available to various players, the information other players have about the game, etc.

The second case concerns games in which the history of the game is not available to all players.

Besides, "complete information" requires that every player knows the strategies and payoffs available to the other players but not necessarily the actions taken. Games of incomplete information can be reduced, however, to games of imperfect information by introducing "moves by nature"

According to Harsanyi, each player has an objective probability distribution over the alternative possibilities: in this framework, probability distributions for each player is assumed to be mutually consistent or, they can be considered as conditional probability distributions derived from a **certain "basic probability distribution"** over the parameters, which are unknown to different players, even if ,it was assumed (by literature) that these probability distributions entertained by the different players are mutually "consistent", in the sense that they can be regarded as conditional probability distributions derived from a certain "basic probability distribution" over the parameters unknown to the various players. However, the theory meets also those cases where the different players' subjective probability distributions fail to satisfy the above assumption (the condition of mutually consistency for the players' probability distributions).

According to Harsanyi J. (Harsanyi, (1967), in cases where the consistency assumption holds, the original game can be replaced by a game **where nature first conducts a lottery in accordance with the basic probability distribution,** and the outcome of this lottery will decide which particular sub-game will be played. However, every player will know the "basic probability distribution" governing the lottery.

Following Harsanyi's concept, a Bayesian game can be modeled by **introducing Nature as a player in a game.** Nature assigns a random variable to each player which could take values of *types* for each player and associating probabilities, In this **nature** randomly **chooses** a type for each player according to the probability distribution across each player's type space). Finally, Harsanyi utilitarian theorem (Stanford Encyclopedia, 2001) states that the **social welfare function** is the weighted sum of individuals' utility functions if: **(i) society maximizes expected social welfare; (ii) individuals maximize expected utility; (iii) society is indifferent between two probability distributions over social states whenever all individuals are.**

Formal definition (Harsanyi, 1967),

The game is defined as: $G = \langle N, \Omega, \langle A_i, u_i, T_i, \tau_i, p_i, C_i \rangle_{i \in N} \rangle$, where: 3

G = game definition

1. *N* is the set of players.

2. Ω is the set of the states of the nature. For instance, in a card game, it can be any order of the cards.

3. *A_i* is the set of actions for player i. Let $A = A_1 \times A_2 \times ... A_N$. 4

4. *T_i* is the types of player i, decided by the function $\tau_i : \Omega \to T_i$. So for each state of the nature, the game will have different types of players. The outcome of the players is what determines its type. Players with the same outcome belong to the same type.

5. $C_i \subseteq A_i \times T_i$ defines the available actions for player i of some type in *T_i*. 5

6. $u_i : \Omega \times A \to R$ is the payoff function for player i 6

PROPOSAL

Starting from the Harsanyi's refinement concerning the Nash equilibrium, the objective of this paper was to formulate an argument on how it should be possible to provide appropriate tools for local development, taking into consideration the suggested "sensitization process" (behavioral analysis) and its interaction with the bargain and during the bargain. For this purpose, we have to suggest the "Intermediate Community" in a bargain between 2 , but not as the result of transferring a game of incomplete information to a game of imperfect information. According to the paper's proposal, the "Intermediate Community" (Nature as a player in the Game which first conducts a lottery in accordance with the basic probability distribution) must be seen as conscious choice, taken by local people in the frame of sensitization process: Sensitized people should conduct their bargaining behavior in a "new" type of bargain, less competitive, more cooperative, even if adopting the "Non Cooperative" instant reflection winning strategies' concept for modeling a Bayesian game in such a way, **allows**

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competitive games of incomplete information to become more cooperative games of perfect information: sensitization, may be one of factors influenced this sep-by-step change at the local level (see the LEADER EU Initiative's application in Greece (Papakonstantinidis L.A, 2003), during the 1991-1994 period

The limit of the continuous sensitization process defines a new behavioral status, in the bargain between 2, which trends from pure competition to the absolute cooperation, which is the best of all instant reflection, individual winning strategies

The suggested "Intermediate Community model" (see at the triangle relation scheme below) or "win-win-win papakonstantinidis model"(as any of the 3 parts of the negotiation has to win from this) is the end/purpose of this paper's contribution

Especially,

- Introducing the "Intermediate Community" – ("C" factor) as the THIRD (invisible) part in a bargain between 2 provides us with a "sensitization measure" to go the local development on Bargaining belief , in that case, should be continuously strengthen, thus tending to the limit of a pure and absolute cooperation, especially in an Inequality Age, due to capital accumulation (Amin Samir , 1970)
- Defining the Intermediate Community in terms of a continuous sensitization process, at the local level with social and endogenous characteristics. These may be seen as the output of the continuous sensitization process AND perfect information (the sensitization)

lim Pi(&) Qi(&) Ri(&) = max Ua Ub Uc

$i \rightarrow \infty$ 7

Pi(&)..strategy under the Pi,..probabilities distribution,

Ua.. utility functions

or, how to transform a "competition" into the absolute cooperation, taking into account the integrated information, coming from knowledge transfer AND the sensitization process in the community, thus maximizing bargainers utilities and the Community utility (Uc) (Papakonstantinidis L.A, 2002).

SCHEME OF A 3-PART BARGAINING APPROACH

A 2-person bargain [A] &[B] plus the sensitization process- in its limit-end- is transferred in a NEW bargaining form , by introducing the Community –"C" factor in any bargain between two

'C" is the invisible third bargainer, thus leading the in a 3-person bargain, by the same expectation, utility and power as [A] and [B]
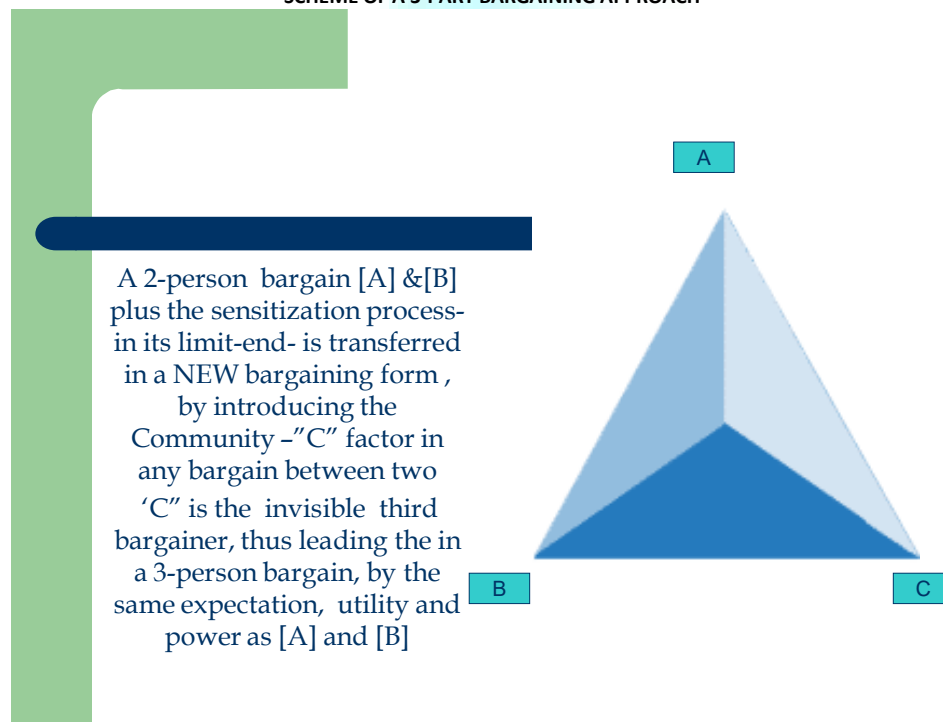
Papakonstantinidis, 2002

Now, we have to reproduce the Harsanyi Bayesian game's formal definition, with some difference which is the paper's contribution: introducing the "Intermediate Community" as the 3rd imaginary part of the negotiation between 2, as well as weighting of certain variables with coefficients, it should be possible to define the suggested "win-win-win papakonstantinidis model"

The sensitized players' game is defined as:

The sensitized players game is defined as:

$$G^{**} = < N, \; \Omega^*, \; < A_i, \; u_i, \; \varphi T_i, \; \tau_i, \; p_i, \; C_i > I \in N$$

papakonstantinidis   8

10 6

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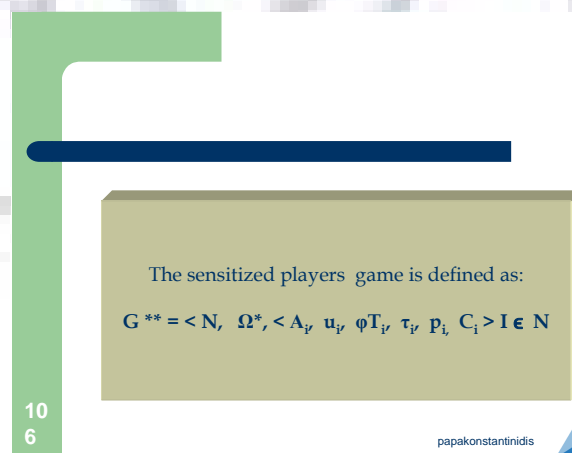
Ideal situation: equal probabilities di

$$\lim_{i \to \infty} Pi(\&) \, Qi(\&) \, Ri(\&) = \max \, Ua \, Ub \, Uc = \frac{1}{3}$$

Papakonstantinidis equations, 2005

58

papakonstantinidis   9

1. *N* is the set of players.

2. Ω^* is the set of the states of the "Intermediate Community", depended on   local people bargaining intra-community behavior

3. A_i is the set of actions for player i. Let $A = A_1 \times A_2 \times ...A_N$.   10

4. T_i is the types of player i, decided by the function $\tau_i : \Omega \to T_i$. So for each state of the nature, the game will have different types of players. The outcome of the players is what determines its type. Players with the same outcome belong to the same type.

5. $C_i \subseteq A_i \times T_i$ defines the available actions for player i of some type in T_i.   11

6. $u_i : \Omega \times A \to R$ is the payoff function for player i   12

7. ϕ : the **sensitization** coefficient of Ti : Each state of the Community (Nature, Local Community, Physical Environment etc) must be (according to model definition) weighted by the"ϕ" appropriate sensitization coefficient of Ti, thus providing behavioral convergence towards community prevailing ethos(John Friedman, Clyde Weaver ,1979)

Finally,

- Nash equilibrium is based on binomial probabilities (p, 1-p) distribution, corresponding 1-1 with those utility functions "prices" (disagreement fear factor). In its extension, the author hypothesizes that the Intermediate Community (the "C" factor) produces a new behavioural type that converges the interests of both sides at a local level. By converting a binomial distribution (p, 1-p) into a trinomial distribution, (p_1, p_2, 1-p_1-p_2) combined with 3 utility function "prices", the dynamic behavioural sensitization process may converge into the integrated local development limit–end.

- Paper focus on local level's behavior by a rural, social and ecological development's methodological tool, worldwide known as win-win-win papakonstantinidis model, taking into consideration the memes approach (Blackmore S, 1999) influenced biological and cultural "behavior" for the next generations (Dawkins Richard ,1976)

- Paper adopts the Bayesian Nash equilibrium (Harsanyi) which defines the strategy profile and beliefs specified for each player about the types of the other players that maximizes the expected payoff for each player given their beliefs about the other players' types and given the strategies played by the other players.

- Sensitization" may be concerned as information, thus changed the 2parts imperfect information, into a complete information as Harsanyi conditional probabilities claims

- Each of players following his/her best individual instant reflection winning strategy, having perfect information, as well as initial beliefs about the type of each player where a belief is a probability distribution over the possible types for a player) can update his/her beliefs as play takes place in the game (according to Bayesian Rule)

- Introducing the "Community" as the "third" part in a bargain between 2, we can imagine a "new bargain type" in which the "Community" (Nature, common values, ethic etc) is included

- That is reflected in bargainers behaviour, tending to the sensitization, in its limit-end (perfect sensitization, at the local level)

- Coming from the above, the resulted behaviour leads into the absolute cooperation, which steps on the same rules of globalization. The paper, then, argues that this resulted behaviour reflects the end point of the local development process. That is the end of sensitization process

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IMPACT OF NEW REFORM ON PRODUCTIVITY OF ETHIOPIAN COTTON TEXTILE INDUSTRY

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ABSTRACT

Although the concept of productivity is a widely used subject by politicians, economists, engineers, and media, it is often vaguely defined and poorly understood. In practice, this lack of knowledge results in productivity being ignored by those who are preaching about it in order to influence production process. Thus, the objective of this study is to discuss the basic meaning of the term "productivity" and its relation to employees' motivation and performance. Moreover, the study attempted to see whether a new reform has brought about any significant change on employees' performance and resulted in higher productivity than ever before. To this effect, the study employed secondary data collected from various sources as may be shown under methodology. The collected data were substantiated using structured interview to officials at different posts. As the study used two matched samples pre- and post- liberalization periods, a paired t-test is used to verify the set hypothesis using Microsoft Office Excel for computations. Finally, the study results indicated that a new economic reform has brought about a significant change on productivity of employees of Ethiopian Cotton Textile Industry.

KEYWORDS
Productivity, Liberalization, Motivation, A paired t-test.

INTRODUCTION

The current global business arena has become highly competitive and competitiveness has become a major focus area of firms and companies across the globe (Porter, 1990; IMD, 2006; WEF, 2007; Pillania, 2007; Pillania, 2008). Business organizations across the world are under increasing pressure than ever to stay dynamic and responsive in all their competitive frontiers because of a new economic reform called 'liberalization'. Organizations have to become efficient and effective in their operations in order to survive, sustain and grow in the dynamic environment. They have to become more productive than their rivalries in the market place. It has to design strategy to maintain a competitive advantage in a competitive market.

According to Rastogi (1988), productivity represents decreasing inefficiency and increasing effectiveness of the organization thereby honing a competitive edge. As added by Rastogi, productive efficiency is of crucial importance for managing inflation by lowering costs of goods, services, and commodities consumed by people. Productivity is the essential prerequisite for increasing exports, achieving export led growth, attaining techno-economic development and generating wealth for investment, consumption and social welfare. This research work is an attempt to study the impact of a new economic reform on productivity with particular reference to Ethiopian Cotton Textile Industry.

REVIEW OF LITERATURE

In this part, the study attempted to discuss related literature review written on productivity by different authors.

The concept of productivity, generally defined as the relation between output and input, has been available for over two centuries and applied in many different circumstances on various levels of aggregation in the economic system. It is argued that productivity is one of the basic variables governing economic production activities, perhaps the most important one (H. Singh et al, 2000).

In fact, productivity is frequently discussed by managers but rarely defined, often misunderstood and confused with similar terms, and seldom measured in an appropriate way, leading to productivity being disregarded or even to that contra productive decisions are taken. According to Koss and Lewis, remarkably many managers who everyday make decisions about improving plant efficiency and effectiveness do not know how to answer the simple question: "*what do we really mean by productivity*?"

Nevertheless, if we do not fully understand what productivity is, how can we decide what productivity measures to use? How can we interpret them correctly? How can we know what action to take to improve productivity? Evidently, the confusion surrounding the subject makes it increasingly necessary to further investigate and emphasize the basic meaning of productivity. Hence, an improper definition of productivity will often result in that action is being misdirected (Forrester 1993).

According to Rastogi (1988), productivity is a multifaceted phenomenon. It denotes an increasingly efficient and effective use of resources of land, labour, capital, and technology. It subsumes a number of diverse aspects like: i) optimum utilization of available and potential resources, assets, and capacity, ii) effective management of projects without time and cost escalations iii) waste avoidance in the use of materials, machines, energy, time and other inputs, iv) labour cost and/or higher quality goods and services, v) modernization of plants, and machinery, vi) development of technology and pursuit of innovation, vii) dedicated managerial leadership and viii) full utilization and exercise of human talents, creativity and skills. All these lead to the creation of national wealth.

According to Rastogi, productivity and innovation are crucial for the socio-economic development of nations. As argued by him, the grim pressures of unemployment, underdevelopment, inflation and poverty, and the resultant unrest and schisms within a society are largely the consequences of its low and/or declining productivity.

When productivity activities are managed intelligently, diligently, and harmoniously, a nation prospers. The reverse is also true. If resources are not managed and utilized properly and efficiently, the cost of using the resources will be high, which is the contradictory performance to productivity. Thus, the poverty of nation is an outcome of weakness in the organization and management of their production resources (V. Mariappan and K.Chidambaram 2003).

Productivity stands for composite efforts of all the factors contributing to production. So productivity indicates the overall efficiency of the organization. The usefulness of productivity indices has been recognized in all industries around the world. Michael Porter (1992) of Harvard University says the only meaningful concept of competitiveness at the national level is productivity.

Further, he states "the principal goal of a nation is to produce a higher and rising standard of living for its citizens. The ability to do so depends on the Productivity with which a nation's labour and capital are employed. A nation's standard of living depends on the capacity of its companies to achieve higher levels of productivity, and to increase productivity over time.

Production, productivity, innovation, organization, management and employment are social processes required to manufacture product. As stated by Rastogi, they involve the participation of social actors, viz, industrialists, businessmen, managers, engineers, technicians, workers, farmers, political leaders, scientists, planners, policy makers, bureaucrats, administrators, accountants, salesmen, clerks and so on. According to him, productivity is strongly related to the *culture of society and motivation of employees*. A motivated employee uses resources economically, efficiently, and effectively with great care for resources and processes. Culture also plays a determinant role in directing workers to work-place and making them to use resources efficiently and effectively. Culture also initiates and motivates society for a higher performance.

"Productivity is the relationship between outputs of goods and services and the inputs of the basic resources- labour, capital and natural resources" (Kendrick, 1980). Change in output per unit of measured inputs is change in productivity (Dension, 1962). Growth in productivity amounts to conservation or saving in the

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use of scarce resources per unit of output. It serves to moderate inflation by offsetting rising wage-rates and other input prices; and it increases the international competitiveness of domestic production. Krugman (1990) well captures the importance of productivity and economic growth in determining the long-run fates of nations: "Productivity is not everything, but in the long-run it is almost everything. A country's ability to improve its living standard over time depends almost entirely on its ability to raise output per worker." The danger of absence of productivity growth in the economy is well explained by Brahmananda (1982: 4). As he puts, "in extreme cases, additional capital accumulation can not help at all if the incremental response of gross output to gross inputs has already fallen so low in ratio sense, as to make incremental accumulation non-viable. In such a context without productivity improvements and of the right sort, sustained over a good length of time, the economy will not be able to depend even upon growth of factor quantities as a source of increasing output. Without productivity improvement such an economy will not grow at all." As it was already said, productivity measures the total quantity of output per unit of input. Productivity growth indicates the rate of growth of the level of productivity. Slow productivity may stagnate a country's real income.

In most cases inputs are divided into two, i.e., capital and labour. In some recent studies on Indian manufacturing three inputs approach (capital, labour and materials) is observed. The process that takes the output in relation to each input is named as partial or single factor or average productivity (Tora, 2001).

In a situation where capital-labour ratio is rising over time, the analysis of partial productivity changes would overstate the increase in labour productivity and understate the increase in capital productivity. To examine the existence of such phenomena the analysis should be extended to capital-labour ratio (Ahluwalia, 1991: 50).

As stated by Ahluwalia, any growth in output, which is not attributed to some index of input growth, is regarded as due to change in technology, or productivity. According to Kendrick, productivity may be affected by the change in the ratio of utilization of fixed plant or of overhead labour as output rises and falls in the short-run. But in the long-run total factor productivity rises because of improvements in the technology and organization of production including economies of scale.

The four groups of arguments that relate liberalization to growth of productivity and output are: a) reduction of inefficiency b) better exploitation of scale of economies c) superior technology embodied in imported inputs, and d) faster rates of technological 'catch up' in expanding sectors of comparative advantage (Tora, 2001). According to Tora, partial factor productivity analysis includes labour productivity (Q/L), capital productivity (Q/K), Material productivity (Q/M) and capital intensity (K/L).

According to V. Mariappan and K. Chidambaram, productivity is often confused with increased production, and *profitability* is also mistaken as a measure of productivity. Higher production does not mean higher productivity. Higher productivity can be achieved only by better utilization of resources. Though higher productivity results in cost reduction and thus favors profitability and competitiveness, profitability is not a measure of productivity as some times profit can be achieved while resources are inefficiently and ineffectively utilized. They also added that poor capacity utilization, outdated technology and machinery, poor maintenance and excess manpower are indicators of inefficiency in the organization. Inefficient utilization of resources does not lead to productivity.

As many writers do agree to, productivity is the result of the performance of people. Performance of people depends on how they are motivated to perform that specific type of work. Performance is determined by the amount of effort, ability and role perception of the individual. If an individual is lacking ability and/or has wrong role perception, his performance is found to be unsatisfactory in spite of his putting great efforts (Singh and Chhabra, 1996).

Theories of motivation have indicated that people are motivated by various needs. These various needs are motivated by different satisfiers. If the organization is in a position to know what motivates its workers and provides rewards or incentives based on their needs and wants, it will definitely increase their productivity. However, there is an argument among researchers that since there is no guarantee that giving someone a reward will lead to increased effort or that increased effort means better performance that will lead to higher productivity, because productivity is a function of many elements of which reward is only one of the factors.

In most cases it is assumed that job satisfaction and productivity are always interrelated, but some findings revealed that this thought is not necessarily seen a correct one since relationship between satisfaction and productive efficiency can not be taken for granted. Assumption to increase productivity of the employee might be possible through satisfying their needs. However, findings have shown doubt about the possibility of such an assumption.

The public opinion index of May (1974) for industry in the USA reported that only a modest tendency for job satisfaction to be related to productivity. Of the workers low or medium in satisfaction, only 26 percent were in the lower half of productivity and 81 percent in upper half. As Gadel and Krielt (1952) studied among IBM operators, their study showed that only a modest tendency of job satisfaction to be related to working efficiency or performance.

As it is clearly seen from aforementioned discussions, productivity signifies a continual striving towards the economically most efficient mode of production of goods, commodities and services needed by a society. Hence it constitutes an important requirement for raising the living standard of the people in a nation. The higher levels of per capita incomes of developed countries reflect higher levels of productivity. Low and stagnating per capita incomes in underdeveloped countries analogously reflect low levels of productive capability (P.N. Rastogi, 1988: 17). Productive efficiency is of crucial importance for managing inflation by lowering the costs of goods, services and commodities consumed by people. Productivity is the essential prerequisite for increasing exports, achieving export led growth, attaining techno-economic development and generating wealth for investment, consumption and social welfare (Rastogi, 1988).

Growth in productivity may be achieved in two ways: 1) improvement in efficiency which leads to higher output even with a given state of technological knowledge. Higher output results from superior organizational methods, improved management practices, higher motivation and competence of workers, accumulation of gains from learning and experience, more intelligent mechanisms for adaptive and anticipatory planning, and a better information base for policies and decisions, 2) higher effectiveness of new production technologies resulting from innovation and technical advance. This leads to quantum jumps on output levels, and/or new and better types of output. The given input level in relation to output may even decline in terms of cost and quantity. The two kinds of productivity growth may interact with each other in a mutually supportive manner (Rastogi 1988).

Productivity in general sense represents a close integration of effectiveness and efficiency. Effectiveness relates to achievement of performance results. Efficiency relates to optimal utilization of resources. Productivity thus denotes the relationship between the use of resources and the results of that use. Innovation and technical advance serve to amplify the level of effectiveness in both the use of resources and the results of that use (Rastogi 1988).

Gitlow and Hertz (1983) have given the following guidelines for the top management to improve productivity: 1) create an institution that a constant purpose and a long-term top management commitment, 2) breakdown barriers between departments, 3) create an environment in which people are not afraid to report problems, 4) defuse built-in levels of defects, mistakes, proper materials and so forth, 5) do not blame productivity and quality problems on the workers.

For the growth of the economy it is necessary that industries should be productive. According to A. Vijayakumar and M. Krishnaveni, the study of factor productivity is an important aspect of the analysis of development since it quantifies the contribution of the different factors of production. Higher growth can be attained through better utilization of available resources, i.e., capital and labour.

In Ethiopia major economic reforms have been undertaken after liberalization since 1992 with the objective of increasing productivity and competition among the companies. The new policies have liberalized many government controls on production capacity, imported capital goods and intermediate inputs making them cheaper and more accessible to both domestic and international competition. These reforms have altered the economic environment in which the textile industry operates. In this part, the attempt is made to test the impact of liberalization on employment, productivity and motivation.

According to Vijayakumar and Krishnaveni, the study of the factors of production is important in view of limited availability of the factors of production, particularly capital. According him, depending upon the nature of the product and the process of production, different industries employ different combinations of the factor inputs.

Ethiopian Government designed the policy of Agriculture-led economy to foster poverty reduction and to bring about economic development in the country by increasing the productivity of labour and land that it has relatively in excess capacity. According to the Government of Ethiopia (2002), there is relatively excess labour and land as compared to capital which is in acute scarcity. There is land in excess and labour wage rate is also low as compared to other African countries. Textile industry also follows labour intensive technology to minimize unemployment in the country.

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According to Vijayakumar and Krishnaveni, in labour intensive industries using unskilled and/or semi-skilled workers with a relatively low wage rate, the emphasis is on increasing the productivity of capital, which is in the scarcity. On the other hand, in capital intensive industries, where there is labour shortage, the prime concern is to increase labour productivity.

According to Mariappan and Chidambaram (2003), a review of productivity performance of the textile industry presents a disturbing picture of poor capacity utilization, outdated technology and machinery, poor maintenance and excess human power. The situation calls for drastic restructuring to improve the economic viability of the industry.

Productivity stands for composite efforts of all the factors contributing to production. So productivity indicates the overall efficiency of the organization. The usefulness of productivity indices has been recognized in all industries around the world.

Regarding the productivity of the industries, Michael Porter of Harvard University says the only meaningful concept of competitiveness at the national level is productivity. Further, he says, "the principal goal of a nation is to produce a higher and rising standard of living for its citizens. The ability to do so depends on the productivity with which a nation's labour and capital are employed." Moreover, according to him, a nation's standard of living depends on the capacity of its companies to achieve higher levels of productivity.

As stated by Mariappan, productivity is often confused with increased production. Higher production does not necessarily mean higher productivity. Higher productivity can be achieved only by better utilization of resources. He adds, though productivity results in cost reduction and thus favors profitability and competitiveness, sole profitability is not a measure of productivity.

Productivity in textile industry is getting drained mainly due to under –utilization of machines, inefficient working, poor machinery maintenance, over-spinning, lack of modernization, power shortage and unhealthy labour and management relations (Gulrajani 1982). He adds that the liberalization of the economy dramatically and drastically changed the industrial climate as well as government policy with regard to public sector undertakings.

RESEARCH METHODOLOGY

The study used both primary and secondary data. However, the main data that had been used in this study were secondary data from secondary data sources. Secondary data were used to compare the time period: pre- and post-liberalization to see the effect of liberalization on the variables under investigation. To this effect, it used written information that includes the time period between 1981 and 2004.

The data were collected from the following sources: Central Statistical Agency (CSA), Ministry of Trade and Industry, Ethiopian Export Promotion Agency, Cotton Textile Factory Libraries, Annual Government Reports on Industry, National Bank of Ethiopia, Institution of Ethiopian Studies at Addis Ababa University and Ministry of Foreign Affairs. The data that were not sufficient from the secondary sources have been substantiated from the primary sources by conducting structured interview to the pertinent officials at different levels of posts in the industry. Therefore, the focus of study was on secondary data.

This is comparative study which made use of Analytical as well as Empirical research. Analytical research because the study had to use facts or information already available and analyzes it to arrive at sound conclusions. It also used empirical research because, in such a research, the researcher must provide himself with working hypothesis and works to get enough facts (data) to prove or disprove the hypothesis. Such a research is appropriate when proof is sought that certain variables affect other variables in some way (Kothari, 1985).

The study attempted to see whether liberalization as an economic reform has brought about any significant change on productivity of Ethiopian Cotton Textile Industry, taking time period pre- and post-liberalization. To this effect, the study covered the time period between 1981 and 2004. This time period was divided into two equal portions as pre- and post-liberalization periods. In assessing the impact of liberalization, the study followed pre- and post-liberalization comparison, taking time period 12 years before liberalization and 12 years after liberalization. Through empirical analysis on the variables stated in hypothesis part, it is believed that it would be possible to gauge the success or failure of the new economic reform launched since 1992 in Ethiopian Cotton Textile Industry.

Various statistical tools depending on their appropriation for the study were used in the empirical analysis. Hence statistical tools such as ratios, correlation analysis, percentages, measures of central tendencies, graphs and charts are used to evaluate the data as the study is based on time series data in order to test the impact of liberalization on productivity of Ethiopian cotton textile industry. In addition, as the study is employing two matched samples, a paired t-test is used to verify the set hypotheses using Microsoft Office Excel for all computations in the study.

DATA ANALYSIS

According to the Managing Director of Hwassa Branch of Cotton Textile Industry, "the impact of liberalization on employment is significantly high. Because of economic reform of liberalization, now the industry is profitable. Consequently, it is paying higher remuneration to its employees. Because of compatible payment, moral of each employee is boosted up and raised, and thus each employee is exerting maximum effort to the operation of the organization. This high performance associated with efficiency in operation of resources is believed to have increased productivity and profitability".

TABLE 5.4.6: OUTPUT AND INPUT IN COTTON TEXTILE INDUSTRY [Labour in number and the rest in '000 Birr (1981-2004)]

Year	value of output (Q)	Labour/ employees (L)	Fixed capital (K)	Total material inputs (M)
1981	452014	34063	126094	195815
1982	444904	34793	121175	195815
1983	452892	39528	108133	206264
1984	428138	35770	99805	206264
1985	442059	35782	75554	419141
1986	524870	39449	233382	419141
1987	545473	40863	222431	214695
1988	460638	40455	205926	181058
1989	451925	33073	251049	169245
1990	349055	34708	339243	117204
1991	268067	33974	357782	95821
1992	454095	33497	412167	156930
1993	722131	34449	579834	290538
1994	651181	34903	571113	269977
1995	770969	32441	516680	385248
1996	727477	31797	533834	373847
1997	646987	29283	478109	319876
1998	687798	29504	906097	344700
1999	665991	27499	941666	315928
2000	755636	28004	926328	369033
2001	733012	26054	941887	374434
2002	825018	26216	793203	440561
2003	1042955	26706	829339	581699
2004	1042955	26786	829339	581699

Source: Central Statistical Agency (1981-2004)

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CHART 5.4.5 PRESENTS GRAPHICAL EXPRESSION OF INPUT, OUTPUT & FIXED CAPITAL IN ETHIOPIAN COTTON TEXTILE INDUSTRY FROM 1981-2004 (IN '000 BIRR)
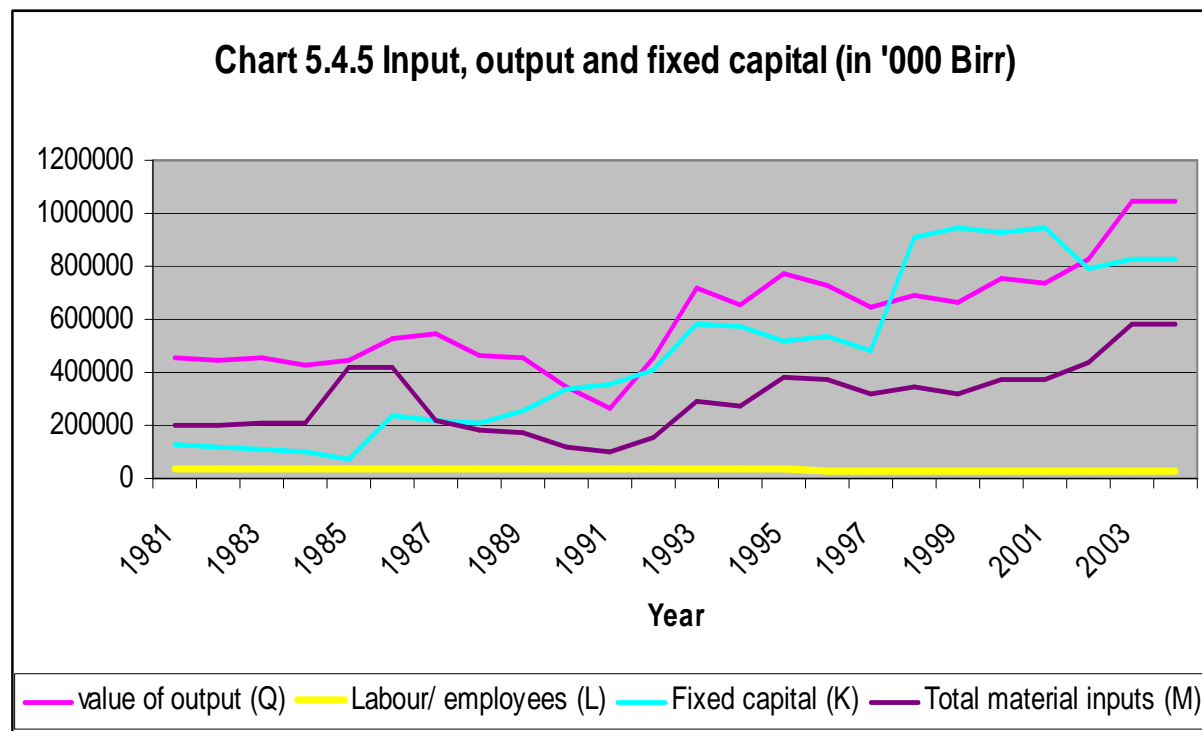
Source: Table 5.4.6

As shown in Chart 5.4.5, value of output is greater than the value of material input and labour input for the entire period of time, which is very normal situation. However, before liberalization the output and inputs were declining up to 1992, except capital input. After 1992 the output and inputs started increasing up to 2004, except labor. Labour was declining after 1989-2004 because of downsizing and privatization effect, which started taking place after 1995/6. Fixed capital has been gradually increasing starting from the beginning up to 2004. On the other hand, the number of employees, as it can be seen from Chart 5.4.5, has been increasing up to 1988 and after 1989 it started declining because of civil war, which took place between ex- government and liberation front up to 1991. Because of that civil war, many private firms quitted their operations by dismissing their employees and closing their firms. Many of public sector textiles were also closed in the city of Asmara, Eritrea. Declining continued also after 1992 because of privatization effect in the public sector.

TABLE 5.4.7: **CAPITAL INTENSITY, PARTIAL AND TOTAL FACTOR PRODUCTIVITY IN COTTON TEXTILE INDUSTRY** (1981-2004)

Year	Labour productivity (Q/L)	Capital productivity (Q/K)	Output/ material (Q/M)	Capital labour ratio (K/L)
1981	13.26994	3.584738	2.308373	3.701788
1982	12.78717	3.671582	2.272063	3.482741
1983	11.4575	4.188287	2.195691	2.735605
1984	11.96919	4.289745	2.07568	2.790187
1985	12.35423	5.850901	1.054678	2.111509
1986	13.30503	2.248974	1.252252	5.916043
1987	13.34882	2.452325	2.540688	5.443335
1988	11.38643	2.23691	2.544146	5.090248
1989	13.66447	1.800147	2.670241	7.590754
1990	10.0569	1.028923	2.978183	9.774202
1991	7.890357	0.749247	2.797581	10.53105
1992	13.55629	1.101726	2.893615	12.30459
1993	20.96232	1.24541	2.485496	16.83166
1994	18.65688	1.140196	2.411987	16.36286
1995	23.76527	1.49216	2.001228	15.92676
1996	22.87879	1.36274	1.945922	16.78882
1997	22.09429	1.353221	2.022618	16.32719
1998	23.31203	0.759078	1.995352	30.71099
1999	24.21874	0.707248	2.108047	34.24365
2000	26.98315	0.815733	2.047611	33.07842
2001	28.13434	0.778238	1.957653	36.15134
2002	31.47002	1.04011	1.872653	30.25645
2003	39.05321	1.257574	1.792946	31.05441
2004	38.93657	1.257574	1.792946	30.96166

Source: Calculated by present author from Table 5.4.6

Chart 5.4.6 presents graphical expression of capital productivity, labour productivity, material productivity and capital labour ratio or capital intensity from 1981-2004.

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Chart 5.4.6 Capital intensity, partial and total factor productivity in ECTI 1981-2004
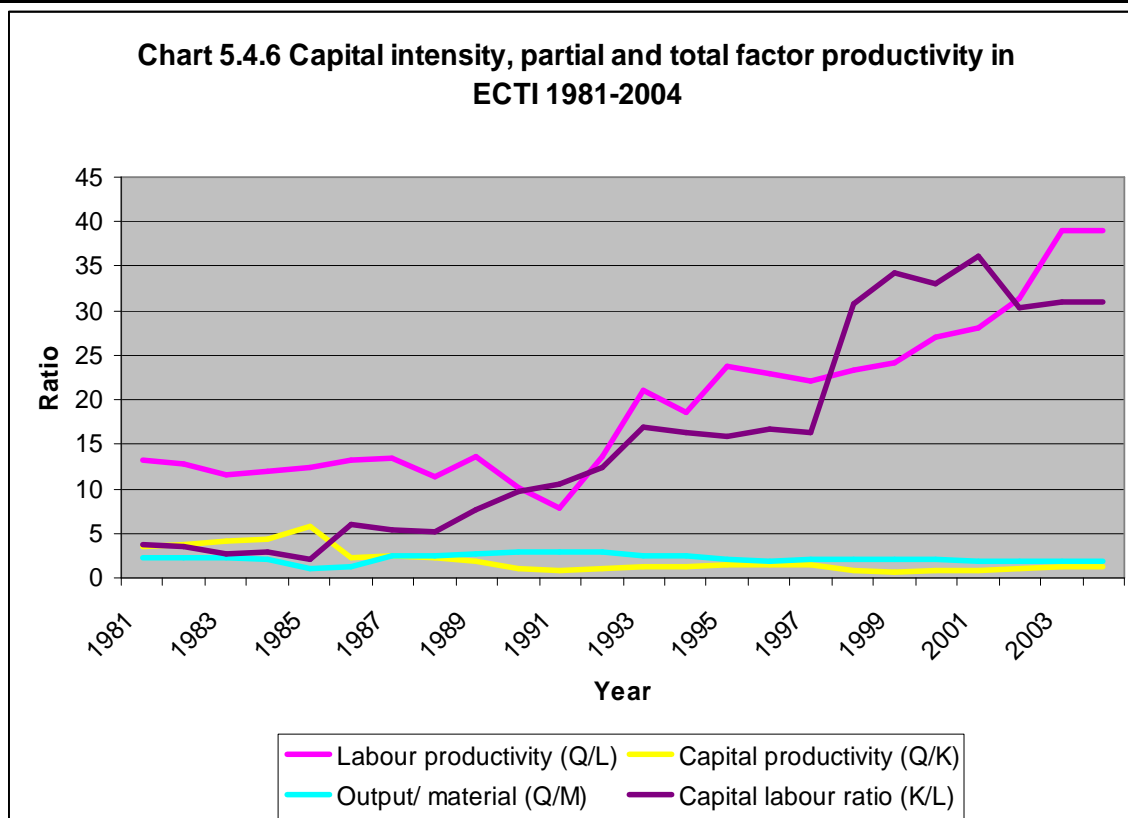
Source: Table 5.4.7

For the time period 1981 – 1992 (pre-liberalization period), labour productivity was lower, because of poor capacity utilization, outdated technologies and machineries, poor maintenance and excess manpower. This made the industry oblivious to the inefficient utilization of resources thereby increasing the production cost. Thus, profitability was low. However, after liberalization labour productivity increased in such a way that it had never seen before (Table 5.4.7 and Chart 5.4.6).

This labour productivity was attained by the industry by its ability to raise output per worker. For post-liberalization period, output increased by 75.8 percent whereas labour decreased by 18.88 percent. This clearly shows the saving of labour after liberalization. If it is not possible to raise output per worker, there will not be any productivity in the industry, and therefore it will not contribute to the growth of economy.

According to Tora Abebe (2003), high labour productivity can be achieved, among other things, for the following three reasons: 1) labour can become more skilled over time embodying greater amount of human capital, 2) new capacities can come up using better technologies that increase the quantity of output produced from the same amount of inputs, including labour, 3) the new techniques that substitute capital for labour can also increase output per worker.

Capital labour ratio was low before liberalization, up to 1992. Post-liberalization (1993-2004), however, capital labour ratio in the industry started to increase very fast. The increase has been realized after liberalization because the amount of capital in the industry was increased by 246.58 percent and it became excess. In contrast, the number of employees in the industry was decreased by 18.88 percent through downsizing or restructural adjustment. In other words, capital labour ratio is increasing because the increased capital is being divided by the decreased number of labour.

The miraculous event took place in capital productivity and material productivity. As it has been seen so far with labour productivity and capital labour ratio, they were decreasing before liberalization and increasing tremendously after the reform of liberalization. However, the case of capital productivity and material productivity was completely different after liberalization. Capital productivity, before liberalization, was decreasing because the utilized capital was lower than which has been used after liberalization. When low amount output is divided by low capital, obviously the quotient will be low. But after liberalization, the amount of capital used in the industry increased tremendously (by 246.58 percent) with the hope of yielding wealth in the near future. For example, the capital used for land development and construction purpose will not yield the output until they are completely become operational. Until then, the money used on them is believed to be idle as it is not generating any income in the short-run. Therefore, capital productivity is low after liberalization, because the existing output is being divided by the increased amount of capital. The amount of capital has been increased for capital investment and acquisition.

The other completely unexpected event which was found decreasing after the reform of liberalization was material productivity. As shown on Table 5.4.7 and Chart 5.4.6, material productivity was declining after liberalization. It was declining because of such reasons as obsolete machines, high material cost, low yield of material, low quality product and low demand for it, and substitution effect. Because of these reasons low material input is not yielding high output per used material input. Therefore, material productivity has been decreasing after liberalization (Table 5.4.7 and Chart 5.4.6). The value of output proved that it is decreasing 0.9 times per worker (75.8/80.32). This is because, material input increased by 80.32 percent after liberalization whereas output increased by 75.8 percent.

From this it can be concluded that the impact of liberalization was significant on productivity of Ethiopian Cotton Textile Industry. The impact was in increasing for labour productivity and capital intensity. However, it was in decreasing for capital productivity and material productivity after liberalization.

FINDINGS

- Before liberalization, labour productivity was decreasing up to 1992. After 1992, however, labour productivity started increasing because more output was produced per worker than ever before.
- Capital labour ratio/ Capital intensity/ also increased after liberalization because more capital was employed in expectation of generating or yielding more wealth in the near future.
- Capital productivity was decreasing because more capital was used for capital investment and capital acquisition, which could actually not yield output in the short-run. Capital has been acquired beyond required level and hence used inefficiently. Thus, idle capital is resulted in the decline of capital productivity after liberalization in the short-run. But in the long-run when capital investment starts yielding output, the situation may be reverse and the graph which was running downward can run upward in the long-run. Until that point of time, the conclusion may be, the industry has to arrest further capital acquisition and expand labour and material use.

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- Material productivity was also declining after liberalization, showing inefficient utilization of material to produce output. This happened because of poor capacity utilization, outdated technology and machineries, poor maintenance of plants because of the shortage of spare parts, low skill of workers, high cost of material input, low yield of raw materials, low quality of raw material and the like.

CONCLUSION

It has been proved that liberalization has brought about a significant impact on productivity of Ethiopian Cotton Textile Industry and that impact was in increasing for labour productivity and capital intensity. However, a change resulted in decreasing for capital productivity and material productivity for the reasons discussed here above. Therefore, the industry has to arrest further capital acquisition and expand labour and material use. The outdated machineries must be replaced by new ones. Inefficiencies must be eliminated and resources must be used effectively. All bottlenecks resisting productivity must be eliminated by the management of industry. Government should assist the management of the industry in importing new advanced technologies to make the industry productive and profitable.

DIRECTIONS FOR FUTURE RESEARCH

As indicated under methodology, the data were collected mainly from secondary sources. As it was not collected for the research under investigation, and as it might be full of errors and be exposed for prejudice and bias on the part of earlier investigator, the finding achieved through secondary data must be reproved using primary data. This option is open for further investigation.

The data for unorganized sector of the industry is not available at the Ministry of Trade and Industry at all. Thus, the study of this research does not include the data of unorganized sector. This is also left open for the researchers who would like to further investigate the sector.

Moreover, similar studies have to be undertaken in all industrial sectors to see the impact of liberalization on their operation and productivity.

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SIGNIFICANCE OF TOTAL QUALITY MANAGEMENT IN ORGANIZATIONAL PERFORMANCE: AN EMPIRICAL ANALYSIS FROM SMES SECTOR

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ABSTRACT

Significance of TQM in SME Sector of Pakistan as being catalyst for economic development is undeniable, nevertheless this is unfortunate that despite these implications, little research is undertaken to comprehend the complex nature of SME. Focus of this research is to access the significance of TQM on Organizational Performance (OP). The effects of five dimensions of TQM were individually examined on the OP. Findings of research show significant positive relationship of TQM with OP.

KEYWORDS

Total Quality Management (TQM), Small and Medium Enterprises (SMEs), Organizational Performance (OP) and Quality Management System.

INTRODUCTION

In Pakistani economy, SMEs represented almost 90% of all the enterprises in Pakistan employing 78% of industrial labour force and out of which more than half are involved in business of trade, wholesale, retail, restaurants employing less than 5 persons (Rohra et al, 2009). Based on these facts it is required to conduct a research in this unexplored and undocumented economy of Pakistan contributing lot. For achieving customer satisfaction and competitive edge in today's fierce competitive world, quality is vital to all organizations. Quality has become a vital element because the variety of products and services are available in the market place and to get successful business the survival of an organization heavily depends on quality of products being delivered and services being provided. For achieving customer satisfaction and competitive edge in today's fierce competitive world quality is vital to all organisations. Quality has become a vital element because the variety of products and services are available in the market place therefore; the survival of an organization heavily depends on quality. There is significant need to identify relationships among the quality practices which in turn will enhance the organization's performance (Talib, Raman and Qureshi, 2011). Concept of quality has grown rapidly Last three decades, starting with the descriptions of the quality management gurus Crosby, Deming, Juran, Feigenbaum, Taguchi, Ishikawa, Groocock, and others; nonetheless, the discipline of Total Quality Management has witnessed significant contributions in terms of theory development from many researchers (Al-Swidi and Mahmod, 2011). There is also an increasing recognition of the potential contribution of Small and Medium Enterprises (SMEs) towards employment and economic growth in Pakistan (Bhutta el al, 2009). SMEs are a vital, innovative, dynamic life-force and breathing apparatus of Pakistan's economic Growth (Seth, 2010). Dasanayaka (2008) study shows that there is no universally acceptable official definition for SMEs in Pakistan like any other developing nation and all the existing definitions depend on convenience and objectivity of studying SMEs. Thus Most of these organizations used various terms for SMEs such as Micro Enterprises, Rural Enterprises, Small and Medium Scale Activities, Cottage and Small Scale Industry, Informal Sector Activities and Micro and Small Scale Activities. Other studies shows that SME in Pakistan is defined as an enterprise with a maximum number of 250 employees, a paid up capital of up to Rs. 25 Million with annual sales amounting not more than Rs. 250 Million (Kureshi et al, 2009; Kureshi et al 2010).

LITERATURE REVIEW

SMEs due to their distinct and under cover nature to large organizations, was not addressed widely in literature and its dearth of literature specifically from definition to implementation issues were always highlighted (Romano & Ratnatunga, 1995). Though there was no standard SME definition around the globe but countries who show concern for SMEs have framed some variables for its categorization. The sector was so untapped in Pakistan that even there was no clear definition to distinguish SMEs with large enterprises (Dasanayaka, 2008). Pakistan SMEs are participating in almost all the sectors of the economy i.e. from agriculture to manufacturing and from services to trade. This parallax nature of SMEs did not allow anyone to frame its one common acceptable definition. It was defined by different authors, researchers and authorities differently and even addressed it with different names (Dasanayaka, 2008). After sixty years of independence in 2007, SMEDA took an initiative to propose the first ever definition with defined variables (SME policy 2007). A large number of enterprises always exist under the SMEs whichever the country is and whatever the definition being used. According to the Small and Medium Development Authority Pakistan (SMEDA) the small and medium enterprises constitute 90% of the total 3.2 million enterprises in Pakistan and contribute 30% of the GDP. Mostly SMEs in Pakistan are owned and run by their owners with support from their family members, relatives or friends (Dasanayaka, 2008). SMEs do not only vary in size but also in resources. They are facing many problems like access to credit, the high compliance cost of fiscal and non fiscal regulations, cost of unskilled human resource, high market transaction cost which results in low quality intermediary products and low quality raw material (Bari, Cheema and Hauque 2005). Also lacking physical, organizational and reputational resources, access to the required market information, non attention of government, lack of governmental support, (Berry 1998) and unhealthy competition with large organizations, still the SME sector is surviving and contributing in the underdeveloped economies. Whereas the policy support of many countries like Pakistan are far along (Berry 1998). Taking the data of sector contribution in the GDP, the manufacturing sector contributes 23% in the country's GDP growth which was 30% in 2004-05 that shows a decline. While analyzing the small scale manufacturing share in GDP, it is on the growth since 2005-06. (Economic Survey of Pakistan 2009-10). Bari et al. (2005) argued that those sectors have shown dynamic gains through

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learning which were dominated by SMEs because strong competition in SME sector innovate faster and easy entry allows greater experimentation which develops organizational and technological traits. While taking SMEs which are working as B2B firms, are even different and having much sense of maturity with respect to business principles and are playing very important role in creating a value for their customers while doing any job in value chain. In case of B2B the SMEs are serving to a small number of customers¸ sometimes it may be the only one customer. The level of strategy differences can also be seen in small, medium and large scale enterprises. Analoui and Karami (2003) also focus towards the large scale enterprises restrictive nature for innovative entrepreneurs and contrary to this is SME's friendly and flexible environment where all structures are not mature and not rigid as well. Some large organizations are very much quality conscious and as they have developed their brands so they need brand names to be protected by their quality products whereas SMEs also lack in quality products. Either they sell directly to consumers or the raw material which they want to be value added. The results of a study by Bayati and Taghavi (2007) conducted on 81 TQM certified SMEs in Tehran showed that Total Quality Management improves the performance of small and medium enterprises. A research conducted on 75 SMEs in Pakistan by Malik et al (2010) gives clear-cut evidence that ISO certified SMEs are performing better as compared to non certified SMEs. A survey of 20 companies undertaken by Sharma (2005) analyzed that TQM has an association with the financial performance of the organization. TQM enhances the competitiveness which also enhances customer satisfaction when customer satisfaction and competitiveness increases ultimately business performance increases. Lafuente et al (2009) found that TQM has positive impact on firm performance with respect to Return on Asset and labour productivity and this certification enhances the competition. A research conducted by Calisir et al. (2005) on the Turkish textile companies with a sample of 43 companies showed that the companies are satisfied with TQM. A research conducted by Capistrano (2008) in Philippine on 49 companies reported that TQM is not impacting company's financial performance in Philippines positively. Martı´nez-Costa and Martı´nez-Lorente (2007) analyzed impact of TQM on companies' performance by using a sample of 713 companies. The results of the study depict that the companies' performance has worsened after ISO certification. Sousa-Posa et al (2009) revealed that TQM only tells about the existence of the quality management system but does not guarantee its functionality. In order to improve the quality the organizations have developed some standard processes in which everyone from employees to customers would be able to participate to improve the quality (Okey and Semiz 2010). Total Quality Management standards are widely used by many firms and are perceived by many customers as synonymous of quality (Pina and Selle´s, 2008).

RESEARCH METHODOLOGY

This section of the study will cover the research methodology of the research including the theoretical framework and followed by the discussion, conclusion and the suggestions for the future researchers. Theoretical framework was built on the basis of the reviewed previous literature. The independent variable which is based on the clauses of ISO 9000 standard. The dependent variables are partially based on the study of Feng et al (2008).

The questionnaire consisted of 43 items adopted from ISO 9000 official document has been designed using the clauses of Total Quality Management standard and the literature reviewed having a five point Likert Scale. Cronbach's Alpha is used to measure the internal consistency of the Questionnaire. The results of Cronbach's Alpha as shown in Table 1 reveal that management responsibility, documentation requirements of quality management system, resource management, product realization, measurement analysis and improvement, operational performance and business performance are reliable as they fall above the acceptable value of 0.70.

TABLE 1 CRONBACH'S ALPHA

Variables	Cronbach's Alpha
Management Responsibility	0.823
Documentation Requirements of Quality Management System	0.784
Resource Management	0.786
Product Realization	0.805
Measurement Analysis and Improvement	0.726
Operational Performance	0.863
Business Performance	0.721

RESEARCH VARIABLES

Organizations from can be expected to yield better performance from their quality activities given greater involvement of all in the organization and a commitment to the principles of quality (Prajogo and Brown, 2006). Organizational Performance often dependent on managers' skill of converting knowledge into action, nevertheless, Knowledge and information are obviously crucial to performance (Pfeffer and Sutton, 2000). The dependent variable is Organizational Performance which is further divided into two sub variables including Business Performance and Operational Performance. Productivity is one of the measure business performances (Belay, 2011). The independent variable is Adoption of TQM which is further divided into sub variables including Management Responsibility, Documentation requirements of Quality Management System, Resource Management, Product Realization and Measurement Analysis & Improvement. The driving force behind the quality strategy developed is management improvement (Pina and Selle´s, 2008).

Past researches have explained the relationship of Total Quality Management with the operational and business performance. Briscoe et al. (2005) in a survey of 3671 companies examined a positive impact of Total Quality Management on operational and market performance. Research analysis suggests on recent study shows that education, generation setting up the business, owner habits (watching television, reading newspapers and using computers for office work) and number of partners have a significant relationship with the health of SMEs i.e. Organizational Performance (Khurrum et al, 2008). A study was conducted by Feng et al. (2008) in Australia and New Zealand of 3000 Total Quality Management organizations revealed that there is a positive relationship of TQM with operational performance while a weak relation of TQM with business performance. There exists a direct relationship between Total Quality Management and company's business performance improvement (Belay et al, 2011). A Turkish study by Semiz and Okey (2010) found that there is reduction in cost and increase in competition, level of achieving objectives and satisfaction level of managers after acquiring the TQM. A research conducted on 32 ISO 9000 certified Spanish companies by Pina and Trigueros (2008) showed that reason behind the implementation of ISO 9000 Quality Management System is the customer satisfaction and management improvement. Competition is also a reason but most companies did not bother it. Study by Cagnazzo et al (2010) in Italy with the sample of 366 companies explained that impact of TQM on internal operations is more than the impact on external operations that leads to another fact that companies obtain TQM mostly for the improvement in their internal processes. A research conducted by Han et al (2007) showed that TQM do not directly affected Business Performance but only affected TQM and competitiveness directly. The case study of eight small firms in Pakistan was conducted which concluded that the firms were not marketing oriented and need to understand marketing (Mian, 2008). Following Proposition and sub-propositions have been developed.

Proposition: *There is significant relationship of TQM with Organizational Performance (OP).*
P1: There is significant relationship between management responsibility and OP.
P2: There is significant relationship between documentation requirements of quality management system and OP.
P3: There is significant relationship between resource management and OP.
P4: There is significant relationship between product realization and OP
P5: There is significant relationship between measurement analysis & improvement and OP.

DATA COLLECTION METHOD

A survey methodology was employed for data gathering. The survey tool used was questionnaire. On the basis of convenient sampling 250 organizations were sent questionnaire through mail at various cities of Pakistan including Lahore, Sialkot and Multan. Finally 50 SMEs correctly filled questionnaires were selected from a variety of industries comprising manufacturers and exporters with response rate of 25%. The demographics of the respondents are given in Table 2.

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TABLE 2: DEMOGRAPHICS OF RESPONDENTS

Management position of persons filled-out questionnaire	Top Managers	52%
	Middle Managers	36%
	Supervisors	06%
Size of sample SMEs	1-50 Employees	22%
	51-100 Employees	32%
	101-150 Employees	26%
	151-200 Employees	08%
	201-250 Employees	12%

FINDINGS

The results from previous section indicate positive and significant relationship of TQM (management responsibility, documentation requirements of quality management system, resource management, product realization and measurement analysis & improvement with Organizational Performance. Correlation is used to measure the strength and direction of relationship between independent and dependent variables. The results of correlation analysis are shown in Table 3. The correlation of TQM with OP is also positive which shows that with the implementation of TQM improves OP (0.519) which is significant at 99% confidence level. In depth analysis Results of Table 3 depicts that there is significant positive correlation between the variables because the correlation for all variables fall in the range $0.3 < r < 1.0$. The correlation values of management responsibility (0.405), documentation requirements of quality management system (0.307), resource management (0.374), product realization (0.389), measurement analysis and improvement (0.502) with OP are positive and significant.

TABLE 3: CORRELATION BETWEEN TQM & OP

Variables	Organizational Performance (OP)
Total Quality Management (Overall)	0.519**
Management Responsibility	0.405**
Documentation Requirements of Quality Management System	0.307*
Resource Management	0.374**
Product Realization	0.389**
Measurement Analysis and Improvement	0.502**

**Correlation is significant at the 0.01 level (2-tailed)
*Correlation is significant at the 0.05 level (2-tailed)

DISCUSSION

The results prove that there is a positive relationship of Total Quality Management with business and operational performance. Study findings are consistent with the research findings of Briscoe et al (2005) showing a positive relationship between TQM and market performance. The study carried out by Cognazzo et al (2010) explains the impact of TQM on the Organizational Performance. Study by Feng et al (2008) studied the impact of ISO 9000 on OP findings are consistent with our findings. A study by Han et al (2007) measure the effect of ISO 9000 on business performance by studying two performance measures; profit and market share. Though the performance measures used by the study differ from this work the conclusion is the same that is there is a positive relation between ISO 9000 and business performance. However our findings are inconsistent with Martinez-Costa and Martinez-Lorente (2007) showing that operational costs increased and the sales did not compensate the increased costs due to which company's operational performance worsened after TQM.

CONCLUSION

This study is like an addition of a drop of water to the ocean but if we talk only of the works done in Pakistan, it is one of very few works done to assess the impact of Total Quality Management on small and medium enterprise's performance. This study could also be used to shed light on the importance of acquiring the certification and developing a quality culture. If a significant percentage of small and medium enterprises that are not currently using a quality management system is enlightened by this study, the overall image of Pakistani products in international markets would increase. Hence this work could become a major contributor towards the economic growth and prosperity of Pakistan as the facts and statistical figures show that 93% of businesses run in Pakistan are small and medium enterprises.

Future studies can be conducted in Pakistan to assess the impact of ISO 9000 on operational and business performance using different performance measures such as total productivity, cost of quality and customer satisfaction. Another issue that need to be addressed is whether total quality management should be implemented first followed by TQM or should it be other way around due to the fact there is confusion across the globe regarding this issue. A lay man would think total quality management is a prerequisite for TQM but studies supporting this argument are insufficient. Furthermore the researchers can conduct researches to analyze the impact of Total Quality Management on financial and market performance.

This research has work accesses the impact of Total Quality Management on the operational and business performance of the SMEs in Pakistan showing that the TQM being a clear guideline of quality management system for any organization. TQM plays a vital role in boosting the performance of any organization if implemented properly. The SME sector is the backbone of the Pakistani economy so the proper implementation of Total Quality Management could give some tremendous results by enhancing the performance of the organizations contributing in the economy of the country.

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INDEPENDENCE AND IMPARTIALITY OF AUDITORS FROME THR VIEWPOINTS OF INDEPENDENT AUDITORS AND INVESTMENT COMPANIES

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ABSTRACT

This research reviews those viewpoints of independent auditors in auditing institutions that are members of the official auditors society from Iran and the staff of Holding Investment companies accepted in Iran Stock Exchange in regard to how to select auditors for auditing financial statements lists, the effect of independent auditors' practices on their independence, the effect of employers' practices on the independence of independent auditors and also the role of laws and professional standards on the independence of the auditors. The results showed that, there is a difference between two viewpoints about how to select independent auditors and the independence of functions to independent auditors. However, there has been no differences between two kinds of viewpoints regarding the impact of the employer' performance and the role of laws and standards of independence in the auditors.

KEYWORDS

Auditor independence, Impartiality, Professional standards and rules.

INTRODUCTION AND PRIOR RESEARCH

Based on theoretical principles, auditor independence refers to get free from the pressures and other factors that decline or expected to decline the auditor's power of decision making. This does not mean that the auditor must be free from all pressures and other factors affecting his decisions, but the auditor should feel safe against important factors which decline or are expected to decline his power of decision making (Mautz and Sharaf 1961, Watts and Zimmerman1986).

Because of the importance and status of the concept of auditor independence, in the professional society much research has been conducted in all countries about the factors affecting it and different viewpoints to the beneficiary groups. (Robert 2010, Haniffa and Hudaib 2007, Zjun and Feng 2004, Beattie and Fernley 1994). Aloke and ed.s (2009) in a study during the years 2001 - 2006 examined the relationship and the impact of non-audit fees and auditor independence in the capital markets. The result of their research showed the existence of relationship between auditor independence and non-audit fees. They also found that there is a negative relationship between auditor independence and the importance of employers.

Rani and ed.s (2007) in a study examined the relationship between fee payment which paid to auditors and the quality of auditing. In this research for quality auditing of the standard deviation, criteria of regression of the commitment of current items to amounts of cash value and the sum of adjusted commitment optional items. The figures and payment fees of the audits and the size the employer are used in terms of auditor independence. Hemalatha and Almudhaki (2007), in a research studied the relation between non-audit services and auditor independence in the country of Bahrain. This research examined the two groups of auditors and employers. Both groups confirmed the relation and the impact of non-audit services on the independence of auditors. Of course according to the size of the employers their vision on the amount of non-audit fees and operations in overseas companies were different. Zjun and Feng (2004), a research reviewed the expectations gap between audits and the public users of their reports in China. Using written questionnaires, they studied some items such as audit objectives, requirements and commitment of the audits to discovering and reporting the frauds, the auditor independence and their responsibilities towards the third parties .In Iran also some researches were done on the factors of the independent auditor quality from the viewpoints of auditors and users and also on the factors of increasing the independence of the research auditors in the past years (Hassasyegane 2008 , Sajjadi 2007, Mojtahedzadeh and Aghaei 2004).

In this study, considering the literature and texts on the auditor independence and the standard of the four factors affecting it, compares the viewpoints of the two groups of independent auditors working in official institutions of auditors and the staff of the Holding Investment Companies accepted in Tehran Stock Exchange.

RESEARCH HYPOTHESIS

1- There is a significant difference between the viewpoints of the auditors and the Holding Investment Companies on the method of selecting independent auditors.

2- There is a significant difference between the viewpoints of the auditors and the Holding Investment Companies receiving audit services on the independence of the auditors' functions.

3- There is not any significant difference between the viewpoints of the auditors and the Holding Investment Companies receiving audit services on the impact of the employers' functions on the independence of auditors.

4 - There is not any significant difference between the viewpoints of the auditors and the Holding Investment Companies receiving audit services on the role of the standards and rules on the independence of auditors.

RESEARCH METHODOLOGY

This scientific research is empirical, method wise and descriptive (correlational) in terms of implementation Statistical Population and Sample .The statistical population of the research includes two groups. The first group is the auditors working in 180 official institutions of auditors in different levels. The second group is the 180 users of auditing services and the staff of the Holding Investment Companies accepted in Tehran Stock Exchange. The statistical sampling method is a simple random one. The research data are collected through library, field methods and the research data collection tool is written questionnaires. The questionnaire is evaluated for reliability and validity by the instructors of auditing course in AZAD University of SHAHROOD before it would be distributed among the sample of the study and then its content and sentences is adjusted. Furthermore, it is given to the financial analyzers of GHADIR Investment Corporation which presented their reformative comments on it too. Later, it is distributed among 15 independent auditors and analyzers, the results of which are examined through Cornbrash's Alpha test. The alpha rate is determined as 76 percent that is higher than the minimum rate of 70 percent. Thus, it is started to be examined initially

STATISTICL RESULTS

Descriptive analysis of the answers shows that 65 percent of the auditors have more than 10 years experience and 54 percent of financial analyzers have worked for more than 10 years in investment corporations. In addition, the most significant independence reversal factor is determined by 67 percent of the auditors as

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to be their selection mechanism and the fees. However, 61 percent of the financial analyzers evaluated the effect of this factor on the selection of the auditors by Iranian Society of Certified Public Accountants (CPAs) and they have considered the lack of expert of the accountants in the industry under auditing as the next factor. The auditors have assessed the pressure of time budget as a significant factor in impartiality of the auditors, but the users of auditing services underestimate it and believe in inefficiency of the auditing approaches applied by the auditors.

The mean of all responses from questionnaires are calculated and the means of groups, the auditors and investment companies were tested through the descriptive statistics method of Chi-square. Confidence interval in this research is 95 percent and the Alpha is 5 percent which are dealt according to the p-value obtained from the results of each respondent groups and each pair of responders

FIRST RESEARCH HYPOTHESIS

There is a significant difference between the viewpoints of the auditors and the Holding Investment Companies on the method of selecting independent auditors.

According to the table1, the P-VALUE shows the alpha less than 5 percent. So, the research hypothesis can be approved.

TABLE 1: RESULTS OF FIRST HYPOTHESIS

	Auditors	Investors
Chi-Square(a,b)	107.355	38.742
Df	10	10
Asymp. Sign.	.032	.032

SECOND RESEARCH HYPOTHESIS

There is a significant difference between the viewpoints of the auditors and the Holding Investment Companies receiving audit services on the independence of the auditors' functions. According to the table 2, the P-VALUE shows the alpha less than 5 percent. So, the research hypothesis can be approved.

TABLE 2: RESULTS OF SECOND HYPOTHESIS

	Auditors	Investors
Chi-Square(a,b)	124.226	66.887
Df	14	14
Asymp. Sign.	.014	.014

THIRD RESEARCH HYPOTHESIS

There is not any significant difference between the viewpoints of the auditors and the Holding Investment Companies receiving audit services on the impact of the employers' functions on the independence of auditor's .According to the table3, the P-VALUE shows the alpha less than 5 percent. So, the research hypothesis can be approved.

TABLE 3: RESULTS OF THIRD HYPOTHESIS

	Auditors	Investors
Chi-Square(a,b)	151.000	138.452
Df	10	8
Asymp. Sign.	.027	.027

FOURTH RESEARCH HYPOTHESIS

There is not any significant difference between the viewpoints of the auditors and the Holding Investment Companies receiving audit services on the role of the standards and rules on the independence of auditors. According to the table 4, the P-VALUE shows the alpha less than 5 percent. So, the research hypothesis can be approved.

TABLE 4: RESULTS OF FOURTH HYPOTHESIS

	Auditors	Investors
Chi-Square(a,b)	76.129	151.161
Df	9	9
Asymp. Sign.	.039	.039

CONCLUSION

According to the subject, four hypotheses have been produced to review the viewpoints of auditors and the Holding Investment Companies on the auditor independence in the auditing profession in Iran. Each of the research hypotheses has studied the independence in an aspect. The test of first hypothesis showed that independent auditors could be selected through the auditing profession according to its determined affairs, and also they could be selected with a complete authority of the employers. Even the role of the government could be a great importance in this regard. The results from the statistical test of the hypotheses confirmed that there is a significant difference between the viewpoints of the auditors and the Holding Investment Companies on the method of selecting independent auditors.

The second hypothesis studied the difference between the viewpoints of the auditors and the Holding Investment Companies receiving audit services on the independence of the auditors' functions. The results from the statistical test of this hypothesis confirmed the existence of such difference.

The third hypothesis studied the difference between the viewpoints of the auditors and the Holding Investment Companies receiving audit services on the impact of the employers' functions on the independence of auditors. The results from the statistical test of this hypothesis confirmed the existence of such difference.

The fourth hypothesis studied the difference between the viewpoints of the auditors and the Holding Investment Companies receiving audit services on the role of the standards and rules on the independence of auditors. The results from the statistical test of this hypothesis confirmed the existence of such difference. Studying the results of statistical tests indicates that the auditors and the users of auditing services are significantly different in the selection mechanism of the auditors and the effect of the factors on their selection; subsequently, they have not similar standpoint. These two groups have not different viewpoints in respect to professional criteria and the behavior of the employers in confronting with the auditors, but both are agree with it. As a result, professional standards in Iran shall be revised seriously in connection with the impartiality of the auditors. Meanwhile, the employers take action in their auditing contracts with the auditors in a way that is not confirmed by the consensus of the auditors and will tarnish the auditor's independence. The users of auditing services mostly believe that auditing approaches applied by the auditors are traditional and vouching-based and subsequently inefficient; so they may not help to detect the frauds.

SUGGESTIONS

Viewpoints of auditors and investment companies are significantly different from each other on the method of auditor selection and the independence of auditing institutions. Auditors emphasize on the selection by the official auditors association, whereas investment companies emphasize on the selection by the

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employers. It is therefore suggested that some new mechanisms and actions to be created and followed, and the official auditors society to be more attentive to this case.

The difference between the viewpoints of the auditors and the Holding Investment Companies receiving audit services on the effect of the auditors and auditing institutions on the auditors' functions was approved. The pressure of time budgeting and offering non-audit services and also specialization of the subjects considered by the auditors and the effect of their increasing fame are important factors in the eyes of investors and auditors. It is recommended to try to make these two types of viewpoints as close to each other as possible, as this would lead to the increase in the quality of auditing. Thus, professional organizations should take this important case into consideration.

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COMPARATIVE ANALYSIS OF SELECTED HOUSING FINANCE COMPANIES IN INDIA

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ABSTRACT

The result of the new policy regarding housing culminated in public and private sector banks entering into housing finance segment through the establishment of their subsidiaries. Some banks took-up the housing financing as a means of deploying their additional investible funds. As such today there are a number of institutions which are offering housing finance to individuals and corporates. The overall objective of the paper is to study the comparative analysis of financial performance of selected housing finance companies. Against the backdrop of overall objective, hypotheses were formulated and tested. A sample of four housing finance companies was selected at random for a study. The four companies which constituted the sample were Housing Development Finance Corporation Ltd., LIC Housing Finance Ltd., Can Fin Homes Ltd., and Vysya Bank Housing Finance Ltd. The database for the study consists of secondary data. The comparative analysis based on rankings leads to conclude that it was LIC Housing Finance Ltd., which stood as an excellent housing finance company since it had the highest counts i.e., 25 out of 40. This was followed by HDFC with 23 out of 40 counts. It means that these two organizations had almost the same efficiency and thus they were the real competitors in the field.

KEYWORDS

Analysis, Comparative, Housing Finance Companies, Performance.

INTRODUCTION

In India, the fast rate of population growth and migration of people from rural to urban areas for making a livelihood have created huge demand for housing in urban areas including metropolis. In rural areas too, the problem of housing is so acute because of low incomes and poverty. More than 30 per cent of the country's housing stock is considered to be kutcha houses made of non durable materials like mud, thatches, reeds, leaves etc. About 9 million of such units in rural areas and one million in urban areas are considered to be unserviceable. These structures generally last for very short period of time. In other words, the increases of housing units have not kept pace with the demand. This has resulted in number of problems in housing. The problem is acutely felt in the urban areas and the worst affected are the immigrants from the rural areas belonging to the low income groups. The Ninth Plan working group on housing estimated the housing shortage in the country in the year 2001 at 19.4 million dwelling units (12.8 million in rural and 6.6 million dwelling units in the urban areas). Furthermore, congestion, over crowding, poor housing conditions as well as growth of slums and squatter settlements have become most serious problems of the cities. Very large number of Indian population, both urban and rural need housing, at least, satisfying the minimum requirements.

Housing finance is a term which covers financing at all stages in the development of housing - purchase of land, construction and installation of on-site infrastructure. The project of house construction is quite distinctive from others. The price of the factors involved in house construction needs to be paid mostly in cash at the time of their use. In other words, finance for a project of house construction is required at three stages viz., purchase of land, construction of house, and repayment of loan amount if borrowed funds are involved.

Shelter as a basic human need ranks next only to food and clothing. Housing has been primarily self-help activity for the majority of the households. Increasing population pressure on land and infrastructure and associated high cost have made proper housing inaccessible to the poorer segments of the population, necessitating state intervention initially as a welfare activity and now recognized as a social and economic imperative. In a developing country like India, problems of urban housing have been more evident, both because of exponetially increasing land and construction cost and deteriorating quality of life in congested urban packets. This obviously led to high demand for dwelling units. The year 1987 was declared as International Year of Shelter. It was estimated by the National Building organization that by the year 2000 there could be demand for 4.1 crore dwelling units. Financing and construction of housing units to meet the needs of people is a big task in itself. Only a part of financial requirements is coming from the organized sector comprising banks, housing finance companies, and other organizations.

A housing finance company is a company incorporated in India which transacts the business of providing long term finance for housing. Unlike the other non-banking finance companies which are governed by the Reserve Bank of India (RBI), the housing finance companies are governed by the National Housing Bank (NHB). The National Housing Bank Act, 1987 confers powers on the National Housing Bank in dealing with housing finance companies. The National Housing Bank has issued Directions applicable to HFCs in 1989 known as housing finance companies Directions, 1989. The directions mainly covered the acceptance of deposits by HFCs and other incidental matters. The directions were drastrically amended in September 1997. The amendments were quite similar to the one made in the case of NBFCs in January, 1997. The housing finance companies which accept deposits and having at least 25 lakhs net owned funds are now required to apply and obtain a certificate of registration from the NHB before accepting/ renewing any deposit. The quantum of deposits and the methods of maintaining liquid assets have also been changed. These directions have been further amended on January 1, 1999 in respect of acceptance of public deposits, compulsory credit rating for acceptance of public deposits, more disclosure in the application for soliciting public deposits, etc. The National Housing Bank Act, 1987 was also been amended as National Housing Bank (Amendment) Act 2000 to enable the National Housing Bank to safeguard the interests of depositors and promote healthy and universal growth of housing finance companies in the country. The Act was further amended on September 27, 2001 as it was considered necessary in the public interst and to enable the National Housing Bank to regulate the housing finance system of the country more effectively.

STATEMENT OF THE PROBLEM

The introduction of New Economic Policy in 1991 brought in radical changes in many areas and economic activities. The Government introduced a number of reforms and restructured the functioning of organizations. New approaches were formulated in health, education, housing and other social activities. The Government planned to increase the health and medical facilities to all the sectors of the society. Similarly, it wanted to enlarge the scope of education to cover every boy or girl. In the case of housing, it allowed private participation so that more funds could be made available to housing.

The result of the new policy regarding housing culminated in public and private sector banks entering into housing finance segment through the establishment of their subsidiaries. Some banks took-up the housing financing as a means of deploying their additional investible funds. As such today there are a number of institutions which are offering housing finance to individuals and corporates.

At the national level the National Housing Bank (NHB) and Housing and Urban Development Corporation (HUDCO) have been established to assist the housing finance companies.

In 1991 the New Economic Policy came into effect and now it is more than two decade. It is felt that this is an appropriate time to evaluate the relative performance of the housing finance companies.

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The present study on the "comparative analysis of financial performance of selected housing finance companies" is pertinent and there is a greater need for such studies as the studies conducted earlier did not make much focus on the comparative analysis of financial performance of the finance companies whose business is primarily housing finance. It is also utmost important to have this systematic introspection of comparative analysis of financial performance of these companies, especially in the present juncture of cut-throat competition thrown up by many private sector organizations having entered into this industry.

OBJECTIVE OF THE STUDY
The overall objective of the paper was to study the comparative analysis of financial performance of selected housing finance companies.

HYPOTHESES
Against the backdrop of overall objective stated above, the following hypotheses were formulated and tested.
1.   There is no significant difference between the companies in regard to loan disbursements to sanctions.
2.   There is no significant difference between the companies in regard to debt equity ratio.
3.   There is no significant difference between the companies in regard to proportion of shareholders' funds in total resources.
4.   There is no significant difference between the companies in regard to proportion of borrowed funds in total resources.
5.   There is no significant difference between the companies in regard to proportion of retained earnings in total resources.
6.   There is no significant difference between the companies in regard to amounts of gross income and operating income.
7.   There is no significant difference between the companies in regard to amounts of profit after tax.
8.   There is no significant difference between the companies in regard to current ratio.
9.   There is no significant difference between the companies in regard to interest expenditure to interest income.
10. There is no significant difference between the companies in regard to growth of branches.

METHODOLOGY
There are 29 housing finance companies in public as well as in private sectors which are approved for refinance assistance from National Housing Bank. They undertake housing finance as their primary business with a professional approach and outlook. A sample of four housing finance companies was selected at random for a study. The four companies which constituted the sample were Housing Development Finance Corporation Ltd., LIC Housing Finance Ltd., Can Fin Homes Ltd., and Vysya Bank Housing Finance Ltd.
The database for the study consists of secondary data. The annual reports of the Housing Development Finance Corporation Ltd., LIC Housing Finance Ltd., Can Fin Homes Ltd., and Vysya Bank Housing Finance Ltd., Reserve Bank of India, National Housing Bank, etc on the secondary sources of data for the study.
The data was analyzed by financial ratios, compound growth rates, percentages, ANOVA, (Statistical Program for Social Sciences (SPSS) was used) etc.

SCOPE OF THE STUDY
The study was confined to the comparative analysis of financial performance of the selected housing finance companies in India.

LIMITATIONS OF THE STUDY
The study period was limited to 10 years from 1991-92 to 2000-2001. The evaluation has been done by taking into consideration four housing finance companies namely HDFC, LIC Housing Finance Ltd., Can Fin Homes Ltd., and Vysya Bank Housing Finance Ltd. The parameters considered for comparative analysis include:
1.   Loan disbursements to sanctions;
2.   Debt-equity ratio;
3.   Proportion of shareholders' funds in total resources;
4.   Proportion of borrowed funds in total resources;
5.   Proportion of retained earnings in total resources;
6.   Gross income and operating income;
7.   Profit After tax;
8.   Current ratio;
9.   Interest expenditure to interest income;
10. Growth of branches;
In all the above cases the `ANOVA' (Analysis of Variance) has been applied with `F' test at 1% level of significance to determine whether there was variability among the selected companies or not. At 1% level of significance table values of 4.41. Keeping this value as basis, whether the variability was significant or insignificant has been assessed. Similarly, if the variable was assessed at 5% level of significance which gave table value for `F' as 2.88.

DATA ANALYSIS AND RESULTS
LOAN DISBURSEMENTS TO SANCTIONS
The loan disbursements to sanctions indicate the actual outflow of cash from the companies. The loans sanctioned were only book figures. The actual disbursements reveal contribution made by the housing companies for increasing the dwelling units in the country.
In the case of HDFC the loan disbursements to sanctions (as shown in Table-1), ranged between a low of 81.07 per cent and a high of 88.19 per cent with a deviation of only 8 per cent. The loan disbursements to sanctions were 88.19 per cent in 1991-92 and it decreased to a low 81.07 per cent in 1994-95. Later it improved and reached 84.70 per cent for 1997-98. Afterwards again there was fluctuation and ultimately for 2000-2001, it was 84.35 per cent which was lower compared to its 1991-92 value. This reveals that there were reduced disbursements compared to sanctioned loan amount.

TABLE – 1: LOAN DISBURSEMENTS TO SANCTIONS OF SELECT HOUSING FINANCE COMPANIES (Percent)

Year	HDFC	LIC Housing Finance Ltd.	Can Fin Homes Ltd.	Vysya Bank Housing Finance Ltd.
1991-92	88.19	51.76	89.36	85.87
1992-93	83.79	78.41	83.84	76.94
1993-94	86.76	88.91	59.22	92.29
1994-95	81.07	86.76	85.43	82.27
1995-96	81.27	87.56	95.92	83.93
1996-97	83.30	93.82	78.34	76.28
1997-98	84.70	91.93	98.93	88.72
1998-99	84.10	88.77	87.86	97.63
1999-00	84.69	92.44	83.02	94.29
2000-01	84.35	93.04	88.96	88.89

Source: Annual Reports (Various Issues)

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TABLE – 2: LOAN DISBURSEMENTS TO SANCTIONS OF SELECT HOUSING FINANCE COMPANIES

ANOVA

Source	Degree of Freedom	Sum of Squares	Mean Squares	F-ratio
Between Groups	3	31.906	10.635	0.128
Within Groups	36	2994.000	83.167	Not Significant

Source: SPSS output

The disbursements to sanctions in the case of LIC Housing Finance Ltd., indicate an upward trend in the ratio. It was 51.76 per cent in 1991-92 and shows an increasing trend up to 1993-94 with 88.91 per cent of disbursements of loan sanctioned. For the next two years there was a slight decline. Later, again it increased and reached the highest percentage of 93.82 per cent for 1996-97. Once again there was fluctuation but it had not decreased below 88.77 per cent. For 2000-2001 it stood at 93.04 per cent. Though the range was 42.06 per cent for the year period, the trend was positive and at the same time it was consistently above 86.76 per cent from 1994-95.

The loan disbursements to sanctions in the case of Can Fin Homes Ltd., reveal too much of fluctuations. For 1991-92 it was 89.36 per cent and it declined to 59.22 per cent for 1993-94. For the next two years it shows an upward trend with a high rate of 95.92 per cent for 1995-96 and dropped to 78.34 per cent the very next year i.e., 1996-97. For 1997-98 it shows a very high rate of disbursement of 98.93 per cent. Afterwards again there were fluctuations. For the ten year period, the disbursements to sanctions ranged between 59 per cent and 99 per cent with too much of variation between one year and the other.

The Vysya Bank Housing Finance Ltd., also shows the same trend. There was two much deviation between one year and the other year. It was 85.87 per cent for 1991-92 and after increasing to 92.29 per cent in 1993-94, it decreased to 82.27 per cent the very next year. This increasing and decreasing pattern was seen for the entire ten year period. It had a very high disbursement ratio of 97.63 per cent in 1998-99.

The analysis of disbursements made to loans sanctioned of the four companies leads to the conclusion that the HDFC had more consistency. LIC Housing Finance Ltd., followed HDFC in consistency. Can Fin Homes Ltd., and Vysya Bank Housing Finance Ltd., had inconsistency in their loan disbursements.

In order to know whether there was any significant difference between the companies with regard to loans disbursed to loans sanctioned, the following hypotheses were formulated and they were tested through the ANOVA as shown in Table-2.

H_0: There is no significant difference between the companies in regard to loan disbursements to sanctions.

H_1: There is significant difference between the companies in regard to loan disbursements to sanctions.

The analysis (ANOVA) indicates that the null hypothesis could not be accepted at 1% level of significance. It means that the sample companies under study are significantly not different in these patterns of loan disbursals and loan sanctions. In other words these companies have the same proportion of disbursements in sanctions.

DEBT-EQUITY RATIO

The debt-equity ratio indicates patterns of capital structure of an organization. Normally, a debt-equity ratio of 2:1 is accepted as norm in the manufacturing organization. In the case of financial institutions, it could definitely be more than 2:1. The debt equity ratio of select housing finance companies is shown in Table-3.

A comparative study of debt-equity ratio of four companies will help in assessing pattern of funding of their activities. In the case of HDFC for ten year period it ranged between 3.37 and 12.86. It stood at 12.86 times of equity in 1991-92 and has been brought down to 3.37 for 1995-96. The norm was 2:1 and 3.37:1 was considered to still better compare to its earlier period. Unfortunately, again it had an increase and it was 6.52:1 for 2000-2001. The LIC Housing Finance Ltd., debt equity ratio ranged between 6.25 and 15.76. In 1991-92 it was 13.27. Further, it increased to 15.76:1. It was not a good sign. Later on, there was reduction debt-equity ratio and it stood at 8.23:1 for 2000-2001. It varied high ratio resulting huge interest burden.

In the case of Can Fin Homes Ltd., the ratio was 16.38:1 for 1991-92. Later, it showed a declining trend and it ranged between a low of 7.90:1 and a high of 9.02:1. Compared to LIC Housing Finance Ltd., the ratio was high and not good for the company. The Vysya Bank Housing Finance showed a better debt-equity ratio. It was 0.06:1 in 1991-92 and it increased to a high of 8.76:1 for 1997-98. Later, there was reduction and it stood at 6.81:1 for 2000-01. Based on range, it looks as if the Vysya Bank Housing Finance Ltd.'s position was better than the other organisations since it had not gone beyond 8.46, whereas in the remaining three companies the upper limit had gone beyond 12.86, 15.76 and 16.38.

On overall basis, it can be stated from the table that HDFC had very sound debt equity ratio since the ratio was comparatively lower after 1993-94. It could be therefore be concluded that debt-equity ratio of HDFC was definitely much better than all the other remaining three companies.

TABLE – 3: DEBT-EQUITY RATIO OF SELECT HOUSING FINANCE COMPANIES

Year	HDFC	LIC Housing Finance Ltd.	Can Fin Homes Ltd.	Vysya Bank Housing Finance Ltd.
1991-92	12.86	13.27	16.38	0.06
1992-93	9.33	15.76	8.86	1.82
1993-94	7.11	11.36	8.83	5.36
1994-95	5.07	6.25	9.02	8.46
1995-96	3.37	6.98	8.76	5.27
1996-97	3.93	7.38	8.53	6.26
1997-98	4.58	7.28	8.43	8.76
1998-99	4.98	7.22	7.90	8.19
1999-00	6.20	7.44	7.95	8.21
2000-01	6.52	8.23	8.06	6.81

Source: Annual Reports (Various Issues)

TABLE – 4: DEBT-EQUITY RATIO OF SELECT HOUSING FINANCE COMPANIES

ANOVA

Source	Degree of Freedom	Sum of Squares	Mean Squares	F-ratio
Between Groups	3	93.508	31.169	3.726
Within Groups	36	301.189	8.366	Significant at 1% Level

Source: SPSS output

To determine whether there was any significant variation in the debt equity ratio between the companies, the following hypotheses were formulated and tested.

H_0: There is no significant difference between the companies in regard to debt equity ratio.

H_1: There is significant difference between the companies in regard to debt equity ratio

The hypothesis was tested by ANOVA the details of which are shown in Table-4. It was found that the null hypothesis was rejected at 1% level of significance. Therefore, it may be inferred that the companies under study are significantly different in their debt equity ratio.

PROPORTION OF SHAREHOLDERS' FUNDS IN TOTAL RESOURCES

The shareholders' funds refer to share capital and reserves and surpluses. It is also called as networth of the organization. The proportion of shareholders' funds in total resources of four select housing finance companies as shown in Table-5 reveals the following.

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During 1991-92, in the case of HDFC the proportion of shareholders' funds in the total resources was 7.2 per cent. It increased gradually to 22.87 per cent in 1995-96 and later on it showed a gradual declining trend and reached 13.29 per cent in 2000-2001. Since the equity share capital could not decrease, it leads us to conclude that the reserves and surpluses declined after 1996-97.

In the case of LIC Housing Finance Ltd., the proportion of shareholders' funds after reaching a high rate of 13.78 per cent in 1994-95 from 7.01 per cent in 1991-92, shows almost the same proportion with a slight increase or decrease over the remaining six year period. This means, the company was enjoying almost the same retained earnings over the six year period.

The Can Fin Homes Ltd., also reveals the same trend as shown by LIC Housing Finance Ltd. From 5.75 per cent in 1991-92 it increased to 10.14 per cent in 1992-93 and later shows a fluctuating trend with positive or negative 1 per cent variation over the nine year period.

The Vysya Bank Housing Finance Ltd., had shareholders' funds to the extent of 94.38 per cent of the total resources in 1991-92 and after declining to 35.49 per cent in 1992-93 it ranged between 10 and 15 per cent over the remaining eight year period.

TABLE – 5: PROPORTION OF SHAREHOLDERS' FUNDS IN TOTAL RESOURCES OF SELECT HOUSING FINANCE COMPANIES (Percent)

Year	HDFC	LIC Housing Finance Ltd.	Can Fin Homes Ltd.	Vysya Bank Housing Finance Ltd.
1991-92	7.2	7.01	5.75	94.38
1992-93	9.68	5.97	10.14	35.49
1993-94	12.32	8.09	10.17	15.73
1994-95	16.47	13.78	9.98	10.57
1995-96	22.87	12.54	10.24	15.94
1996-97	20.28	11.93	10.50	13.77
1997-98	17.91	12.08	10.61	10.25
1998-99	16.72	12.16	11.24	10.88
1999-00	13.89	11.84	11.17	10.85
2000-01	13.29	10.84	11.03	12.80

Source: Annual Reports (Various Issues)

TABLE – 6: PROPORTION OF SHAREHOLDERS' FUNDS IN TOTAL RESOURCES OF SELECT HOUSING FINANCE COMPANIES

ANOVA

Source	Degree of Freedom	Sum of Squares	Mean Squares	F-ratio
Between Groups	3	1080.519	360.173	2.012
Within Groups	36	6443.592	178.989	Not Significant

Source: SPSS output

To examine whether the proportion of shareholders' funds in the first resources the sample companies, the following hypotheses were formulated and they were tested through the ANOVA at 1% level of significance.

H_0: There is no significant difference between the companies in regard to proportion of shareholders' funds in total resources.

H_1: There is significant difference between the companies in regard to proportion of shareholders' funds in the total resources.

The null hypothesis at 1% level of significance could not be rejected since the ANOVA indicates that there was no significant difference between the companies with reference to the proportion of shareholders' funds in the total resources of the companies. (Table-6).

PROPORTION OF BORROWED FUNDS IN TOTAL RESOURCES

Housing finance companies performing their lending activities through the funds mobilise from various sources. Apart from shareholders' funds these companies mobilised their funds from financial institutions and commercial banks in the form of term loans and also from public in the form of deposits. Borrowed funds happen to be the major component of resources of housing companies. The proportion of borrowed funds in total resources of select housing finance companies is shown in Table-7.

In the case of HDFC in 1991-92 the proportion of borrowed funds to the total resources was 92.79 per cent and it started declining for the next five year period and it was 77.13 per cent in 1995-96. Later on it showed an increasing trend and it was 86.71 per cent in 2000-2001.

In 1991-92, the LIC Housing Finance Ltd., borrowed funds to the extent of 92.99 per cent of the total resources. For the next year it increased to 94.03 per cent and for 1993-94 it was 91.91 per cent. For the next seven years it ranged between 86.21 per cent and 89.16 per cent. The Can Fin Homes Ltd., borrowed funds to the extent of 94.25 per cent in 1991-92 and later for the remaining nine years it ranged between 88.76 and 90.02 per cent.

In the case of Vysya Bank Housing Finance Ltd., for the first two years the borrowed funds were for very much less and the remaining eight years it ranged between 84.06 per cent and 89.75 per cent.

The analysis reveals that except for the two years in the remaining eight years all the four companies had the same proportion of borrowed funds in the total resources. An attempt has been made to examine whether there was any significant variation between the companies with regard to the proportion of borrowed funds in total resources. For this, the following hypotheses were formulated.

H_0: There is no significant difference between the companies in regard to proportion of borrowed funds in total resources.

H_1: There is significant difference between the companies in regard to proportion of borrowed funds in total resources.

The hypothesis was tested by ANOVA, the details of which are shown in Table-8. The ANOVA reveals that the null hypothesis could not be rejected at 1% level of significance. This leads us to conclude that there is no significant variation among the companies under study in the proportion of borrowed funds in the total resources in their capital structures.

TABLE – 7: PROPORTION OF BORROWED FUNDS IN TOTAL RESOURCES OF SELECT HOUSING FINANCE COMPANIES (Percent)

Year	HDFC	LIC Housing Finance Ltd.	Can Fin Homes Ltd.	Vysya Bank Housing Finance Ltd.
1991-92	92.79	92.99	94.25	5.62
1992-93	90.32	94.03	89.86	64.51
1993-94	87.68	91.91	89.83	84.27
1994-95	83.53	86.21	90.02	89.43
1995-96	77.13	87.46	89.76	84.06
1996-97	79.72	88.07	89.50	86.23
1997-98	82.09	87.92	89.39	89.75
1998-99	83.28	87.84	88.76	89.12
1999-00	86.11	88.15	88.83	89.14
2000-01	86.71	89.16	88.97	87.20

Source: Annual Reports (Various Issues)

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TABLE – 8: PROPORTION OF BORROWED FUNDS IN TOTAL RESOURCES OF SELECT HOUSING FINANCE COMPANIES
ANOVA

Source	Degree of Freedom	Sum of Squares	Mean Squares	F-ratio
Between groups	3	1080.531	360.177	2.012
Within groups	36	6443.281	178.980	Not Significant

Source: SPSS output

PROPORTION OF RETAINED EARNINGS IN TOTAL RESOURCES

Table-9 shows in percentage the proportion of retained earnings in the total resources of the select housing finance companies. In the case of HDFC it was 5.49 per cent in 1991-92 and after showing an increasing trend up to 1995-96, it showed a declining trend and it was 12.62 per cent for 2000-2001. The decline reveals that the company was either not generating higher margin of profit or ploughing back lesser earnings. In either case, it added to the cost of funds.

In the case of LIC Housing Finance Ltd., it was just 1.41 per cent in 1991-92 and it showed an increasing trend continuously for the next nine years and a slight declining trend for 2000-2001. It was 9.57 per cent for 2000-2001. However, the proportion of retain earnings of LIC Housing Finance Ltd., was less than that of HDFC. The result was that the LIC Housing Finance Ltd., could accept a high margin of profit because of lower retained earnings.

TABLE – 9: PROPORTION OF RETAINED EARNINGS IN TOTAL RESOURCES OF SELECT HOUSING FINANCE COMPANIES (Percent)

Year	HDFC	LIC Housing Finance Ltd.	Can Fin Homes Ltd.	Vysya Bank Housing Finance Ltd.
1991-92	5.49	1.41	2.45	5.92
1992-93	7.64	2.27	4.38	4.63
1993-94	10.05	4.12	4.97	3.69
1994-95	14.56	9.85	5.62	4.08
1995-96	20.29	9.42	6.41	9.64
1996-97	18.21	9.33	7.03	8.84
1997-98	16.70	9.86	7.42	6.89
1998-99	15.71	10.28	8.29	7.73
1999-00	13.10	10.28	8.56	8.11
2000-01	12.62	9.57	8.77	8.18

Source: Annual Reports (Various Issues)

The Can Fin Homes Ltd., showed a continuous increase in proportion of the retained earnings in the total resources. It was 2.45 per cent in 1991-92 and it showed at 8.77 per cent for 2000-2001. This revealed good and consistent growth. However, the company's proportions of the retained earnings were less than that of HDFC's and LIC Housing Finance Ltd. As such, it would have problem in facing huge financing cost.

TABLE – 10: PROPORTION OF RETAINED EARNINGS IN TOTAL RESOURCES OF SELECT HOUSING FINANCE COMPANIES
ANOVA

Source	Degree of Freedom	Sum of Squares	Mean Squares	F-ratio
Between Groups	3	325.428	108.476	10.110
Within Groups	36	386.268	10.730	Significant at 1% Level

Source: SPSS output

The Vysya Bank Housing Finance Ltd., revealed fluctuating trends for the entire ten year period. It was 5.92 per cent in 1991-92 and it stood at 8.18 per cent in 2000-2001. There was a lot of inconsistency in the proportion of retained earnings over the reference period. This could be due to non-increasing of the retained earnings in proportion to the increase in total resources. This type of variation in absolute terms is dangerous for the company. The proportion of retained earnings to the total resources of all the housing finance companies did not indicate any uniform pattern. The Can Fin Homes Ltd., showed a little uniformity and all other companies revealed variability.

To assess whether there was any variation or lack of it with regard to proportion of retained earnings in the total resources of the sample companies, the following hypotheses were formulated and tested through ANOVA, the detail of which are presented in Table-10.

H_0: There is no significant difference between the companies in regard to proportion of retained earnings in total resources.

H_1: There is significant difference between the companies in regard to proportion of retained earnings in total resources.

It is found through the ANOVA, that the null hypothesis was rejected at 1% level of significance. Therefore, it leads us to conclude that among the sample companies under this study, there is significant variation in their proportion of retained earnings in the total resources.

GROSS AND OPERATING INCOME OF SELECT HOUSING FINANCE COMPANIES

Gross income referes to the income earned before changing operating expenses such as interest, staff expenses, establishment expenses, depreciation, provision for doubtful debts, etc. It is operating income plus other incomes of the organisation.

The gross income of all the select housing finance companies is shown in Table-11. The data indicates that it declined after 1996-97. The earlier period i.e., from 1991-92 to 1995-96 indicates good percentage growth in the gross income. In terms of absolute amount the gross income increased for all the companies. However, the annual increase expressed in percentage showed a declining trend. The reason for this declining trend after 1996-97 could be the percentage of too many players in the housing finance area which has necessarily brought down the rate of interest. This was coupled with RBI's monetary policy. The reduction in CRR and SLR has resulted in huge funds available with financial institutions and banks for lending at competitive rates. Again, it should be noted here that the country is facing an era reduced interest rate structure which helps in borrowers to borrow at lesser cost. The housing industry and infrastructure providers are motivated to invest more funds because of reduced interest rates in borrowed funds.

TABLE – 11: GROSS INCOME OF SELECT HOUSING FINANCE COMPANIES (Amount in Rs. Crores)

Year	HDFC		LIC Housing Finance Ltd.		Can Fin Homes Ltd.		Vysya Bank Housing Finance Ltd.	
	Amount	% Increase	Amount	% Increase	Amount	% Increase	Amount	% Increase
1991-92	372.26	-	44.49	-	37.52	-	0.51	-
1992-93	473.49	27.20	109.87	146.95	53.44	42.43	0.97	90.20
1993-94	608.15	28.44	175.08	59.35	59.91	12.11	3.32	242.27
1994-95	780.34	28.31	251.65	43.73	70.80	18.18	6.54	96.99
1995-96	982.18	25.87	337.23	34.01	83.38	17.77	9.96	52.29
1996-97	1265.33	28.83	409.53	21.44	94.21	12.99	14.50	45.58
1997-98	1444.68	14.17	485.59	18.57	99.37	5.48	18.57	28.07
1998-99	1752.73	21.32	561.60	15.65	108.47	9.16	22.03	18.63
1999-00	2015.56	14.99	645.42	14.93	113.34	4.49	24.20	9.85
2000-01	2382.35	18.20	745.55	15.51	127.65	12.63	24.89	2.85
CGR		23.06		31.96		13.15		53.29

Source: Annual Reports (Various Issues)

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TABLE – 12: GROSS INCOME OF SELECT HOUSING FINANCE COMPANIES

ANOVA

Source	Degree of Freedom	Sum of Squares	Mean Squares	F-ratio
Between Groups	3	9007346.000	3002448.800	22.890
Within Groups	36	4722122.000	131170.062	Significant at 1% Level

Source: SPSS output

For 1991-92 the HDFC had a gross income of Rs. 372.26 crores and it increased to Rs.2382.35 crores in 2000-2001 indicating an increase of 640 per cent or 6.40 times over the ten year period with a compound growth rate of 23.06 per cent. There was consistency in the earnings up to 1996-97 and later on there was inconsistency in the year to year percentage of increase.

Excluding 1991-92, and evaluating from the year 1992-93 which is considered to be a normal year. The LIC Housing Finance Ltd., shows that the gross income increased from Rs. 109.87 crores in 1992-93 to Rs.745.55 crores in 2000-2001, indicating an increase of 678.57 per cent or 6.79 times over the ten year period with a compound growth rate of 31.96 per cent. The trend in increase shows that the gross profit declined year after year. Only for 2000-01 there was a slight improvement.

The Can Fin Homes Ltd., had a gross income of Rs. 37.52 crores in 1991-92 and it increased to Rs. 127.65 crores in 2000-01 registering an increase of 340 per cent or 3.4 times over the ten year period with a compound growth rate of 13.15 per cent. With year to year percentage of increase ranging from 4.49 per cent to 42.43 per cent, there was a lot of inconsistency in the annual increase of gross income.

The Vysya Bank Housing Finance Ltd., also revealed the same trend as seen in the case of Can Fin Homes Ltd. Its gross income increased from Rs.0.51 crores in 1991-92 to Rs. 24.89 crores in 2000-2001 showing an increase of 4880 per cent. But its percentage of annual increase ranged between 2.85 per cent and 242.27 per cent.

The analysis of gross income of the four companies revealed that there was a declining trend and at the same time inconsistency in the year to year percentage of increase. There was no uniform pattern. An attempt has been made to assess whether there was any significant difference between the companies with regard to gross income earned by them. To examine this, the following hypotheses were formulated.

H₀: There is no significant difference between the companies in regard to amounts of gross income.

H₁: There is significant difference between the companies in regard to amounts of gross income.

The hypothesis is tested by ANOVA, the details of which are presented in Table-12. It is found, through the ANOVA, that the null hypothesis was rejected at 1% level of significance. This leads to infer that the companies under study are significant different in their ability to generate gross income.

The operating income which was arrived at by deducting out of gross income, the other income revealed the same trend as seen in the case of gross income. In fact, the gross income was almost the same as the operating income excluding the other incomes. The other incomes normally comprised interest received on investments made by the companies which were insignificant. The operating income includes interest received on housing loans to individuals and corporates. Table-13, 14 conveys the same conclusion and the same trend as observed in Table-11 and 12.

TABLE – 13: OPERATING INCOME OF SELECT HOUSING FINANCE COMPANIES (Amount in Rs. Crores)

Year	HDFC		LIC Housing Finance Ltd.		Can Fin Homes Ltd.		Vysya Bank Housing Finance Ltd.	
	Amount	% Increase	Amount	% Increase	Amount	% Increase	Amount	% Increase
1991-92	358.21	-	40.11	-	37.43	-	0.48	-
1992-93	455.30	27.10	103.03	156.87	53.43	42.75	0.78	62.50
1993-94	580.80	27.56	168.76	63.80	59.79	11.90	3.06	292.31
1994-95	737.72	27.02	237.26	40.59	70.38	17.71	5.94	94.12
1995-96	928.45	25.85	328.19	38.33	83.32	18.39	9.17	54.38
1996-97	1216.31	31.00	399.77	21.81	93.85	12.64	12.99	41.66
1997-98	1387.03	14.04	474.06	18.58	99.25	5.75	16.96	30.56
1998-99	1677.90	20.97	545.82	15.14	108.41	9.23	20.68	21.93
1999-00	1937.65	15.48	622.30	14.01	112.97	4.21	22.61	9.33
2000-01	2273.71	17.34	709.66	14.04	127.63	12.98	23.45	3.72
CGR		23.06		32.63		13.17		54.44

Source: Annual Reports (Various Issues)

TABLE – 14: OPERATING INCOME OF SELECT HOUSING FINANCE COMPANIES

ANOVA

Source	Degree of Freedom	Sum of Squares	Mean Squares	F-ratio
Between Groups	3	8221079.000	2740359.800	22.710
Within Groups	36	4344060.00	120668.336	Significant at 1% Level

Source: SPSS output

PROFIT AFTER TAX OF SELECT HOUSING FINANCE COMPANIES

Profit after tax is arrived at after deduction from out of the total income, all expenses and charges including depreciation and provision for tax. Profit after tax is the actual profit which could be distributed to shareholders. Depending upon the dividend policy (the dividend payout ratio) the company retains a portion of profit after tax and pays the remaining portion in the form of dividend. The quantum of profit after tax earned is considered to be one of the yardsticks for evaluating the financial performance of the company. An efficient system generates profit which shows an increasing trend year after year. The profit after tax of the select housing finance companies is depicted in Table-15.

The profit after tax of HDFC shows semblance with its gross income. It shows a declining trend after 1996-97. It was Rs. 45.78 crores in 1991-92 and increased to 473.65 crores in 2000-2001 showing an increase of 1034.62 per cent or 10.34 times over the ten year period with a compound growth rate of 29.75 per cent. The annual percentage of increase shows a declining trend for 1995-96 to 1998-99.

The LIC Housing Finance Ltd., shows inconsistency in its profit after tax. It was Rs. 6.72 crores in 1991-92 and it increased to Rs. 121.52 crores in 2000-2001 showing an increase of 1808 per cent or 18.08 times over the ten year period with a compound growth rate of 36.13 per cent. The year to year percentage of increase in the amount of profit after tax ranged from 7.85 per cent to 100.45 per cent.

For 1991-92, the profit after tax of Can Fin Homes Ltd., was Rs.4.77 crores and it increased to Rs. 17.71 crores in 2000-2001 registering an increase of 371 per cent with a compound growth rate of 14.48 per cent. The annual per cent of increase in the amount of profit after tax unfortunately was very inconsistent and in fact for 1997-98 it was negative (company incurring loss).

The Vysya Bank Housing Finance Ltd., had a profit after tax of Rs.0.33 crores in 1991-92 and it increased to Rs. 2.24 crores in 2000-2001 accounting an increase of 678.79 per cent or 6.79 times over the ten year period, registering a compound growth rate which was 25.98 per cent. The year to year percentage of increase in the amount of profit after tax of the company reveals inconsistency and for 2000-2001 it shows a negative value.

An attempt has been made to study whether the sample companies had significant difference with regard to amounts of profit after tax. To examine this, the following hypotheses were formulated.

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H₀: There is no significant difference between the companies in regard to amount of profit after tax.

H₁: There is significant difference between the companies in regard to amount of profit after tax.

The above hypothesis was tested by ANOVA, the details of which are presented in Table-16. It is found that the null hypothesis was rejected at 1% level of significance. Therefore, it is concluded that the companies under study are significantly different with respect to their ability to earn profit after tax.

TABLE – 15: PROFIT AFTER TAX OF SELECT HOUSING FINANCE COMPANIES (Amount in Rs. Crores)

Year	HDFC		LIC Housing Finance Ltd.		Can Fin Homes Ltd.		Vysya Bank Housing Finance Ltd.	
	Amount	% Increase	Amount	% Increase	Amount	% Increase	Amount	% Increase
1991-92	45.78	-	6.72	-	4.77	-	0.33	-
1992-93	55.55	21.34	13.47	100.45	5.32	11.53	0.44	33.33
1993-94	105.36	89.67	21.53	59.84	7.71	44.92	0.77	75.00
1994-95	145.15	38.71	41.35	92.06	10.84	40.60	1.42	84.42
1995-96	195.69	33.90	51.66	24.93	11.56	6.64	1.83	28.87
1996-97	247.89	26.67	63.38	22.69	12.10	4.67	1.90	3.83
1997-98	293.36	18.34	87.73	38.42	11.12	-8.10	2.15	13.16
1998-99	333.90	13.82	101.14	15.29	14.71	32.28	2.62	21.86
1999-00	401.81	20.34	109.08	7.85	14.79	0.54	3.01	14.89
2000-01	473.65	17.88	121.52	11.40	17.71	19.74	2.24	-25.58
CGR		29.75		36.13		14.48		25.98

Source: Annual Reports (Various Issues)

TABLE – 16: PROFIT AFTER TAX OF SELECT HOUSING FINANCE COMPANIES
ANOVA

Source	Degree of Freedom	Sum of Squares	Mean Squares	F-ratio
Between Groups	3	336031.620	112010.539	19.387
Within Groups	36	207995.812	5777.662	Significant at 1% Level

Source: SPSS output

CURRENT RATIO

Current Ratio reveals the short-term solvency of an organization. It indicates capacity of the company to discharge its current liabilities i.e., liabilities which are to be cleared within a year or within an operating cycle. The capacity to discharge short-term liability depends on the current assets possessed by the organization. The current assets are assets which could be disposed off within a year or within an operating cycle and cash so realized could be used to discharge liabilities. The capacity to discharge liabilities depends on quantum of current assets possessed. For every one rupee of current liability, if the company has two rupees of current assets, it is considered to be financial sound. The current ratios of the select housing finance companies are presented in Table-17.

The HDFC had sound current ratio for all the years except for 1991-92 and 2000-2001. As against this, the LIC Housing Finance Ltd., had sound current ratio for 1991-92 and 2000-2001. The short-term solvency position of LIC Housing Finance Ltd., was not good for the period 1992-93 to 1999-2000 since the ratio was less than 2:1.

The Can Fin Home Ltd., had for all the ten years, current ratio more than 2:1. However, it should be noted here that holding excess current assets also is not good. But this does not apply to housing finance companies. The short-term solvency position could be considered as extremely good.

The Vysya Bank Housing Finance Ltd., had very high current ratio except for the year 1991-92. Normally, this would have been considered bad. But since the company is a housing finance company, it should be considered to be good.

HDFC, Can Fin Homes Ltd., and Vysya Bank Housing Finance Ltd., had good short term solvency position. For the LIC Housing Fiance Ltd., it was not sound.

To examine whether there was any significant difference in the current ratio of sample companies, the following hypotheses were formulated and tested through the ANOVA, the details of which are presented in Table-18.

H₀: There is no significant difference between the companies in regard to current ratio.

H₁: There is significant difference between the companies in regard to current ratio.

It is found that the null hypothesis was rejected at 1% level of significance. Therefore, it is inferred that there is significant difference with regard to current ratio between the sample companies.

TABLE – 17: CURRENT RATIO OF SELECT HOUSING FINANCE COMPANIES

Year	HDFC	LIC Housing Finance Ltd.	Can Fin Homes Ltd.	Vysya Bank Housing Finance Ltd.
1991-92	1.80	2.41	2.77	1.04
1992-93	3.75	1.86	2.88	5.46
1993-94	2.74	1.20	2.05	5.96
1994-95	2.73	1.63	4.35	5.68
1995-96	2.63	1.68	4.24	11.20
1996-97	2.88	1.79	5.58	6.19
1997-98	2.36	1.65	3.73	14.67
1998-99	2.07	1.54	2.88	7.44
1999-00	2.41	1.94	3.39	6.79
2000-01	1.98	2.80	2.97	5.24

Source: Annual Reports (Various Issues)

TABLE – 18: CURRENT RATIO OF SELECT HOUSING FINANCE COMPANIES
ANOVA

Source	Degree of Freedom	Sum of Squares	Mean Squares	F-ratio
Between Groups	3	154.993	51.664	13.760
Within Groups	36	135.170	3.755	Significant at 1 % level

Source: SPSS output

INTEREST EXPENDITURE TO INTEREST INCOME

The functional efficiency and overall performance of any housing finance company depends on the spread the company gets in its activities. Spread refers to the difference between interest earned and interest paid. If the difference is more, it is an indication of efficient functioning of the organisation. The spread between interest income and interest expenditure of the select housing finance companies for the ten year period is shown in Table-19.

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TABLE – 19: INTEREST EXPENDITURE TO INTEREST INCOME OF SELECT HOUSING FINANCE COMPANIES (Percent)

Year	HDFC	LIC Housing Finance Ltd.	Can Fin Homes Ltd.	Vysya Bank Housing Finance Ltd.
1991-92	98.57	75.86	87.26	0.03
1992-93	104.08	82.59	94.02	26.06
1993-94	101.43	84.32	85.25	65.49
1994-95	105.38	82.80	84.15	73.21
1995-96	98.69	75.20	82.98	70.36
1996-97	100.06	76.91	79.33	74.56
1997-98	98.14	76.61	80.38	75.61
1998-99	104.71	76.40	78.69	77.33
1999-00	105.02	78.97	77.35	78.18
2000-01	102.48	79.11	73.35	80.31

Source: Annual Reports (Various Issues)

TABLE – 20: INTEREST EXPENDITURE TO INTEREST INCOME OF SELECT HOUSING FINANCE COMPANIES

ANOVA

Source	Degree of Freedom	Sum of Squares	Mean Squares	F-ratio
Between Groups	3	7974.719	2658.240	13.691
Within Groups	36	6989.906	194.164	Significant at 1 % level

Source: SPSS output

In the case of HDFC the ratio between interest received and interest paid indicates that the company paid more interest than what it had received in seven out of ten years. It should be noted here that the company has dividend income, lease, rental income and other operating income which put together substantially increase the total income of the organization which result in company earning good rate of return on its investment. That is why the earnings per share show only an upward trend continuously.

In the case of LIC Housing Finance Ltd., the spread was substantially good. It ranged between 15.68 per cent and 24.8 per cent over the ten year period. However, in the last two years, the spread available was declining the because of increased interest expenditure. In the case of Can Fin Homes Ltd., the interest spread available ranged between 5.98 per cent and 26.65 per cent. The figures for the last three years reveal that the interest spread of company was getting increased and for 2000-2001 it was 26.65 per cent which no other company had enjoyed. For the same period, in the case of Vysya Bank excluding the extreme values, it ranged between 19.69 per cent and 26.79 per cent. For 2000-01, it was 19.69 per cent, which was less than the spread enjoyed by the Can Fin Homes Ltd., for the same time.

There is almost the same pattern in the case of LIC Housing Finance, Can Fin Homes and Vysya Bank Housing Finance Ltd. There is dissimilarity only with HDFC. The ANOVA as shown in Table-20 indicates this variability since `F' value at 1% level of significance is 13.69.

An attempt has been made to study whether there was any significant difference that existed between the sample companies with regard to interest expenditure to interest income, the following hypotheses were formulated.

H_0: There is no significant difference between the companies in regard to interest expenditure to interest income.

H_1: There is significant difference between the companies in regard to interest expenditure to interest income.

The hypothesis has been tested through the ANOVA, the details of which are presented in Table-20. It is found from the table that the null hypothesis was rejected at 1% level of significance. This leads us to conclude that there is significant difference among the companies in their interest expenditure to interest income.

GROWTH OF BRANCHES

The growth of branches indicates how the housing finance companies are spreading throughout the country and how they are reaching different segments of the population. Larger growth is a sign of life in housing sector because it indicates that the company instead of concentrating in bigger cities tends to move to smaller towns offering housing finance. The increased expansion of business through establishment of branches of the select housing finance companies is given in Table-21.

In 1991-92, the HDFC had 25 branches and it increased to 88 branches in 2000-2001 indicating an increase of 352 per cent over the ten year period with a compound growth rate of 15.20 per cent. The trend in growth reveals that the growth was only from the year 1996-97. The annual percentage of increase was between 0 per cent and 38 per cent.

TABLE – 21: GROWTH OF BRANCHES OF SELECT HOUSING FINANCE COMPANIES (Number)

Year	HDFC		LIC Housing Finance Ltd.		Can Fin Homes Ltd.		Vysya Bank Housing Finance Ltd.	
	Number	% Increase	Number	% Increase	Number	% Increase	Number	% Increase
1991-92	25	-	43	-	24	-	1	-
1992-93	25	0.00	60	39.53	25	4.17	1	0.00
1993-94	26	4.00	65	8.33	26	4.00	7	600.00
1994-95	26	0.00	67	3.08	28	7.69	7	0.00
1995-96	27	3.85	67	0.00	28	0.00	8	14.29
1996-97	33	22.22	67	0.00	34	21.43	13	62.50
1997-98	42	27.27	67	0.00	34	0.00	13	0.00
1998-99	50	19.05	67	0.00	35	2.94	13	0.00
1999-00	69	38.00	73	8.96	38	8.57	13	0.00
2000-01	88	27.54	73	0.00	42	10.53	13	0.00
CGR		15.20		3.88		6.40		32.54

Source: Annual Reports (Various Issues)

TABLE – 22: GROWTH OF BRANCHES OF SELECT HOUSING FINANCE COMPANIES

ANOVA

Source	Degree of Freedom	Sum of Squares	Mean Squares	F-ratio
Between Groups	3	16154.680	5384.893	35.240
Within Groups	36	5501.094	152.808	Significant at 1 % level

Source: SPSS output

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The LIC Housing Finance Ltd., indicates very erratic growth. From 43 branches in 1991-92, it increased to 60 branches in 1992-93 showing an increased of 39.53 per cent in one year and later on for almost six years it did not indicate any growth. In 1999-2000 the number increased to 73 branches. This indicates only 8.96 per cent, registering a compound growth rate of 3.88 per cent.

The increase in branches in the case of Can Fin Homes Ltd., indicates an erratic trend. After showing just 4 per cent in the initial year it indicated 21.43 per cent growth in 1996-97. Later on, its growths trend was not uniform registering a compound growth rate of 6.40 %.

The Vysya Bank Housing Finance Ltd., had only one branch in 1991-92 and 1992-93. Later the number increased to seven. In 1996-97, it increased to 13 branches which remained till 2000-2001. With year to year percentage of increase it ranged from 0 per cent to 600 per cent, registering a compound growth rate of 32.54 per cent.

To assess if there was any significant difference in the growth in branches between the companies, the following hypotheses were formulated and tested through ANOVA, the details of which are presented in Table-22.

H_0: There is no significant difference between the companies in regard to growth of branches.

H_1: There is significant difference between the companies in regard to growth of branches.

Through the ANOVA, it is found that the null hypothesis was rejected at 1% level of significance. Therefore, it is inferred that there is significant difference among the companies with respect to expansion of branch net work.

SUMMARY AND CONCLUSIONS

The analysis of disbursements made to loans sanctioned of the four companies leads to the conclusion that the HDFC had more consistency. LIC Housing Finance Ltd., followed HDFC in consistency. Can Fin Homes Ltd., and Vysya Bank Housing Finance Ltd., had inconsistency in their loan disbursements. The Analysis of Variance reveals that all the four companies had almost the same patterns as far as disbursements to sanctions were considered. At 1% level of significance, the variation was insignificant. It means more or less all companies had the same trend regarding disbursement to sanction of loans.

The study relating to debt equity ratio reveals that HDFC had very sound debt equity ratio since the ratio was comparative lower after 1993-94. It could be therefore be concluded that debt-equity ratio of HDFC was definitely much better than all the other remaining three companies. ANOVA indicates significant at 1% level of significance. The calculated value is 3.726 which is very nearer to the table value. This leads us to conclude that though there is variability in debt-equity ratio among the four companies.

The study pertaining to proportion of shareholders' funds in total resources reveals that all the four companies attempted to maintain the proportion of shareholders' funds in the total resources around 10 to 12 per cent. The finding was supported by ANOVA. At 1% level of significance the proportion of shareholders' funds in the total resources shows consistency among all the companies

The analysis relating to proportion of borrowed funds to the total resources reveals except for the two years i.e., 1991-92 and 1992-93 for the remaining eight years all the four companies had the same proportion of borrowed funds in the total resources. This conclusion was supported by ANOVA which reveals that at 1% level of significance, the variation between groups was and within groups was not significant.

The study pertaining to the proportion of retained earnings to the total resources of all the housing finance companies did not indicate any uniform pattern. The Can Fin Homes Ltd., showed a little uniformity and all other companies revealed variability. This was confirmed with ANOVA. ANOVA at 1% level was significant, in the sense, that there was no uniform pattern in the proportion of retained earnings in the total resources of the select housing finance companies.

The analysis of gross income of the four companies reveals that there was a declining trend and at the same time there was inconsistency in year to year percentage of increase. There was no uniform pattern. This was confirmed by the ANOVA. At 1% level significance, the deviation was considered to be significant among the companies.

Sl.No.	Comparative Parameters	Ranking Assigned			
		HDFC	LIC HF	Can Fin	VBHF
1.	Loans disbursed to sanctioned	1	3	2	-
2.	Debt-quality ratio	3	2	1	-
3.	Proportion of shareholders' funds in total resources	3	2	1	-
4.	Proportion of borrowed funds in total resources	3	2	1	-
5.	Proportion of retained earnings in total resources	2	3	1	-
6.	Gross income and operating income	2	3	1	-
7.	Profit after tax	2	3	1	-
8.	Current ratio	2	3	1	-
9.	Interest expenditure to interest income	2	3	1	-
10.	Growth of branches	3	1	2	-
		23	25	12	
		40	40	40	

The analysis of profit after tax of four companies leads us to conclude that in terms of absolute values all the four housing finance companies show good performance. However, based on the growth rates, they indicate inconsistency. This pattern was proved when the ANOVA was calculated. The ANOVA indicates the variability to be significant at 1% level of significance.

The comparative analysis of current ratio indicates that HDFC, Can Fin Homes Ltd., and Vysya Bank Housing Finance Ltd., had good short term solvency position. However, the LIC Housing Finance Ltd., was lagging behind in this respect. This was confirmed by ANOVA. At 1% level of significance, the test indicates significant variability among the housing finance companies regarding current ratios.

The analysis relating to interest expenditure to interest income reveals that there was almost the same pattern in the case of LIC Housing Finance, Can Fin Homes and Vysya Bank Housing Finance Ltd. There was dissimilarity only with HDFC. The ANOVA indicates this variability since `F' value at 1% level of significance was 13.69 per cent.

The growth trend relating to branches reveals very erratic and the major chunk came only in 1996-97. This inconsistency was reflected by ANOVA. At 1% level of significance the `F' value was 35.24 which reflect considerable inconsistency in growth of branches among the four companies.

After making a comparative analysis and in order to rank the housing finance companies based on their performance and to draw the conclusion as to which company's performance is better the following procedure has been followed.

Step 1: For each of the 10 parameters selected and studied the companies were given rankings from one to four based on their performance as measured by the compound growth rate or indexed growth rate or any another measure used.

Step 2: A consolidated list was prepared for all the 10 parameters with their ranking and it was aggregated.

Step 3: In this step based on the aggregate value the conclusion was drawn.

While assigning the ranks, the performance was considered as under.

Rank 1. Poor performance
2. Average
3. Good
4. Excellent performance

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Thus, ultimately a company which gets the highest aggregate numerical value is considered to be the better housing finance company. The ranking so assigned as under:

While recording the rankings, it was observed that the Vysya Bank Housing Finance Company's values were more or less extreme since the compound growth rate and growth index were not found to be based on the normal values because of short time span. Hence, it was ignored and the performance of Vysya Bank Housing Finance Ltd., could not be compared with the other institutions because of lack of common based.

The comparative analysis based on rankings leads us to conclude that it was LIC Housing Finance Ltd., which stood as an excellent housing finance company since it had the highest counts i.e., 25 out of 40. This was followed by HDFC with 23 out of 40 counts. It means that these two organizations had almost the same efficiency and thus they were the real competitors in the field. The Can Fin Homes Ltd., was lagging behind the two companies. The other finance company under the study, Vysya Bank Housing Finance Ltd., could not be brought into this analysis as it had a very short span of existence which limits the computation of certain parameters.

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MUNICIPAL SERVICE QUALITY IN SOUTHERN THAILAND: AN EMPIRICAL INVESTIGATION OF CUSTOMER PERCEPTIONS

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ABSTRACT

Critical to the improvement of municipal service quality is the determination of those service quality dimensions considered important by customers. This study investigates the service quality of a local authority in southern Thailand on the basis of customer perceptions and explores how key demographic differences affect customers' perceptions of service quality dimensions. The questionnaires were distributed to 234 respondents in Khok Pho, a subdistrict of Khok Pho in Pattani Province of southern Thailand. Descriptive statistics, exploratory factor analysis, t-test and ANOVA were conducted to analyze the data. The results suggest that (1) "tangibility", "reliability", and "empathy" are the top three service quality dimensions considered as being very important, and (2) some significant differences are apparent in customer perceptions of service quality with respect to gender, age range and education. These factors have to be taken into consideration by municipal managers when they develop quality-improvement strategies.

KEYWORDS

Municipality, service quality, SERVQUAL, perceptions, demographics, Thailand.

INTRODUCTION

Across all service sectors, either private or public, the issue of service quality remains a critical one as businesses strive to maintain a comparative advantage in the marketplace. Research has shown that delivering superior service quality lowers customer defection, reduces customers' complaint, enhances customer loyalty, increases word-of-mouth recommendation, and enhances corporate image (Sachdev and Verma, 2004). In addition, outstanding service quality facilitates the development and maintenance of long-term relationships with customers, which is especially important in today's competitive environment.

Given the paramount importance of service quality as a strategic tool for attaining operational efficiency and improved organizational performance (Jain and Gupta, 2004), it is important to understand specifically how service quality is perceived by the customer. Moreover, it is critical to determine which elements of service quality are more important to different customers. For example, different demographic segments might perceive different elements of service quality to be more important than others.

This paper reports the results of an exploratory study that identifies distinct elements of service quality of a municipal authority in southern Thailand and determines which of those elements are more important to different demographic groups. In particular, this study attempts to answer the following research questions:

1) Which dimensions of municipal service quality are important as perceived by citizen?
2) Does customers' gender, age, education attainment, or income have an effect on perceived service quality?

The present study contributes to the services marketing literature in the following ways. First, a close examination of the services marketing literature indicates that the bulk of existing studies regarding service quality is based on samples derived from the developed Western countries, such as the USA, the UK, and Canada (Tsoukatos and Rand, 2006). Although the findings of such studies undoubtedly have made a significant contribution to the service quality literature, the Western focus of the studies raises critical questions as to the transportability of their findings to other countries due to differences in cultural environment (Greenland, Coshall, and Combe, 2006). The present study therefore contributes to the literature by investigating customers' perceptions of service quality from a different cultural framework, namely Thailand. Second, the findings of this study would provide some useful insights concerning the management of service quality for municipal managers. An understanding of the relative importance of service quality dimensions as perceived by customers would assist municipal managers in decisions regarding optimal deployment of resources among these dimensions. Indeed, without sound evidence and guidelines, managers run the risk of allocating resources on those attributes that are less critical at the cost of critical ones (Sachdev and Verma, 2004).

This rest of this article is structured as follows. In section two, a review of previous research is presented. Section 3 provides details of the methodology that was used. Section 4 contains the results whilst, in Section 5, implications are explored and conclusions drawn.

LITERATURE REVIEW

SERVICE QUALITY

Service quality is a concept that has attracted considerable interest and debate in the marketing literature because of the difficulties in both defining it and measuring it with no overall consensus emerging on either (Wisniewski, 2001). One that is commonly used defines service quality as the ability of the organization to meet or exceed customer expectations. It is the result of the comparison that customers make between their expectations about a service and their perception of the way the service has been performed (Zeithaml, Parasuraman and Berry, 1990). If expectations are greater than performance, then perceived quality is less than satisfactory and hence customer dissatisfaction occurs (Parasuraman, Zeithaml and Berry, 1985).

Most of the recent work on service quality in marketing can be credited to the pioneering and continuing work of Parasuraman, Berry and Zeithaml. In their seminal research study, Parasuraman et al. (1985) identified 97 attributes which were found to have an impact on service quality. These 97 attributes were the criteria that are important in molding customers' expectations and perceptions on delivered service. All these attributes fit into ten dimensions of service quality. These dimensions are: (1) tangible features, (2) reliability, (3) responsiveness, (4) communication, (5) credibility, (6) security, (7) competence, (8) courtesy, (9) understanding, and (10) access. From that initial research, Parasuraman, Zeithaml, and Berry (1988) developed a generic called SERVQUAL that consisted of 22 pairs of statements which measure customer expectations and perceptions of service delivered on a seven- or nine-point scale. For each pair of statements, the gap difference between the two scores is calculated. The idea is that the service is good if perceptions meet or exceed expectations and problematic if perceptions fall below expectations. The scale combined ten components into five generic dimensions of service quality:

1. Tangibles: the appearance of physical facilities, equipment, personnel, and communication materials;
2. Reliability: the ability to perform the promised service dependably and accurately;
3. Responsiveness: the willingness to help customers and provide prompt service;
4. Assurance: the knowledge and courtesy of employees and their ability to inspire trust and confidence; and
5. Empathy: the approachability, ease of access and effort taken to understand customers' needs.

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Describing the potential applications of SERVQUAL, Parasuraman et al. (1988) proposed to use it to categorize a firm's customers into several perceived quality segments based on their individual SERVQUAL scores. In addition, they proposed to analyze these segments on the basis of (a) demographic, psychographic, and/or other profiles; (b) the relative importance of the five dimensions in influencing service quality perceptions; and (c) the reasons behind the perceptions reported.

The importance of Parasuraman et al.'s (1988) SERVQUAL scale is evident by its application in numerous empirical studies across varied service settings. To name a few of these studies: healthcare (Ramsaran-Fowdar, 2008), hospitality (Ramsaran-Fowdar, 2007), museum (Nowacki, 2005), public transports (Liong, Mustafa, Mohamed and Lee, 2007), library (Ahmed and Shoeb, 2009), banking (Kumar, Fong and Manshor, 2009), heritage park (Saleh, 2005), courier service (Zisis, Garefalakis and Sariannidis, 2009), higher education (Tan and Kek, 2004) and policing (Donnelly, Kerr, Rimmer and Shiu, 2006) and local government (Donnelly, Wisniewski, Dalrymple and Curry, 1995; Donnelly and Shiu, 1999; Scott and Shieff, 1993; Wisniewski, 2001; Wisniewski and Donnelly, 1996; Van Ryzin, 2004).

Despite its extensive application, the SERVQUAL scale has been criticized on various conceptual and operational grounds. The criticism of the SERVQUAL instrument include the use of gap scores, the overlap among five dimensions, length of the questionnaire, poor predictive and convergent validity, the ambiguous definition of the "expectation" construct, and unstable dimensionality (Carman, 1990; Babakus and Boller, 1992; Cronin and Taylor, 1992). In response to critical SERVQUAL analysis, Cronin and Taylor (1992) introduced the SERVPERF instrument, based upon solely performance perception ratings. Studies have shown that SERVPERF instrument empirically outperforms the SERVQUAL scale across several service industries (e.g. Elliott, 1995; Van Dyke, Kappelman, and Prybutok, 1997; Brady, Cronin, and Brand, 2002; Paul, 2003; Jain and Gupta, 2004; Gilbert, Veloutsou, Goode, and Moutinho, 2004).

RELATIVE IMPORTANCE OF SERVICE QUALITY DIMENSIONS

Parasuraman et al. (1988) have observed that SERVQUAL can be used to evaluate the relative importance of the dimensions of quality in influencing customers' overall perceptions of a service. The relative weight that customers seem to give to each quality dimension can be determined. One of the important results that have been reported in the early studies of relative importance is that customers are quite consistent in both their imputed and their direct rankings of the importance of the service quality attributes. In one key study (Parasuraman et al., 1988), "reliability" was demonstrated to be the most important dimension and empathy (a composite of understanding and access) the least important across a seemingly wide array of service types. Crompton and Mackay (1989) also found that "reliability" has consistently been shown to be the most important determinant of perceptions of service quality. Some researchers however have found that the intangible environment, as described by dimensions of SERVQUAL, in terms of "responsiveness", "assurance", and "empathy", play a more significant role in quality/satisfaction than does the dimension of "tangibles" (Cronin and Taylor, 1992; Dabholkar, Thorpe, and Rentz, 1996 ; Zeithaml et al., 1990).

Several researchers have suggested that the relative importance of various dimensions might vary in accordance with the nature of the service under consideration (Rosen and Karwan, 1994; Bergman and Klefsjo, 2003; Chowdhary and Prakash, 2007). For example, Ramsaran-Fowdar (2008) found "reliability and fair and equitable treatment" factor to be the most important dimension in a healthcare setting. Stafford, Stafford, and Wells (1998) contended that intangible quality determinants influenced satisfaction more than the tangible dimensions in the auto casualty claims process. Pantouvakis and Lymperopoulos (2008) showed that the physical factors are of greater importance than interactive service features in determining customers' evaluations of overall satisfaction in the coastal shipping sector. Olorunniwo, Hsu, and Udo (2006) identified intangibles as being of particular importance in the hotel sector, although they acknowledged that tangibles do play a significant role in determining satisfaction for hotel guests.

Hossain and Leo's (2009) study investigated customers' perceived service quality in Qatar banking industry. They found that the highest customers' perceptions are in the tangibles area such as infrastructure facilities of the bank, followed by the empathy area such as timing of the bank and returns on deposit. On the other hand, the lowest perceptions are in the competence area, such as the method of imposing service charges followed by reliability, such as customers' guidance.

Lee, Lee and Yoo (2000) suggested that "responsiveness" is more important in people-based industries, whereas "tangibles" represent a more important dimension in facility/equipment-based industries. This view however was not supported by Chowdhary and Prakash (2007), who examined 16 different services and concluded that the dimension of "tangibles" was important for certain "tangible action" services (such as hotels and hospitals) whereas "reliability" was more important for "intangible service acts" (such as telephone services and education); "responsiveness" was not identified as important in any of the industries examined.

Sachdev and Verma (2004) employed three measurement methods and reported that no definite order of importance of dimensions was found in four service sectors (banking, insurance, fast-food, beauty salon) using a two-dimensional taxonomy of services, which included "tangible-dominance" and "degree of physical involvement". That is, the ordering of dimensions according to importance differed in each case when zone of tolerance, regression, and direct evaluation were used.

On the basis of the above discussion, the following hypothesis is proposed:

H1: Customers attach different priorities to different dimensions of service quality.

DEMOGRAPHICS AND PERCEIVED SERVICE QUALITY

Demographics continue to be one of the most popular and well-accepted bases for segmenting customers and markets (Kotler and Armstrong, 2008). By specifically identifying the key demographics of one's target market, a basic profile of the targeted customer emerges. Although interest in lifestyle or psychographic information has increased among marketers, demographic information is still a fundamental and generally necessary consideration for segmentation and targeting (McCarty and Shrum, 1993). Even if other types of segmentation variables are used (e.g. behavioral, psychographic, geographic); a marketer must know and understand demographics to assess the size, reach and efficiency of the target market (Kotler and Armstrong, 1991). Moreover, demographics are easier to measure than other segmentation variables (Pol, 1991).

Previous studies have shown that demographic variables are related to service quality perceptions. More specifically, Spathis, Petridou and Glaveli (2004) found that gender affects service quality perceptions and the relative importance attached to various banking service quality dimensions. Butler, Oswald, and Turner (1996) reported significant effects of gender and age on perceived health-care service quality. Scott and Shieff (1993) found that consumers with different income levels have different perceptions of service quality, while Kumari and Rani (2011) reported significant relationships between education attainment and customer perceptions on service quality in retail banking. Further, Stafford (1996) found that age and gender were significantly related to different factors of bank service quality. Taken collectively, the findings of previous research give rise to the following hypothesis:

H2: Perceived service quality among customers significantly differs based on the gender (H2a), age (H2b),   education level (H2c), and income (H2d) of the customers.

METHODOLOGY

INSTRUMENT FOR SURVEY

The data were collected by using a structured questionnaire, which consists of three parts. Part A was designed to gather information about the respondent's demographic background such as gender, age, educational level, marital status, income and occupation. Part B consists of 22 statements related to measure respondents' perception towards the service quality of municipal council. The SERVQUAL scale that was designed by Parasuraman et al. (1991) was used in entirety in this study. Perceptions-only (P) score rather than gap score (P-E) was used since the perceptions only scale was the best measure when maximizing predictive power is the major objective (Parasuraman, Zeithaml and Berry, 1994). The response format of the items was a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). Higher scores on this scale indicate higher levels of service quality.

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A pilot study with a convenience sample of forty respondents was conducted to test the survey instrument. The purpose is to determine the appropriateness and relevance of the items in the survey as well as the level of difficulty of the language for the respondents to answer the questions. Based on the feedback from the respondents on the instrument, several modifications were made to the rubrics of the questions so that they were more understandable.

THE FIELDWORK

For the purpose of this study, residents of Khok Pho, a sub-district of Khok Pho in Pattani Province, Southern Thailand, were taken as study sample. The total number of household in Khok Pho is estimated at 558. According to the guidelines set by Krejcie and Morgan (1970), the required sample size for a population of 550 to 600 is 234 or 41.9% of the population. The survey was administered in February 2009 to a sample of 234 households with the help of three field assistants. From each household, only one individual, the head or the representative of the household was interviewed. The purpose of this was to avoid imitation or repetition of responses among the respondents and to obtain different views. Interviews were conducted by means of a structured questionnaire. The respondents were discreetly and politely approached with the purpose of the study being explained to them. The respondents were then asked if they would voluntarily participate in this study. If they were unable to participate due to time constraint, the researcher would approach them again at another time.

RESULTS

CHARACTERISTICS OF THE RESPONDENTS

The sample consisted of 234 respondents of which approximately half were males (53%) and females (47%), with the largest age group between 46 and 55 years old (34.6%). Regarding the level of education, most of the respondents were primary school leavers (38.5%), 30.3% had completed upper secondary level, 19.2% had a diploma and 12% had a graduate degree. The majority of respondents (35%) reported income between 5,000 and 6,999 Bath per month. Finally, most of the people in the study were businessman (56%) and farmers (22.6%). Several also worked in the public sector (13.7%) whereas only 7.3% were employees in the private sector.

EXPLORATORY FACTOR ANALYSIS

Exploratory factor analysis (EFA) with principal component method was utilized in this study to extract a small number of latent variables (factors) from a large number of observed variables (22-items on the SERVQUAL). One critical assumption underlying the appropriateness of factor analysis is to ensure that the data matrix has sufficient correlations to justify its application. A first step is visual examination of the correlations, identifying those that are statistically significant. All correlations are above 0.3, which is considered substantial for factor analysis (Hair, Anderson, Tatham and Black, 1998). Furthermore, an inspection of the correlation matrix reveals that practically all correlations are significant at $p < 0.01$, and this certainly provides an excellent basis for factor analysis.

The next step involves assessing the overall significance of the correlation matrix with Bartlett test of sphericity, which provides the statistical probability that the correlation matrix has significant correlations among at least some of the variables. The results were significant at $p < 0.001$, ($\chi^2 = 2589.242$), which further confirmed that the data were suitable for factor analysis. Finally, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was computed to quantify the degree of intercorrelations among the variables, and the results indicate an index of 0.882. Since a high-KMO value (close to 1.0) is achieved, the dataset is appropriate for factor analysis (Hair et al. 1998). As for the adequacy of the sample size, there is a 10-to-1 ratio of observations to variables in this study. According to Hair et al. (1998), the ratio for adequate sample size should be at least 10:1, which, in this case falls well within the acceptable limit.

TABLE I: FACTOR ANALYSIS OF SERVICE QUALITY

	Factor loadings	Eigenvalue	Variance explained	Cronbach alpha
Factor 1: Empathy				
Empathy 2	0.821	7.420	15.287	0.885
Empathy 4	0.784			
Empathy 5	0.783			
Empathy 3	0.771			
Empathy 1	0.683			
Factor 2: Tangibles				
Tangibility 1	0.809	2.190	15.209	0.865
Tangibility 4	0.772			
Tangibility 3	0.751			
Reliability 1	0.747			
Tangibility 2	0.714			
Factor 3: Assurance				
Assurance 2	0.829	2.037	12.869	0.843
Assurance 4	0.818			
Assurance 3	0.813			
Assurance 1	0.704			
Factor 4: Reliability				
Reliability 4	0.811	1.722	12.433	0.835
Reliability 2	0.805			
Reliability 3	0.784			
Reliability 5	0.738			
Factor 5: Responsiveness				
Responsiveness 2	0.821	1.540	11.973	0.816
Responsiveness 3	0.751			
Responsiveness 4	0.750			
Responsiveness 1	0.695			

Extraction method: Principal Component Analysis.
Rotation method: Varimax with Kaiser Normalization. Rotation converged in six iterations.

Varimax rotation technique was applied to the 22 components using the minimum eigenvalue of one as the criterion to control the number of factors extracted. Using this procedure, five components, which account for 67.77 percent of the total variance, are extracted. As indicated in Table I, based on the factor structure, the convergent and discriminant validity of the five factors is good. The five factors extracted from the 22-item are similar to the original study conducted by Parasuraman et al. (1988). Examining the individual items, only one out of the 22 items loaded incorrectly on the dimensions extracted in the study by Parasuraman et al. (1988). To determine the reliability of the scale, Cronbach's α-coefficient is used and the reliability rates of all the components are found to be adequate as the values for each are significantly greater than the prescribed 0.70 thresholds (Nunnally, 1978).

RELATIVE IMPORTANCE OF SERVICE QUALITY DIMENSIONS

The relative importance of the five service quality dimensions is summarized in Table II. Since a seven-point Likert scale was used to measure the intensity of each construct, a mean score of 3.5 indicates a neutral response, while a mean score of 1 represents an extremely negative response, and a mean score of 7, an extremely positive response. Three service quality dimensions exhibit mean importance well above 4, namely tangibility (4.262), reliability (4.244) and empathy (4.029).

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A Friedman test, which is the nonparametric equivalent of a one-sample repeated measures design or a two-way analysis of variance with one observation per cell, was performed to test the null hypothesis that k-related variables come from the same population. For each case, the k variables are ranked from 1 to k. The test statistic is based on these ranks (Sigel and Castellan, 1988). Although it is not as powerful as a parametric test, increasing the sample size can increase its power to that approaching its parametric equivalents (Sekaran, 1992). A Friedman test revealed an overall significant effect of service quality dimensions on ranking (χ^2 = 133.347; degree of freedom = 4; $p < 0.001$). Since $p < 0.05$, the null hypothesis is rejected; the claim of equal priority of these five factors was not supported. This suggests that variation among five service quality dimensions were likely to hold in the population. As such, H1 was supported.

TABLE II: RANKING IMPORTANCE OF SERVICE QUALITY DIMENSIONS

Service Quality dimension	Mean rank	Arithmetic mean	Rank
Tangibility	3.57	4.262	1
Reliability	3.50	4.244	2
Empathy	3.16	4.029	3
Responsiveness	2.38	3.746	4
Assurance	2.39	3.668	5
Friedman test:	Chi-square (df = 4)		133.347
	Asymp. sig.		0.000

PERCEPTIONS OF SERVICE QUALITY ACROSS DEMOGRAPHIC CHARACTERISTICS

Table III shows that males and females appear to place significantly different emphasis on the five service quality dimensions with the exception of "assurance" and "responsiveness". Of those criteria which were significantly different, "empathy" and "tangibles" were so at $p < 0.01$ level, and "reliability" was at $p < 0.05$ level. As such, H2a was supported. It is noted that for all five dimensions, factor score means are higher for males than for females; that is, men feel that each dimension of service quality is significantly more important than did women.

The results of the ANOVA test in Table IV yielded four statistically significant differences in means between the different age groups. At $p < 0.05$ level, there was a variation for "reliability" dimension. At $p < 0.10$ level, dimensions of which the three samples had variation were "empathy", "tangibles" and "responsiveness". An examination of the factor means reveals that service quality dimensions have less importance to young adults (under 35), as compared to those over 46. Thus, H2b was supported.

Table V shows the results of the ANOVA analysis investigating differences in perceived service quality dimensions and education attainment. The test statistics for "tangibles" and "assurance" indicates significant differences at $p < 0.05$ level. At $p < 0.10$ level, there was a variation for "reliability" dimension. As such, H2c was supported. Respondents with secondary level of education viewed the tangible dimension of service quality as being greater of importance than did their counterparts with primary and tertiary education. Respondents with lower education (primary) gave lower rating to assurance dimension compared to their counterparts with secondary and tertiary education. For the reliability dimension, the factor score mean is higher for respondents with tertiary education compared to those with primary and secondary education.

Finally, Table VI shows the results of t-tests that analyze the difference in importance of service quality dimensions with respect to income. The test statistics were not significant for all five service quality dimensions. As such, H2d was not supported. Consequently, it cannot be concluded that people with different levels of income perceive dimensions of service quality differently.

TABLE III: SERVICE QUALITY PERCEPTIONS BY GENDER

Service quality dimensions	Male		Female		t-value	Sig.
	Mean	Rank	Mean	Rank		
Empathy	4.274	3	3.753	3	3.555	0.000**
Tangibles	4.431	1	4.073	2	2.718	0.007**
Assurance	3.716	5	3.614	5	0.699	0.485
Reliability	4.377	2	4.093	1	2.122	0.035*
Responsiveness	3.837	4	3.643	4	1.527	0.128

Notes: ** significant at $p < 0.01$; * significant at $p < 0.5$

TABLE IV: SERVICE QUALITY PERCEPTIONS BY AGE

Service quality dimensions	< 35		36 − 45		> 46		F-value	Sig.
	Mean	Rank	Mean	Rank	Mean	Rank		
Empathy	3.691a	3	4.019	3	4.161b	3	2.733	0.067*
Tangibles	4.005a	1	4.217	2	4.386b	1	2.384	0.094*
Assurance	3.557	4	3.726	5	3.674	5	0.315	0.730
Reliability	3.750a	2	4.382b	1	4.343b	2	6.564	0.002**
Responsiveness	3.449a	5	3.826b	4	3.807b	4	2.581	0.078*

Notes: ** significant at $p < 0.01$; * significant at $p < 0.10$. For post-hoc comparisons, Duncan Multiple Range Test was used (where a < b).

TABLE V: SERVICE QUALITY PERCEPTIONS BY EDUCATION LEVEL

Service quality dimensions	Primary		Secondary		Tertiary		F-value	Sig.
	Mean	Rank	Mean	Rank	Mean	Rank		
Empathy	3.969	3	4.180	3	3.956	3	0.887	0.413
Tangibles	4.162a	2	4.513b	1	4.143a	1	3.139	0.045**
Assurance	3.397a	5	3.880b	4	3.795b	5	4.552	0.012**
Reliability	4.372b	1	4.328b	2	4.003a	2	2.977	0.053*
Responsiveness	3.778	4	3.796	5	3.658	4	0.443	0.634

Notes: ** significant at $p < 0.05$; * significant at $p < 0.10$. For post-hoc comparisons, Duncan Multiple Range Test was used (where a < b).

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TABLE VI: SERVICE QUALITY PERCEPTIONS BY INCOME

Service quality dimensions	< 6,999 Bath		> 7,000 Bath		t-value	Sig.
	Mean	Rank	Mean	Rank		
Empathy	4.024	3	4.036	3	-0.081	0.938
Tangibles	4.276	1	4.243	2	0.244	0.804
Assurance	3.618	5	3.742	4	-0.835	0.393
Reliability	4.214	2	4.287	1	-0.531	0.593
Responsiveness	3.754	4	3.734	5	0.151	0.877

CONCLUSION

Several interesting results emerged from the study. The findings indicate that the service quality dimensions identified in this specific study similar in number and dimensional structure from the widely adopted service quality dimensions first identified by Parasuraman, Berry and Zeithaml (1988): reliability, responsiveness, assurance, empathy and tangibles. The "tangibles" factor was found to be the most important dimension perceived by customers, followed by reliability and empathy.

A second finding of the current study is documenting the effects of demographic variables on perceptions of the five dimensions of service quality. Significant differences were found between perceptions of males and females on empathy, tangibles and reliability. Significant differences were also indicated in perceptions of tangibles, assurance and reliability across education levels. Further, the study found strong evidence of the effect of age on service quality perceptions. That is, perceptions of empathy, tangibles, reliability and responsiveness were significantly higher for mature individuals compared to their younger counterparts. Contrary to expectations, the study found no evidence that perceptions of service quality differed by income.

The results of this study provide several implications for municipal managers. To enhance customer satisfaction, the service dimension that is valued higher by the customers must be given attention and resource support more than the less valued ones (Sachdev and Verma, 2004). Municipal managers should pay sufficient attention to both the tangible attributes (physical environment) and the intangible attributes (reliability, empathy, etc.) of their service offering. The results also suggest that municipal managers need to take the views of certain demographic segments into account if they want to maximize perceived service quality.

All research has its limitations and this study is no exception. First, in a strict sense the results pertain only to the respondents and generalizations to a wider population or service sector should be done with caution. The sample size is not large but adequate for the type of analysis undertaken. Replication of this study with a larger, national, random sample would increase the generalizability of the results. Secondly, neither psychographics nor the full range of demographic characteristics (e.g. marital status, occupation, religion and social class) was included in the present study. Thus, the inclusion of the full range of demographic and psychographic variables could yield greater insights into potential variations in customers' perceptions of service quality.

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THE IMPERATIVES OF LEADERSHIP QUESTION IN MEDIA MANAGEMENT

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ABSTRACT

The problems of most organisations in Nigeria irrespective of their business and other parts of the world stem from inefficient and ineffective leadership. The reason being that not all the so called leaders have what it takes to manage the affairs of a people or organisations successfully especially media organisations. As observed, some leaders run their organisations like conducting a symphony orchestra, bossing people around rather than guiding the followership towards achieving the organisational goals and objectives which is the essence of leadership. For this reason, many media organisations, both the print and the broadcast (electronic) media, have been caught in legal web, suffered irreparable human capital flight, low productivity, near closure and other issues bothering on bad management. Importantly, the fact remains that leaders are made and sometimes born but good leadership develops a never-ending process of study, education, training and experience. This paper therefore takes a scholarly attempt to examine the concept of leadership and its make ups; the overwhelming values good leadership tends to offer media organisations and the otherwise of bad leadership with a theoretical framework on leadership. The challenges of managing media organisations in Nigeria is also examined with policy prescriptions upon which media organisations could get it right in Nigeria.

KEYWORDS

Leadership, leadership process, media organisations, media managers, motivation.

THE IMPERATIVES OF LEADERSHIP QUESTION IN MEDIA MANAGEMENT

INTRODUCTION

All over the world, the importance of leadership to the success or failure of any organisation cannot be over-stressed. This is so asserted because leadership determines the management style and the rate at which the organisational goals and objectives are achieved. However, many erroneously believe that it is natural to assume leadership positions, be it formal or informal, without possessing the prerequisites. As a matter of fact, leadership has a process, and good leadership develops through an unending process of study, education, training and experience. In other words, it takes general preparations to become a leader. It implies that to inspire the subordinates into higher levels of team work, in order to achieve desired results, there are certain things the leader must be, know and do. This is the reason for the conclusion that leaders are made, not born and sometimes born and equally made.

Axiomatically, the place of leadership in the management of media organisations cannot be overemphasised. It is a great determinant of the success or failure of the organisations to say the least. Findings from Nigerian experience have clearly shown that many media houses went into extinction due to poor management by unprocessed, unrefined and bad leadership. Aina (2002) once posits that good management is the steering wheel of any business, without it, other resources will be ineffectual, and thus throw ill-managed organisations into receivership or outright extinction. The scholar further states that:

Recent experience proves that media establishments, even, those owned by government, cannot thrive by being run as social services, hence the current commercialisation and privatisation gale, which dictates that only those shrewdly managed will survive competition.

Therefore, the question of media management from observation in Nigeria has been mixture of worrisome and fillip. This has actually led to the untimely death of many media houses in Nigeria especially newspapers. Good cases are those of **The Daily Times, New Nigerian, Daily Sketch, National Concord, The Monitor** and so on. On the other hand, good management based on good leadership has equally transformed many media organisations in the country. Good cases in this regard are those of **The Punch Newspapers, The Guardian Newspaper** and many of the radio and television stations in the country. Interestingly, the broadcast industry has witnessed great deal of good management based on good leadership. Some of them have metamorphosed and transformed from the primitive level to the most sophisticated level of operation. This is not to say that they do not have their challenges and tough times but the point is that, good leadership has been identified an inevitable treasure for the success of any media organisation.

CONCEPTUAL CLARIFICATION

Various definitions of leadership have been postulated by many management scholars, but for the sake of this context, the following conceptualisations are considered as cited by Aina (2002) Leadership is a process of influencing others to work willingly to achieve organisational goals, rather than out of fear. It is a dynamic process in a group whereby one individual influences others to contribute to the achievement of the group. Another scholarly definition sees leadership as both a process and a property. It explains leadership as a process, as the use of non-coercive influence direct and coordinate the activities of a group for the accomplishment of its objectives. As a property, it defines leadership as the set of qualities or characteristics attributed to those who are perceived to successfully employ or exert such influence (Jago, 1982). Yet, Katz and Kahn (1978) note that leadership is the influential increment over and above mechanical compliance with the routine directives of the organisation.

In his view (Chemers 2002), leadership is stated as the "process of social influence in which one person can enlist the aid and support of others in the accomplishment of a common task" Mills (2005) also posits that it is a process by which one person influences the thoughts, attitudes, and behaviors of others. Leaders set a direction for the rest of us; they help us see what lies ahead; they help us visualize what we might achieve; they encourage us and inspire us.

Without leadership a group of human beings quickly degenerates into argument and conflict, because we see things in different ways and lean toward different solutions. Leadership helps to point us in the same direction and harness our efforts jointly. Leadership is the ability to get other people to do something significant that they might not otherwise do. It's energizing people toward a goal. (Ibid)

From these few definitions, it is very clear that, leadership is but a dynamic process that impacts, imparts and principally meant to achieve lofty goals which are all facilitated by the qualities of the leadership.

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THE LEADERSHIP PROCESS

The leadership process denotes that good leaders are made, not born and that good leadership status is achievable for anyone who desires and has the will power. Although, as earlier stated, it does not come naturally, good leadership develops through continual work and study to improve their skills; they do not rest on their laurels. However Bass (1990) theory of leadership states that there are three basic ways by which people become leaders. These may be through the trait theory which holds that some personality traits may lead people naturally into leadership roles. Another is the great events theory whereby a crisis or important event may cause a person to rise to the occasion, which brings out extra-ordinary leadership qualities in an ordinary person while the third is the transformational leadership theory, which states that people can chose to become leaders by learning and training -people can learn leadership skills. This is the most widely accepted theory today.

Meanwhile, Kouzes and Posner (1987) postulate the following tips as methods of achieving great leadership which are common to successful leaders:

- Challenge the Process - First, find a process that you believe needs to be improved the most.
- Inspired a shared vision - Next, share your vision in words that can be understood by the subordinates/followers.
- Enable others to act - Give your followers the tools and methods to solve the challenges
- Model the Way - When the process gets tough, get your hands dirty. A boss tells others what to do, while a leaders show it can be done.
- Encourage the Heart - Share the glory with your subordinates/followers hearts, while keeping the pains within your own heart.

LEADERSHIP IN PERSPECTIVES

Aina (2002) espouses five different perspectives of leadership. The Charismatic Leader: The influence wielded by a charismatic leader emanates from his personal qualities. The fact remains that not everybody has exceptional attributes that can transform the subordinates into willing followers because these attributes/qualities cannot be acquired by formal training. In media organisations, a charismatic editor is bound to have great influence on reporters, line-editors and other subordinates.

Jesus Christ, Napoleon Hill, Winston Churchill, Prophet Muhammed and the incumbent President of the United States of America, Barack Obama are good examples of charismatic leaders. The Situation Leader: Is a temporary type of leadership whose effectiveness depends on his being in the right place at the right time. However, the transient nature of the situation leadership makes it undesirable, especially for an industrial concern, since what is required is a leader who can play leadership role in different situations for an extended period.

The traditional leader according to Aina (2000) is an ascribed status, since leadership is sometimes a function of birth. For instance, it is impossible for many people to aspire to kingship or queenship other than those who are blue blooded or born into a royal family. Still, another leadership perspective is Functional Leader. In this case, leadership is conferred on an individual based on what he does, rather than what he is; effective leadership depends on what the leader does to meet task, group and individual needs. He may choose to meet task needs by allocating responsibilities and setting performance standards or meet group needs by acting as a representative and to meet individual needs; he may choose to counsel or motivate individuals. The appointed leader as conceptualised by the scholar as the fifth perspective is a leadership position occupied by formal authority conferred on an individual within the hierarchy of an organisation. This form of leadership is said to be effective because he enjoys a formal and collective authority within an organisation.

PRINCIPLES OF LEADERSHIP

U.S. Army (1973) identifies eleven basic leadership which can build and mould a successful leader. In media organisations, the success is a function of the leadership. Therefore, our media managers in the country need to imbibe certain principles for the survival of their various organisations. As noted by U.S. Army, the first principle is for a leader to know himself and seek self-improvement. This demands understanding the concept of be, know and do as well as continually strengthening one's attributes through self-study, formal classes, reflection, and interacting with others. Also, a leader especially in a media organisation must be technically proficient as instructed by the second principle. A leader must know his job and have a solid familiarity with the employees' tasks. A media manager must be grounded on the job and seasoned and must be able to define job responsibilities of his reporters to ensure delivery of desired results.

Seek responsibility and take responsibility for actions: A leader should always search for ways to move his organisation to new heights and must not seek to blame others when things go wrong. Instead, analyse the situation, take corrective actions and be ready for the next challenge. Make sound and timely decisions which imply the use of good problem solving, techniques and proper decision making system. Set examples is another principle. A leader must be a good role model for his subordinates- the employees must not only hear what they are expected to do, but also see. The late great Indian leader and sage, Mahatma Gandhi once advises that leaders 'must become the change we want to see'.

Know people and look out for their well being: a media manager (leader) must be aware of human nature and the importance of sincerely caring for his subordinates (reporters). Media managers must be fully aware of the fact that reporters are humans with interests and who equally need attention and concern in order to perform to their optimum level. Keep employees informed: Media managers must always know how to communicate information or decisions from the top management and other key people to their subordinates. This includes information that can enhance the workers performances as well as the outputs for the organisation.

Develop a sense of responsibility to workers: a good leader (media manager) must help the workers develop good character traits that will assist them discharge their professional responsibilities with less supervision. Ensure the tasks are understood, supervised and accomplished, this is another principle. Media managers must ensure that job roles are clearly outlined to avoid confusion and to ensure that things are done in line with the organisational goals and objectives. Train as a team: media managers must encourage team training in the real sense of it. There must be systematic integration of the entire various departments in a media organisation so as to achieve the organisational goal. Use the full capabilities of the organisation: this can be achieved by the media manager when he develops a team spirit and this will assist him to employ all the organisational resources to their fullest capabilities.

LEADERSHIP STYLES AND THEIR IMPLICATIONS

Leadership style can simply be defined as the behaviour exhibited by a leader during supervision of subordinates. The style is a function of the leader's assumption about his subordinates and his behaviour when interacting with them. While a leader can exercise his authority in many ways, it must be noted that styles determine the degree of motivation, efficiency and effectiveness of subordinates. In a media house, the best of a journalist can be tapped when he is well motivated. Although, there are as many leadership styles as there are leaders, the four major styles as variously discussed by management literature and as adapted by Aina (2002):

Dictatorial Style: here, the manager uses force and threats to make subordinates carry out official assignments. The use of coercion in task execution is immense under the dictatorial style of leadership. This as a matter of fact is not desirable for a goal oriented media organisation. Journalists are not such professionals that can be threatened or treated as non-humans. The Autocratic Style: This style concentrates decision making in the leaders hand, while subordinates participation is discouraged. It is more of a 'tell style' by one-way communication; the leader tells subordinates what to do but not why they must do it. However, this style is prevalent in private media organisations except few other ones.. Moreover, a leader may adopt the style when he feels that the subordinates are incompetent and lazy. An advantage of the style is that assignments are executed to deadlines, since consultations with subordinates will not constitute impediment.

The Democratic Style: This is a sharp contrast to the autocratic style because decision making is decentralised. It is also called participative or 'Joint Style'. Here, responsibilities are delegated to subordinates based on their competence and interest. Editors and other media managers adopting this style usually suggest sketched ideas and ask for contributions or present a problem and seek ideas to enable them adjust their position to it. The benefits include boosting the feeling of self worth and satisfaction in employees; it makes employees feel self-actualised through participation in decision-making and their contribution may improve

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the quality of decision-making; and change implementation will be easier because of subordinates' input. This leadership style has occasioned the breakthrough of many media organisations in Nigeria.

The Laissez-Faire Style: this style is also known as 'abdicratic style', 'free rein style' or 'that of anything goes' as described by Aina op cit.. In this context, the leader, rather than assumes leadership role, abdicates the position by giving it to someone else. The criticism against this leadership style, technically, is that it is an absence of leadership style, because it portrays a scenario whereby subordinates are allowed to establish their own objectives and make all decisions since they are given little or no direction. A leader my adopt this style due to lack of self-confidence, fear of non-performance and personal evaluation of the costs of leading, which may outweigh the advantages.

Editors and media managers often adopt this style if they are convinced that allowing their subordinates greater use of initiatives will enhance job performance. In addition, it may be a better option where subordinates are highly motivated, experienced and competent. As it is, the editor will present a problem and ask the subordinate to solve it as they wish within specified limits. (Ibid)

LEADERSHIP AND DESIRABLE QUALITIES

Napoleon (1966), in his work' Think and Grow Rich' notes that a good leader must have the following characteristics which constitute the eleven secrets of leadership:

- Unwavering Courage: this is essential because no intelligent follower wants to be dominated by a leader who lacks self-confidence and courage.
- Self–Control: A leader must be able to control himself and set good examples for his subordinates (reporters).
- Keep sense of Justice: To command the respect of the subordinates, media managers must consistently exhibit high sense of fairness and justice.
- Decisiveness: when a leader is not resolute and decisive when making decisions, he will have problems leading others.
- Pleasant Personality: A leader with pleasant personalities is more respected. Media managers must be amiable and possess excellent human skill.
- Sympathy and Understanding: Leaders must understand the problems of the subordinates and sympathises with them.
- Mastery of detail: To succeed as a leader, one must be able to master details of one's position and roles as well as the tasks ahead.
- Co-operation: A leader must be able to adopt the principle of co-operative effort and induce or encourage same in the subordinates.
- Willingness to assume full responsibilities: A good leader must always be ready to assume full responsibility for the mistakes and shortcomings of his workers. Aside declining to disclose information sources to security agents when being interrogated, media managers are expected to assume responsibility for their reporters' mistakes in a case of libel suit.
- Ability to do more than paid for: Perhaps the willingness to go extra mile, put extra measures and efforts than the subordinates that distinguishes the leadership: The editor, the manager (programmes) and others must show must greater commitment and work harder than the subordinates.

In another dimension, a quality of good leadership is also x-rayed by Stogdhill (1984) in his review of 124 empirical studies of leadership attributes and recommends that successful leaders generally exhibit the following qualities:

- Intelligence: Successful leaders tend to be rated higher on intelligent quotient (IQ) tests which cover verbal fluency, overall knowledge, originality and insight.
- Initiative: Leaders tend to show higher level of energy, ambition, persistence and resourcefulness than the subordinates.
- Height: This seems to be a contestable fact in that not all leaders, in most cases are taller than the average height of the followers.

LEADERSHIP MODELS

Leadership model will enhance the reader's knowledge in understanding what makes leaders act the way they do, as the ideal is not to lock oneself into a type of behaviour explained in the course of the models, but to realize that every situation demands for a different approach, behaviour or decision to be taken. Therefore, for the purpose of this study and more importantly to widen the horizon of our media managers in the country, the four Framework Approach by Bolman and Dean (1991)

THE FOUR FRAMEWORK APPROACH

Bolman and Deal (1991) note that leaders display leadership behaviours in one of the four types of framework, structural, human resources, political or symbolic. It is essential however to note that the style can either be effective or ineffective, depending on the chosen behaviour in certain situations. Therefore, for a goal oriented media manager, this framework is very essential.

STRUCTURAL FRAMEWORK

In an effective leadership situation, the leader is a social architect whose leadership style is analysis and design. Structural leaders focus on the practicability of means of achieving the desired results of organisational efforts-structure, strategy, environment, implementation, experimentation and adaptation. While in an ineffective leadership situation, the leader is a petty tyrant whose leadership style is details. A good media manager must assume the personality of a "structural engineer" and live above the traditional ways of managing his subordinates and the overall co-ordination of the organisation

Human Resources Framework

In an effective leadership situation, the leadership is a catalyst and servant whose leadership style is support, advocacy and empowerment. Human Resource leadership believes in people and communicate that belief, they are visible and accessible; they empower, increase participation, support, share information, and move decision making down into the organisation.

The death, recently, of the Group Managing Director (GMD) of Daar Communications Plc, owners of RayPower (Radio) and the African Independent Television (Television) and Daarsat, the late Alhaji Ladi Lawal and the attendant condolence messages attested to the fact that he was an human resources leader, loved by the subordinates. But in an ineffective leadership situation, the leader is a pushover, whose leadership style is abdication and fraud.

POLITICAL FRAMEWORK

In an effective leadership situation, the leader is an advocate, whose leadership style is a coalition and building. Political leaders clarify what they want and what they can get. They assess the distribution of power and interests; they build linkages to other stakeholders; use persuasion first, then negotiation and coercion only if necessary. While, in an ineffective situation, the leader is a hustler, whose leadership style is manipulation.

SYMBOLIC FRAMEWORK

In an effective leadership situation, the leader is a prophet whose leadership style is inspiration. Symbolic leaders view organisations as a stage or theatre to play certain roles and give impressions. They use symbols to capture attention, then try to frame experience by providing plausible interpretations of experiences; they discover and communicate a vision. However, in an ineffective leadership situation, the leader is a fanatic or fools, whose leadership style is smoke and mirror-not real or tend to confuse the subordinates, reflective and delicate.

MEDIA MANAGEMENT: SALIENT ISSUES

Media management the worldover is quite challenging most importantly as it practically involves human figures who are sociologically described as enigmatic whole. Not limited to human beings alone, the question of media management is equally dimensional as it involves varied and wide range of pertinent issues.

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The proper management of the human figure involved as well as other issues in any typical media organisation determines the overall success of such an organisation.

Among others, issues such as organisational conflict, motivation and reward, stress management, proper communication channels practical integration of Information Communication Technologies (ICTs) and the challenges of poor managing them so as to save his organisation from unnecessary extinction.

For instance, no media organisation can carve a world class status for itself without proper application and integration of Information Communication Technologies (ICTs) in all aspects of tis activities and operations. The relevant communication technologies in the media practice are now christened "The New Media Technology" (Osazee-Odia 2008). The new media technology from observation has tremendously improved the lots of media organisations be it print or electronic in all continents of the world. Emphasising this, Osazee-Odia (2008) notes that, worldwide community is facing endless bombardment of messages and programmes from global broadcasting. The driving force of this scenario is linked to the development and diffusion of new media technology.

Defining new media, Illa (2001: 41-42) states that these are means or channels by which information is gathered, processed, delivered, used, reused and reacted to in the new globalised environment, adding that it has to do with application of technology. Osazee-Odia (op cit) however posits that new media technology refer to as digital technology applied to mass communication or international communication which essentially has to do with computer mediated systems to which the internet and satellite communication technology as a transmission hardware are also significant.

These communication technologies have brought a new dimension and high degree of dynamism into media practice to such an extent that a media manager who fails to move with the trends of things would never be able to compete favourably with other media organisations. The face and operations of the media practice in Nigeria in the last fifteen years are quite dimensional with appreciable degree of sophistication. In other words, both print and electronic media organisations have benefited so immensely from hthe communication technologies and have improved the quality of their services aspects of media practice.

Another question that must be answered at all times by various media managers is stress and its management. Media managers in the country and all over, should always recall that journalists are human beings and not robots. They feel tired after exerting energy and overdose of this could lead to disorder in their system. Stress as it were must be understood. This will enable media managers to understand the dynamics of stress and its proper management among their subordinates. Givnig a picture of stress as a concept, Sharma (2008) notes that stress is a force which acts on human body to produce strain.

Stress is also captured as a natural bodily response to perceived threats resulting from the integrated activities of the nervous system and hormones on the body (Aina 2002). Heller and Hindle (1998) see stress in individuals as any interference that disturbs a person's healthy mental and physical well being. It occurs when the body is required to perform beyond its normal range of capabilities. Undoubtedly, journalism or media practice in general is stressed-based especially in the developing countries. Therefore, this must be put into consideration by media managers because observation shows that media managers go through less stress compared to the reporters or journalists who are practically on the field. The latter are exposed to stress, risk and somewhat dangers. In managing these individuals (journalists or reporters) and to get the best out of them, the of media managers must always be conscious of stress and how it usually takes its toll on the reporters. Media managers can practically manage stress by creating a relaxation / resource centres within the organisation to relax the muscles and the brain after a hectic outing. Other ways of managing stress are spelling out work schedule or staff roster with strict adherence, due and encouraging reward apart from salary, granting leave as at when due mandatory medical check-up and so on.

Motivation and proper remuneration are other salient issues that the leadership of media organisations need to properly manage. It is a shallow and myopic view to hold that salary is the only means of motivation in media organisations, Aina (2002) asserts

Media organisations will survive only if adequate attention is paid to staff motivation. This is essential to boost their morale for improved performance and to check against human capital flight to other media organisations, public relations and advertising firms offering better incentives. Editors and others in supervisory positions in media houses must not only be versed in motivation theories and strategies; but must also realise that in modern business, " command and control " style is counterproductive and " advise and consent" is motivational.

Still on motivation, Raka (2010) notes that, every human being needs motivation to work**.** It adds an extra zing in the spirit of an individual towards his work. So, incentives form an essential element of motivation for every organisation. It can be in the form of cash as well as non-cash**.** Either form of motivation helps employees to perform better. In any organization, every individual has different intensity towards their work.

So the ones who put an extra effort towards their work, or whose contributions make the organisation achieve splendid results, need that special treatment from their employer**,** as they wish and expect their efforts to be recognised so that they stand out from the rest of the general masses. Everyone loves attention, this is human nature. In such cases, employee motivation plays a vital role. And the best way for any employer to recognise his employees' efforts is through incentives either cash or non cash form.

Also, as ways of motivating journalists or me media workers generally in media organizations, the management should give room for career development from time to time. The management should make it a policy to even sponsor career development courses or seminar within and outside the country. This would boost the morale of journalists and be able to perform to the optimum level. The question of prompt promotion to individual employees in media organisations is another important way of motivating them. This should be based on a standardized scale and rule of thumb should be avoided in this regard. Also, promotion in media organization should not be politicised or delayed unduly. Nepotism as well should be avoided rather; due process should always be adopted in the process. However, promotion can equally be effected as a reward to extra ordinary effort as this is obtainable anywhere in the world.

Remuneration on the other hand is yet another salient issue in media organizations. Henry Fayol emphasizes this in his fourteen principles of management. His position is that, employees should be given fair and commensurate pay for the job done. According to Cascio (2001) cited by Iqbal (2009),"Compensation which comprehensively addresses the question of remuneration includes direct cash payment, indirect payments in the form of employee benefits and incentives to motivate employees to strive for higher levels of productivity is a critical component of the employment relationship.

Compensation affected by forces as diverse as labor market factors. Collective bargaining, government legislation and top management philosophy regarding pay and benefits"   Compensation may be defined as money received for the performance of work plus many kind of benefits and services that organizations provide for their employees. Compensation is recompense, reward, wage or salary given by an organization to persons or a group of persons in return to a work done, services rendered, or a contribution made towards the accomplishment of organizational goals.

In this regard, the remuneration must not only be fair as advocated by Henry Fayol, it must equally be consistent especially in the media practice where the remuneration is relatively discouraging. Unfortunately, findings show that in Nigeria, media organisations owe up to six or seven months' salaries to journalists. This is a terrible situation; the consequential effect of this is an encouragement of the brown envelops syndrome, practice of PR-journalism and other unethical practices among journalists. Therefore, the leadership of media organizations in Nigeria and Africa at large need to take urgent steps to improve the situation most particularly to restore the glory of journalism and protect the dignity integrity of journalists.

CONCLUSION

The question of leadership in media organisations is synonymous to the place of the heart in human body. Leadership as a concept and a management phenomenon unequivocally makes or mars the whole process of an organisation. A leader in any media organisation leads and not to mislead, guides and to misguide, this he achieves by being made as a result of deeper internalisation and proper application of management theories and principles as well timely training and retraining. For a media organisation which desires to stay permanently in business with appreciable market share, proper management of journalists and other class of the employees in the organisation is a sine qua non. Importantly, the salient issues discussed above and many others should be taken care of by the top management for as long as the leadership is much after the result, the human figures and the entire process that produce the result should be given the utmost attention.

It must be emphasised that the performance of journalists and other media practitioners in the country and other African countries is a reflection of the various leadership styles obtainable in their various organisations. At this juncture, it is better to remind our various media managers of the classical submission of Dr Adalat Khan in his write up titled **the need and importance of Leadership** published in American Chronicle in July, 25 2007, "Managers are the most important people for any business organisation. Whether it is a very small business or a multi billion Ringgit corporations, the success or failure of both of them depend on

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good management...we need to appreciate, that today, good management in addition to basic management skills also requires leadership skills. In fact, leadership is the key quality which every manager must acquire to become an effective manager. A manager may develop a perfect strategy to make an organisation successful, but to carry forward that strategy towards realisation; he or she needs leadership qualities. Leadership then takes a bigger, broader and more important role". Therefore, what makes good leadership as advocated by this paper needs be internalised by our various media managers so as to get the best of journalists' performance and to ultimately take their organisations to greater heights.

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PERCEIVED PURCHASE RISK IN THE TECHNOLOGICAL GOODS PURCHASE CONTEXT: AN INSTRUMENT DEVELOPMENT AND VALIDATION

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ABSTRACT

Each purchase decision is most likely to be a risky decision. Woodside and DeLozier (1976) proposed that consumer purchase-related behaviors correspond to the perceived level of risk in the purchase. Therefore, understanding consumer's perceived purchase risk is paramount for marketers –especially marketers of high risk products. This study intends to develop a valid and reliable instrument in measuring consumer's perceived purchase risk using the concept of perceived risk by Peter and Ryan (1976). This study does not intend to infer conclusions regarding the population of respondents used in the research, but only conclusions regarding the sample of items used in the instrument. The instrument was validated using two purchase context, smartphone and netbook purchase. An item is considered valid only if it tested valid in both contexts. The nomological validity of the instrument was tested using Confirmatory factor analysis as the primary method of analysis. Correlations between instruments were also tested to analyze convergent and concurrent validity of the instrument. This study employs LISREL for WINDOWS 8.51 Full Version (Jőreskog and Sőrbom, 2001) as software used for the analysis. The result of this study is that all instrument used in the study have good nomological validity. However, some item were found to be not valid in at least one purchase context, thus was excluded from the measurement model. The newly developed instrument has better convergent validity, even though with slightly weaker concurrent validity than existing instrument.

KEYWORDS

Instrument Validation, Perceived Purchase Risk, Technological Goods.

BACKGROUND

Generally in a planned purchase decision, rational buyers would only buy a certain product if the total benefit to be received from the purchase is greater than the total cost of the purchase. While for cases where there is more than one choice of products that offers the same functionality, the buyer would tend to choose the product with the greatest benefit/cost ratio (Perreault, Cannon and McCarthy, 2008).

However, in most cases the actual benefits of a product can only be known after the product is purchased and consumed. Meanwhile, the seller can promise a variety of benefits to prospective buyers that increase expectations but in reality might not be realized by the product. Therefore, in most purchase decision - especially for initial purchase decisions- consumers will generally face a certain degree of uncertainty whether the benefits to be received from the purchase will at least be equal to the benefit expected.

Simonson (1992) and Anderson (2003) concluded that when faced with purchasing situations perceived as uncertain or high-risk, potential buyers tends to delay or cancel their purchase to wait for other alternatives that are perceived to have lower risk. Simonson (1992) adds that consumers who experience greater anticipated regret will tend to choose a safe decision to purchase products that are already known and can be justified. One way for buyers justify a purchase is by looking at the brands or product prices as an indicator of quality or just buy the products sold in stores that have a high image quality (Tan, 1999).

Weber and Milliman (1997) concluded that a stable personality trait exists which influences how much risk a prospective buyer is willing to take. This personality trait determines the threshold of risk acceptable to the prospective buyer. If the perceived Purchase Risk by the prospective buyer is greater than the risk he is willing to bear, then he will not make the purchase. Conversely, if the Purchase Risk perceived by the prospective buyer is still within the limit he is willing to bear, then he would be willing to make the purchase. Thus it can be concluded that the consumer purchase decision is dependent to a certain level by how much risk (uncertainty) the consumer perceived (Weber and Milliman, 1997; Chuang and Lin, 2007).

Therefore, it is important for a marketer who wants to increase sales of its products to gain better understanding on how potential buyers perceive the uncertainty or the risk of purchasing the products being sold. With this understanding, a marketer can develop communication strategies that reduce the perceived purchase risk of prospective buyers, thereby reducing the likelihood of a prospective buyer to postpone or cancel the purchase.

LITERATURE REVIEW

The construct of perceived risk has several fundamental differences with the construct of consumer satisfaction, which have been more commonly used in market surveys and included in purchase decision-making models. Although both can be regarded as a factor influencing consumer purchasing decisions, the construct of consumer satisfaction is the result of cognitive and affective evaluation of the consumers towards their past experience of a certain purchase (Dube-Rioux, 1990). On the other hand, the construct of risk perception is basically a consumer expectation of a future purchase not yet experienced (Ha, 2002). Therefore, the construct of perceived risk can be used to predict purchase decisions for consumers who have never purchased a product (initial purchase) as well as consumers with prior experience of purchasing the product (repeat purchase), while customer satisfaction can not be used to predict the initial purchase of potential buyer. Thus, the construct of risk perception would be very beneficial for manufacturers who want to launch a new product and need information on the potential purchase of a target market that has never had the experience of buying a similar product.

Existing measurement instruments for Perceived Purchase Risk are generally composed of a number of questions that directly ask the overall perceived risk perception prospective buyers, although there has been some instruments that measures more than one dimension of risk perception (Jacoby and Kaplan, 1972). However, these measurements tend to be done with the limited theoretical assessment process and only measures perceptions as a unidimensional construct (Dowling, 1985; Tan, 1999, Corbitt, 2003; Tiangsoongnern, 2007). Meanwhile, only few recent studies uses multidimensional approach by doing the operational definition of constructs based on the findings of Jacoby and Kaplan (1972) to identify the dimensions of Perceived Purchase Risk (Chang and Chen, 2008; Kim, Kim and Hwang, 2009).

Jacoby and Kaplan (1976) identified at least six dimensions of consumers' perceived purchase risk. Their finding has been confirmed by the findings of other researchers, thus obtained the following six dimensions of risk (Jacoby and Kaplan, 1976; Laroche et al., 2004; Chang and Chen, 2008; Kim, Kim and Hwang, 2009):

1. *Performance Risk*: Consumer perceptions of risks that the functional attributes of the product can not satisfy their needs.
2. *Financial Risk*: Consumer perceptions of risks that the purchase of the product will cause financial losses.
3. *Physical Risk*: Consumer perceptions of risks that the product purchased can injure their physical wellbeing.
4. *Convenience Risk*: Consumer perceptions of risks that the product purchased takes a lot of time and effort to repair and adjust before it can be used.
5. *Social Risk*: Consumer perceptions of risks that the product purchased may adversely affect the views of others towards them.

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6. *Psychological Risk*: Consumer perceptions of risks that the product purchased will interfere with their view of themselves.

Each dimension of Perceived Purchase Risk may have different significance for different products or purchase context. For example, the perception of physical risk is more dominant than the social and financial risk in the purchase of *over the counter* medicinal products, while social risk perception is more dominant than physical and financial risks in the purchase of fashion products (Jacoby and Kaplan, 1976).

In certain purchase situation, some risk dimensions may not be needed to be measured. This is because each dimension is product-specific and independent among each other (Laroche et al, 2004). Focused Group Discussions conducted to explore the purchase decision in the context of laptops, netbooks and smartphones purchase discovered that prospective buyers does not place much importance in the dimension of physical risk as the products are perceived to have less impact on physical safety (Fuziah et al., 2010; Pratama et al., 2010). Meanwhile, the dimensions of Psychological and Social Risk can be combined into a single dimension as the Psycho-Social Risk dimension (Gewald et al, 2006). Thus, four dimensions identified above are included in this research as sub-factors for the construct of Perceived Purchase Risk.

Various measurement approaches have been used by in previous researches, thus selecting the measurement approach used in the study is also an important decision. Peter and Ryan (1976) developed the concept of expected utility of Bernoulli (1938) to formulate the concept of risk. He defines risk as a function of multiplying the probability of occurrence of an event with undesirable consequences to the expected magnitude of the undesirable consequence, thus obtained the following equation:

$$PR = \Sigma (PL_i * EC_i) \qquad\qquad (1)$$

PR = Perceived Risk
PL = Probability of Loss
EC = Expected Consequence
i = Risk Dimension

Based on the above formula, a prospective buyer will perceive that there is a substantial risk only if: (1) there is a great likelihood that losses will occur, and (2) the consequences of these losses are perceived important by prospective buyers. Conversely, if at least one component is perceived as insubstantial, then the Purchase Risk will also be perceived by the potential buyers as insubstantial.

This formulation of risk concept can be considered as more comprehensive in explaining the perception and behavior of buyers than the concept of risk perception that only considered the perceived probability of loss without taking into account the level of the subjective importance of the consequences of a loss. Therefore, measurement approach of risk perception using two components of risk -probability perceptions and expectations of the consequences- should be more valid in measuring risk perceptions and explain the behavior of potential buyers. However, no research using this approach to measure perceptions of risk have been observed. Therefore, this research is interested in developing the measurement of Perceived Purchase Risk based on the approach by Peter and Ryan (1976) and comparing it with measurements based on the approach that has been used previously.

Newly developed instruments should be tested first for its validity before it can be used in practical applications such as market surveys. The validation test consists of construct, convergent and concurrent validity (Anastasi and Urbina, 1997; Domino and Domino, 2006). Meanwhile, the purchase contexts selected for the validation is the purchase context of technological items or gadgets, such as: laptops, netbooks, and smartphones. The purchase context selection is based the characteristic of the product category in which technological products have a lot of product variety, with new products introduced regularly and rapidly, and usually is quite expensive. Thus, purchase decision for technological items, such as netbooks and smartphones, can be considered as risky decisions in which Perceived Purchase Risk may play a significant role in the purchase decision.

In order to develop valid measurement for Perceived Purchase Risk for all contexts of products and purchases, it is necessary to test the validity of the instrument in more than one the contexts of different products. Therefore, two product contexts were selected for the validation, which are Netbook and Smartphones. Thus, the in order to be considered valid, the items would have to be valid in both product contexts. Accordingly, based on the literature reviews above, the following measurement model of Perceived Purchase Risk was obtained:

FIGURE 1: MEASUREMENT MODEL FOR MULTIDIMENSIONAL PERCEIVED PURCHASE RISK
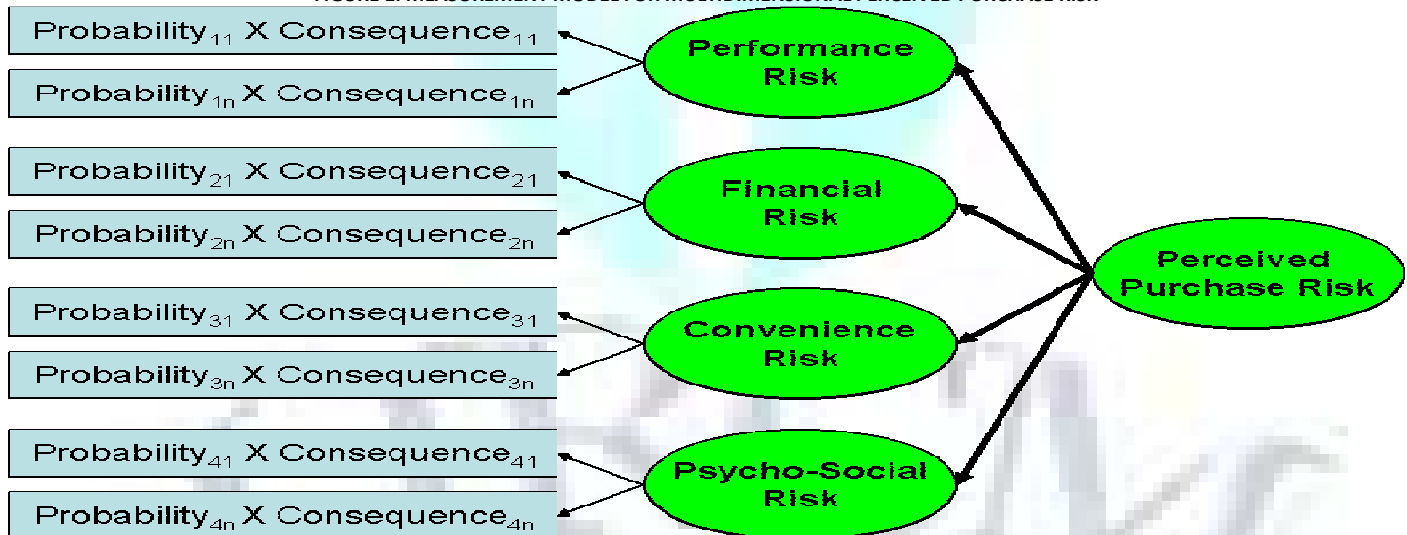
RESEARCH METHOD

The validity of an instrument can be seen by more than one approach. The first approach to validity is the content validity, which sees the validity of an instrument as whether the instrument covered sufficient dimensions of the construct to be measured. Two components of content validity are the representativeness and relevance of the measurement instrument's contents.

The second approach to validity is the construct validity, in which the validity of an instrument in seen as whether the results obtained from the tested instrument corresponds with the pattern of a particular theory about the construct intended to be measured (Domino and Domino, 2006). One method commonly used in analyzing this type of validity is by using a statistical method called confirmatory factor analysis. This method tests whether the data obtained from measurements can support the model developed from the theory of the construct to be measured (Chadha, 2009).

The third approach is the convergent validity, in which the validity of an instrument is seen as the correlation between the measurement results of an instrument with other instrument that measures the same construct and has passed the validity test (Chadha, 2009). The assumption underlying the validity of this is that if an instrument truly measures a certain construct, then the measurement results should be consistent with the results of tested instruments that measure the same construct.

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While the fourth approach of validity is the criterion validity, which sees the validity of an instrument as the correlation between its result to the measurement result of other instruments which measure different constructs, but in theory corresponds to the construct intended to be measured (Anastasi and Urbina, 1997). If the result of the corresponding instruments is obtained simultaneously, then the validity is called concurrent validity.

Data collection process yields 159 respondents for Smartphone purchase and 141 respondents for Netbook purchase. Data was collected from undergraduate students, with an age range between 19 and 23 and monthly expenditures between Rp.500.000 and Rp.1.000.000. Gender proportion between respondents of Smartphone is 36% male and 64% female, while proportion for Netbook is 44% males and 56% females. Ownership proportion between respondents of Smartphone is 58% owners and 42% non-owners, while proportion for Netbook is 73% owners and 27% non-owners.

Purchase Intention was selected as validation construct for testing concurrent validity of Unidimensional and Multidimensional Perceived Purchase Risk instrument. Selection is based on the results of previous studies which concluded that significant relationship exists between risk perceptions and purchasing decisions (Weber and Milliman, 1997; Chuang and Lin, 2007; Simonson, 1992; Anderson, 2003).

Purchase Intention is defined as the propensity of consumers to buy a particular item. In the context of a planned purchase, purchase intention is the result of consumer evaluation of the elements of consideration, whether is favorable and unfavorable towards the purchase. The following is a summary of the operational definition of the measurement variables used in this study:

TABLE 1: OPERATIONAL DEFINITION OF RESEARCH VARIABLES

Construct	Sub-factor	Operational Definition	Items
Unidimensional Perceived Purchase Risk (7 item)	n.a.	Consumer perceptions of the probability of occurrences of events that can harm them as a result of purchasing a particular product.	$X_1 - X_7$
Multidimensional Perceived Purchase Risk (27 item)	Performance Risk	Consumer perception of risks that the functional attributes of the product can not satisfy their needs.	$X_8 - X_{14}$
	Financial Risk	Consumer perception of risks that the purchase of the product will cause financial losses.	$X_{15}-X_{20}$
	Convenience Risk	Consumer perception of risks that the product purchased takes a lot of time and effort to repair and adjust before it can be used.	$X_{21}-X_{26}$
	Psychosocial Risk	Consumer perceptions of risks that the product purchased can interfere with their own view of themselves or negatively affect how others viewed them.	$X_{27}-X_{34}$
Purchase Intention (5 item)	n.a.	The propensity of consumers to buy a certain product.	$X_{35}-X_{39}$

Note: item contents is shown in the Appendix

Confirmatory factor analysis (CFA) was used in this study to test the hypotheses and answering the research questions. This CFA is a multivariate statistical method that aims to deductively test the existence of certain structures or intercorrelated patterns between variables in a set of data, based on certain hypotheses set prior to the testing. The hypothesis tested might be obtained from existing models and theories. 'LISREL 8:51 for WINDOWS Full Version' (Jŏreskog and Sŏrbom, 2001) software was used to run the confirmatory factor analysis.

The first step of validation analysis is to see whether the measurement model is acceptable. This is proven when there are significant differences between the correlations matrix obtained from the data and the correlations matrix based on the model specification. If there is no significant difference, then it can be concluded that the measurement model is acceptable or the model is fit. The difference is tested using the statistical significance of chi-square with alpha 5%. If the p-value of the chi-square statistics is above 00:05, then it can be concluded that the measurement model is acceptable.

The second step is to see whether there are items that are not valid in measuring the construct being measured. An item can be considered valid only if it has factor loading with t-values greater than +1.96 or lesser than -1.96. However, since all items used in the questionnaire are favorable items, the range of t-values accepted are limited only to t-value above 1.96. Items that are found to be not valid will be excluded from the measurement model to obtain the measurement set that is completely valid. Researchers also see and compare the quality of items from each construct by calculating the reliability and extent of crossloading for each item.

The third step is testing the concurrent and convergent validity of the instrument by looking at the correlations between constructs and between instruments of the same construct. The instrument is considered to have good convergent validity if it has significant correlation to the measurements of other instrument that measures the same construct. While the instrument is considered to have good concurrent validity if it has significant correlation to the measurements of other instruments that measure constructs that theoretically are correlated to the constructs measured by instruments like the first.

Each step of the validity analysis will also compare the validity of items between Smartphone and Netbook purchase context. The purpose of this comparison is to determine whether the validity of each item is consistent across both product contexts. Items will only be considered valid for general use in the context of technological goods purchase if it consistently qualifies in both purchase contexts.

RESULT AND DISCUSSION

The initial test for the Unidimensional Perceived Purchase Risk construct did not yield measurement models with a good fit. Model testing for Netbook purchase yields chi-square value of 64.12, while Smartphone purchase yields chi-square value of 126.96 with degree of freedom (df) for both contexts is 14. Testing the significance of chi-square value yields *p*-value of under 0.05, which means that the model was rejected because significant differences exists between the correlation matrix obtained from the data with the correlation matrix specified from the model.

The initial testing also yields t-values for each item factor loading as well as modification index, a set of recommendations for additional specification for error covariances between item errors. Modifications were performed by removing non-valid items and adding several error covariances according to the modification index. Since the objective is to obtain items valid in both purchase context, two items –PRD and PRE– were eliminated from both contexts because they were considered non valid in the Netbook purchase context. Item loadings and t-values from the initial model testing are shown in Table 2, while item contents are shown in the Appendix.

Testing the modified measurement model yields chi-square value of 5.80 with degree of freedom of 4 for Netbook purchase and chi-square value of 14.57 with degree of freedom of 10 for Smartphone purchase. Thus, the model yields p-values of 0.214 and 0.148 for the context of Netbook and Smartphone purchases respectively. Therefore, the modified measurement model for both contexts was accepted.

TABLE 2: ITEM VALIDITY FOR UNIDIMENSIONAL PERCEIVED PURCHASE RISK CONSTRUCT

ITEM	SMARTPHONE				NETBOOK			
	SLF	SE	T-VAL	SIG	SLF	SE	T-VAL	SIG
PRA	0.68	0.53	9.01	Significant	0.68	0.54	8.24	Significant
PRB	0.60	0.64	7.64	Significant	0.72	0.48	8.97	Significant
PRC	0.61	0.62	7.90	Significant	0.78	0.39	9.99	Significant
PRD	0.59	0.65	7.49	Significant	0.28	0.92	1.60	Not Significant
PRE	0.61	0.63	7.77	Significant	0.22	0.95	1.01	Not Significant
PRF	0.64	0.59	8.33	Significant	0.56	0.69	6.59	Significant
PRG	0.85	0.32	12.00	Significant	0.78	0.39	9.87	Significant

Source: Data Processing

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The second measurement instrument tested was the construct validity of the Multidimensional Perceived Purchase Risk, which divided Perceived Purchase Risk into four risk dimensions. The test was conducted by using 2nd order Confirmatory Factor Analysis in order to test the construct's multidimensionality as well as the construct validity of the measurement.

The initial test for the Multidimensional Perceived Purchase Risk construct did not yield measurement models with a good fit. Model testing generated chi-square value of 612.63 for Netbook purchase and 733.19 for Smartphone purchase, with degree of freedom for both contexts are 320. Testing the significance of chi-square value yields *p*-value of under 0.05, which means that the model was rejected.

Modifications were performed by removing non-valid items and adding several error covariances according to the modification index. Testing both modified measurement models yields chi-square value of 113.78 with degree of freedom of 94 for Netbook purchase and chi-square value of 180.21 with degree of freedom of 157 for Smartphone purchase. Thus, the test obtained p-values of 0.08 and 0.09 for the context of Netbook and Smartphone purchases, respectively. Since both measurement model yields p-values greater than 0.05, therefore the modified measurement model for both contexts was accepted.

The 2nd order Confirmatory Factor Analysis for the Multidimensional Perceived Purchase Risk construct yields validity index for dimensions as well as indicators. The secondary hypotheses tested from the construct of Multidimensional Perceived Purchase Risk is whether the validity of the four dimensions proposed in the model and the validity of each item of measurement is consistent in both product context. Based on this analysis, all four dimensions in the Multidimensional Perceived Purchase Risks are considered valid for both purchase contexts. Loading factors and t-values for each dimension are shown below in Table 3.

TABLE 3: DIMENSION VALIDITY FOR MULTIDIMENSIONAL PERCEIVED PURCHASE RISK CONSTRUCT

Dimension	SMARTPHONE			NETBOOK		
	SLF	T-VAL	SIG	SLF	T-VAL	SIG
Performance Risk	0.61	5.47	Significant	0.62	4.66	Significant
Financial Risk	0.76	4.42	Significant	0.70	4.30	Significant
Convenience Risk	0.71	5.66	Significant	0.87	2.87	Significant
Psychosocial Risk	0.62	4.77	Significant	0.63	4.90	Significant

Source: Data Processing

One indicator for Performance Risk dimension, PR4, was found to be not significant for both purchase contexts while three other items, PR5, PR6 and PR7, were invalidated in the Netbook purchase context. Thus, all four items must be excluded from the final measurement model. The standardized loading factor, standard error and t-values for Performance Risk measurements are shown in Table 4 while the content for each item are shown in the Appendix.

TABLE 4: ITEM VALIDITY FOR PERFORMANCE RISK DIMENSION

ITEM	SMARTPHONE				NETBOOK			
	SLF	SE	T-VAL	SIG	SLF	SE	T-VAL	SIG
PR1	0.71	0.49	8.76	Significant	0.78	0.39	7.42	Significant
PR2	0.78	0.39	9.67	Significant	0.70	0.51	7.06	Significant
PR3	0.78	0.39	9.59	Significant	0.56	0.69	5.86	Significant
PR4	0.22	0.95	1.19	Not Significant	0.25	0.94	1.36	Not Significant
PR5	0.53	0.72	6.39	Significant	0.29	0.91	1.89	Not Significant
PR6	0.59	0.65	7.12	Significant	0.28	0.92	1.73	Not Significant
PR7	0.59	0.65	7.18	Significant	0.19	0.96	1.01	Not Significant

Source: Data Processing

Three indicators for Financial Risk dimension, FR1, FR2 and FR6, were invalidated in both purchase contexts. Thus, all three items must be excluded from the final measurement model. The standardized loading factor, standard error and t-values for Financial Risk measurements are shown in Table 5 while the content for each item are shown in the Appendix.

TABLE 5: ITEM VALIDITY FOR FINANCIAL RISK DIMENSION

ITEM	SMARTPHONE				NETBOOK			
	SLF	SE	T-VAL	SIG	SLF	SE	T-VAL	SIG
FR1	0.25	0.94	1.75	Not Significant	0.14	0.98	1.01	Not Significant
FR2	0.12	0.99	0.98	Not Significant	0.20	0.96	1.60	Not Significant
FR3	0.69	0.52	6.42	Significant	0.72	0.48	6.54	Significant
FR4	0.95	0.10	6.51	Significant	0.64	0.59	6.04	Significant
FR5	0.58	0.66	5.74	Significant	0.78	0.39	6.75	Significant
FR6	-0.15	0.98	-1.02	Not Significant	-0.18	0.97	-1.06	Not Significant

Source: Data Processing

One indicator for Convenience Risk dimension, CR6, was found to be not significant for both purchase contexts while one other item, CR5, was invalidated in the Netbook purchase context. Thus, both items must be excluded from the final measurement model. The standardized loading factor, standard error and t-values for Convenience Risk measurements are shown in Table 6 while the content for each item are shown in the Appendix.

TABLE 6: ITEM VALIDITY FOR CONVENIENCE RISK DIMENSION

ITEM	SMARTPHONE				NETBOOK			
	SLF	SE	T-VAL	SIG	SLF	SE	T-VAL	SIG
CR1	0.86	0.26	8.65	Significant	0.78	0.39	3.57	Significant
CR2	0.82	0.33	9.77	Significant	0.82	0.33	3.76	Significant
CR3	0.78	0.39	9.22	Significant	0.88	0.23	3.81	Significant
CR4	0.90	0.19	10.09	Significant	0.95	0.10	3.69	Significant
CR5	0.92	0.15	10.14	Significant	0.15	0.98	0.48	Not Significant
CR6	-0.35	0.88	-4.03	Not Significant	-0.21	0.96	-1.43	Not Significant

Source: Data Processing

Two indicators for Psychosocial Risk dimension, SR1 and SR2, were found to be not significant for both purchase contexts. Thus, both items must be excluded from the final measurement model. The standardized loading factor, standard error and t-values for Psychosocial Risk measurements are shown in Table 7 while the content for each item are shown in the Appendix.

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TABLE 7: ITEM VALIDITY FOR PSYCHOSOCIAL RISK DIMENSION

ITEM	SMARTPHONE				NETBOOK			
	SLF	SE	T-VAL	SIG	SLF	SE	T-VAL	SIG
SR1	-0.24	0.94	-2.65	Not Significant	-0.35	0.88	-2.95	Not Significant
SR2	0.11	0.99	1.82	Not Significant	0.16	0.97	1.91	Not Significant
SR3	0.88	0.23	10.15	Significant	0.89	0.21	10.20	Significant
SR4	0.86	0.26	10.17	Significant	0.91	0.17	10.48	Significant
SR5	0.86	0.26	10.16	Significant	0.90	0.19	10.43	Significant
SR6	0.90	0.19	10.31	Significant	0.75	0.44	8.64	Significant
SR7	0.80	0.36	9.44	Significant	0.77	0.41	8.87	Significant
SR8	0.69	0.52	8.27	Significant	0.64	0.59	7.38	Significant

Source: Data Processing

The third measurement model tested was the Purchase Intention construct. The initial model test did not produce good fit. Model testing generated chi-square value of 33.46 for Netbook purchase and 19.84 for Smartphone purchase, while degree of freedom obtained for both contexts is 5. Testing the significance of chi-square value yields *p*-value of under 0.05, which means that the model was rejected.

Modifications were conducted by removing non-valid items and adding several error covariances according to the modification index. Testing both modified measurement models yields chi-square value of 6.32 with degree of freedom of 3 for Netbook purchase and chi-square value of 5.04 with degree of freedom of 4 for Smartphone purchase. Thus, the test obtained p-values of 0.096 and 0.283 for the context of Netbook and Smartphone purchases, respectively. Since both measurement model yields p-values greater than 0.05, therefore the modified measurement model for both contexts was accepted. None of the indicators for Purchase Intention have t-values lower than 1.96 in either contexts, thus all indicators for Purchase Intention were confirmed to be valid. The standardized loading factor, standard error and t-values for Purchase Intention measurements are shown in Table 8 while the content for each item are shown in the Appendix.

TABLE 8: ITEM VALIDITY FOR PURCHASE INTENTION

ITEM	SMARTPHONE				NETBOOK			
	SLF	SE	T-VAL	SIG	SLF	SE	T-VAL	SIG
PI1	0.82	0.28	12.11	Significant	0.83	0.3	11.76	Significant
PI2	0.81	0.34	11.85	Significant	0.88	0.23	12.26	Significant
PI3	0.83	0.3	12.44	Significant	0.84	0.29	11.46	Significant
PI4	0.74	0.45	10.47	Significant	0.67	0.55	8.70	Significant
PI5	0.85	0.28	12.71	Significant	0.77	0.41	10.49	Significant

Source: Data Processing

The last two measurement validity examined is the convergent and concurrent validity of the instrument. Convergent validity was measured by examining the correlation between scores from the newly developed instrument with scores from existing instrument that measures the same construct, while concurrent validity was measured by looking at the correlation between scores from the newly developed instrument with scores from existing instrument that measured a theoretically-related construct.

The correlations between the measurements scores was obtained from the standardized path coefficient between two constructs when processed in pairs while correlation significance was obtained from the t-value of the path between each pair (Hair et al., 2009). Result from correlating both Unidimensional and Multidimensional Perceived Purchase Risk measurement scores indicated that both measurement have significant positive correlation for both purchase contexts (r=0.75, t=5.50 for Smartphone; r=0.74, t=5.63 for Netbook). This means that the newly developed measurement instrument has good convergent validity.

Result from correlating Multidimensional Perceived Purchase Risk with Purchase Intention measurement scores indicate that both measurement have significant negative correlation for both purchase contexts (r=-0.28, t=-2.83 for Smartphone; r=-0.19, t=-2.02 for Netbook). In contrast, result from correlating Unidimensional Perceived Purchase Risk with Purchase Intention measurement scores indicate that both measurement have stronger significant negative correlation for both purchase contexts (r=-0.33, t=-3.53 for Smartphone; r=-0.40, t=-4.12 for Netbook).

Both construct have significant negative correlations, which is consistent with existing theories that greater perceived risk increases the likelihood of a prospective buyer to postpone or cancel the purchase (Simonson, 1992; Anderson, 2003). This means that the newly developed measurement instrument also has good concurrent validity. However, it seems that the existing Unidimensional measurement still has greater concurrent validity than the newly developed measurement. Then again, this shortcoming is offset by more detailed information provided by the newly developed instrument. The complete score correlations results for both purchase contexts are shown in Table 9 below.

TABLE 9: STANDARDIZED CORRELATION COEFFICIENT

Correlations		SMARTPHONE			NETBOOK		
		UPPR	MPPR	PI	UPPR	MPPR	PI
UPPR	r	1.00			1.00		
	t-value	n.a			n.a		
MPPR	r	0.75	1.00		0.74	1.00	
	t-value	5.50	n.a		5.63	n.a	
PI	r	-0.33	-0.28	1.00	-0.40	-0.19	1.00
	t-value	-3.53	-2.83	n.a	-4.12	-2.02	n.a

Source: Data Processing

Notes:
UPPR: Unidimensional Perceived Purchase Risk
MPPR: Multidimensional Perceived Purchase Risk
PI: Purchase Intention

CONCLUSIONS

There are four conclusions drawn from the result of this study. *First*, each measurement model for all constructs was tested significant in both the purchase contexts. Therefore, it can be concluded that all the instruments have good construct validity. Recapitulation of the fitness measurement for all three instruments on both purchase contexts are shown in table 10 below.

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TABLE 10: RECAPITULATION FOR GOODNESS OF FIT MEASUREMENTS

Fitness Measure	SMARTPHONE			NETBOOK			
	UPPR	MPPR	PI	UPPR	MPPR	UPPR	Target Value
χ^2 (df)	14.57 (10)	180.21 (157)	5.04 (4)	5.80 (4)	113.78 (94)	6.32 (3)	n.a
p-value	0.148	0.098	0.283	0.214	0.080	0.096	≥0.05
RMSEA	0.054	0.031	0.041	0.057	0.039	0.089	≤0.08

Source: Data Processing

Second, some items in both the Unidimensional and Multidimensional Perceived Purchase Risk measurement were invalidated in one or both purchase context. Invalidated items can not be used in the measurement and must be removed from the instrument. Only significant items can be included in the measurement for future use.

Third, the newly developed Multidimensional Perceived Purchase Risk measurement has good convergent and concurrent validity. Thus, the measurement can be considered to be ready for practical use within the purchase context of technological gadgets such as Smartphones and Netbooks. The instrument can be utilized by manufacturers and marketers of technology products in market surveys to map psychographic consumer segments of potential markets. This instrument can be used to measure the risk perceptions of consumers towards the purchase of existing products on the market and also new products about to be launched by the manufacturers.

Fourth, although the newly developed Multidimensional Perceived Purchase Risk instrument has weaker concurrent validity than the Unidimensional Perceived Purchase Risk instrument developed by Corbitt et al. (2003), the new instrument provide more comprehensive information. Apart from the level of risk perceived by the consumer purchases, the new instrument may also provide more detailed information to identify aspects which are considered high risk by a segment of consumers targeted by the marketer.

Identifying risk factor as perceived as high risk by consumer is important since the likelihood of a prospective purchaser to seek additional information will be higher when faced with purchasing decisions perceived to have a higher risk (Cox, 1967; Capon and Burke, 1977; Locander and Hermann, 1979; Lutz and Reilly, 1973). Information sought by prospective buyers will be the information that may alleviate the risk they perceive. Meanwhile, the likelihood of a prospective buyer to postpone or cancel the purchase will be even greater if he can not find the information he sought. Therefore, marketers can use the information obtained from this instrument to develop the best communication strategies to reduce the perceived purchase risk by prospective buyers.

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APPENDIX
LIST OF ITEMS
Note: S for Smartphone; N for Netbook

CODE	ITEM	VALID	
	MULTIDIMENSIONAL PERCEIVED PURCHASE RISK MEASUREMENT	**S**	**N**
PR1	The offered product might not provide the performance that I require *Produk yang ditawarkan mungkin tidak dapat memberikan performa yang saya butuhkan*	Yes	Yes
PR2	The operating speed of this product might rapidly decreases *Kecepatan operasi produk ini mungkin akan berkurang dengan cepat*	Yes	Yes
PR3	This product might not support applications that I may need *Produk ini mungkin tidak dapat mendukung aplikasi yang akan saya butuhkan*	Yes	Yes
PR4	The offered product might not have a stable / consistent performance *Performa produk yang ditawarkan mungkin tidak stabil/konsisten*	No	No
PR5	The offered product might not deliver the benefits promised by the seller *Produk ini mungkin tidak dapat memberikan manfaat yang sudah dijanjikan penjual*	Yes	No
PR6	The technology offered by the product might be rapidly out of date *Teknologi yang ditawarkan produk ini bisa cepat ketinggalan jaman*	Yes	No
PR7	The feature of the product might not support my job mobility (size, weight or battery capacity) *Fitur produk ini bisa jadi tidak mendukung mobilitas kerja saya (ukuran, berat atau umur batere)*	Yes	No

CODE	ITEM	VALID	
	MULTIDIMENSIONAL PERCEIVED PURCHASE RISK MEASUREMENT	**S**	**N**
FR1	The price for this product might not worth the benefits I receive *Harga produk ini tidak sebanding dengan manfaat yang saya dapatkan*	No	No
FR2	The product offered might be bought with a cheaper price elsewhere *Produk yang ditawarkan ini dapat saya beli ditempat lain dengan harga yang lebih murah*	No	No
FR3	Might be other additional costs to be incurred before I can use this product properly (installation, upgrades, etc.) *Ada biaya tambahan lain yang harus dikeluarkan sebelum produk ini dapat saya gunakan (instalasi, upgrade, dsb)*	Yes	Yes
FR4	This product might require great maintenance costs in order to stay durable *Produk ini membutuhkan biaya perawatan yang besar agar tidak cepat rusak*	Yes	Yes
FR5	If it breaks, the cost of repair that I would have to pay for this product would be greater than other products *Jika rusak, saya harus membayar biaya reparasi yang lebih besar untuk produk dibanding produk yang lain*	Yes	Yes
FR6	The offered product might be easily damaged, so I would have to buy a new product *Produk ini cepat rusak sehingga saya harus membeli produk yang baru*	No	No

CODE	ITEM	VALID	
	MULTIDIMENSIONAL PERCEIVED PURCHASE RISK MEASUREMENT	**S**	**N**
CR1	Buying this product might cause me to expend valuable time to take care of matters related to this product. *Membeli produk ini dapat membuat saya menghabiskan waktu yang berharga untuk mengurus hal-hal yang terkait produk ini.*	Yes	Yes
CR2	Buying this product might cause interference to my daily routine *Membeli produk ini dapat menyebabkan terjadinya gangguan pada rutinitas harian yang saya miliki*	Yes	Yes
CR3	Buying this product might interfere with the work plan I've arranged for myself. *Membeli produk ini dapat mengganggu rencana kerja yang sudah saya susun.*	Yes	Yes
CR4	Buying this product might lead to problems that hinders my work or class *Membeli produk ini dapat menyebabkan terjadinya masalah yang menghambat pekerjaan atau perkuliahan saya*	Yes	Yes
CR5	Buying this product might create problems that inconveniences me *Membeli produk ini dapat menciptakan masalah yang dapat merepotkan diri saya*	Yes	No
CR6	This product might require a lot of services and treatments that inconveniences me *Produk ini akan membutuhkan banyak servis dan perawatan yang akan merepotkan saya*	No	No

CODE	ITEM	VALID	
	MULTIDIMENSIONAL PERCEIVED PURCHASE RISK MEASUREMENT	**S**	**N**
SR1	Buying this product might harm my personal image in the eyes of my friends *Membeli produk ini dapat menciderai image saya dimata teman-teman saya*	No	No
SR2	Buying this product might make me feel anxious *Membeli produk ini dapat membuat saya merasa cemas*	No	No
SR3	My friends would consider this product a cheap/inferior product *Teman-teman saya akan menganggap produk ini produk murahan*	Yes	Yes
SR4	My friends would consider this product a mass-products (not exclusive) *Teman-teman saya akan menganggap produk ini produk pasaran (tidak eksklusif)*	Yes	Yes
SR5	My friends would consider this product outdated *Teman-teman saya akan menganggap produk ini ketinggalan jaman*	Yes	Yes
SR6	My friends will see me as incompetent if I buy this product *Teman-teman saya akan menganggap saya tidak kompeten jika saya membeli produk ini*	Yes	Yes
SR7	I would feel embarrassed to be seen using this product in public places *Saya akan merasa minder jika menggunakan produk ini di tempat umum*	Yes	Yes
SR8	The shape and color of this product does not fit with my self image *Bentuk dan warna produk ini tidak sesuai dengan image diri saya*	Yes	Yes

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CODE	ITEM	VALID	
SATU FAKTOR PERCEIVED RISK MEASUREMENT		**S**	**N**
PRA	I believe that buying the product offered has a big risk because the benefits promised by the seller might not necessarily be in accordance with the reality. *Saya meyakini bahwa membeli produk yang ditawarkan diatas memiliki resiko yang besar karena belum tentu manfaat yang dijanjikan oleh penjual sesuai dengan kenyataan.*	Yes	Yes
PRB	I believe that buying the product offered has a big risk because there is a possibility that the product offered might be of low quality. *Saya meyakini bahwa membeli produk yang ditawarkan diatas memiliki resiko yang besar karena ada kemungkinan bahwa produk yang ditawarkan ternyata memiliki kualitas rendah.*	Yes	Yes
PRC	I believe that buying the product offered has a big risk because it can make me experience financial losses. *Saya meyakini bahwa membeli produk yang ditawarkan diatas memiliki resiko yang besar karena dapat membuat saya mengalami kerugian finansial.*	Yes	Yes
PRD	I believe that buying the product offered has a big risk because it can reduce my reputation in the eyes of others. *Saya meyakini bahwa membeli produk yang ditawarkan diatas memiliki resiko yang besar karena dapat mengurangi reputasi saya dimata orang lain.*	Yes	No
PRE	I believe that buying the product offered has a big risk because it could be incompatible with the concept of self that I have. *Saya meyakini bahwa membeli produk yang ditawarkan diatas memiliki resiko yang besar karena bisa jadi tidak sesuai dengan konsep diri yang saya miliki.*	Yes	No
PRF	I believe that buying the product offered has a big risk because it can spend precious time that I have. *Saya meyakini bahwa membeli produk yang ditawarkan diatas memiliki resiko yang besar karena dapat menghabiskan waktu berharga yang saya miliki.*	Yes	Yes
PRG	Overall, I feel that buying the product offered involves a big risk. *Secara keseluruhan, saya merasa pembelian produk yang ditawarkan diatas memiliki resiko yang besar.*	Yes	Yes

CODE	ITEM	VALID	
PURCHASE INTENTION		**S**	**N**
PI1	I have the intention to buy the product offered *Saya memiliki niat untuk membeli produk yang ditawarkan.*	Yes	Yes
PI2	I have expectations in the future to buy the product offered *Saya memiliki ekspektasi di masa depan untuk membeli produk yang ditawarkan.*	Yes	Yes
PI3	There is a possibility for me in the near future to buy the product offered *Ada kemungkinan bagi saya dalam waktu dekat untuk membeli produk yang ditawarkan.*	Yes	Yes
PI4	There is a possibility for me to recommend the product offered to my friends and family. *Ada kemungkinan bagi saya untuk merekomendasikan produk yang ditawarkan kepada teman dan keluarga saya.*	Yes	Yes
PI5	If I want to buy this type of product, then I would look for the product described in the offering. *Jika saya ingin membeli produk, maka saya akan mencari produk yang dijelaskan dalam penawaran.*	Yes	Yes

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STUDY ON TRADITIONAL VERSUS CONTINUOUS ACCREDIATION PROCESS & EXPLORING LEADERSHIP DISPARITY

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ABSTRACT

Accreditation plays a key role in assuring quality and promoting accountability in higher education. Limited accountability exists under the traditional accreditation method, the Program to Evaluate and Advance Quality (PEAQ). In 1999, the Higher Learning Commission (HLC) created the Academic Quality Improvement Program (AQIP) as an alternative method of accreditation specifically designed to address weaknesses of educational quality in traditional education. However, there has been a slow adoption of AQIP, which reflects best practices in higher education. The purpose of this non-experimental retrospective comparative design study was to examine the extent to which leadership strength and school characteristics differ based on accreditation type. Leadership strength was measured by the Leadership Practice Inventory LPI, which was developed to measure leadership strength using five subscales: (a) Modeling the Way; (b) Inspiring a Shared Vision; (c) Challenging the Process; (d) Enabling Others to Act; and (e) Encouraging the Heart. School characteristics were assessed in terms of the size of the institution, leader's tenure, institution location, institution type, and the age of the institution.

KEYWORDS
Accreditation, Academic Quality Improvement Program AQIP, Leadership, Program to Evaluate and Advance Quality PEAQ.

INTRODUCTION

Accreditation plays a key role in assuring quality and promoting accountability in higher education, while also providing a gateway to federal funding. Global competitiveness and accountability are the major challenges driving institutions of higher education (IHE) to obtain accreditation. Accreditation is used as a substitute for quality in higher education. Accreditation is a high priority for administrators, who are seeking ways to achieve quality education and report progress to meet accreditation agency requirements. Traditionally, the Program to Evaluate and Advance Quality (PEAQ), has been the accreditation method of choice. The industry of higher education faces numerous current issues, including improved accountability, increasing employer expectations, a shift between the numbers of traditional and nontraditional students, increased competition for external funding, pressures to find new and innovative delivery systems, poor retention rates, static enrollments, and increasing expectations to assess student outcomes.

Institutions of Higher Education (IHEs) have to satisfy a diverse group of stakeholders, including students, faculty, staff, employers, community business, government agencies, and accrediting bodies. Total Quality Management (TQM) model that was created by Deming and has been used to improve business quality and processes since 1950s. The TQM can be utilized for higher education setting with some modifications (Mullen, 1996).

The relationship between the leadership characteristics in institutions of higher education and organizational effectiveness has been examined in several studies found that the transformational leadership style of leaders positively predicated leaders' strength to articulate clearly the organization's vision and accomplishing organization's strategic plan. Transactional leaders were found to focus more on the efficiency within the organization than transformational leaders. Transformational leaders, in contrast, identified themselves as confident, less authoritarian, and more inclined to empower their employees than transactional leaders.

Two accreditation methods are used by institutions of higher education. The traditional method is the **Program to Evaluate and Advance Quality (PEAQ).** The most recent method of accreditation is the **Academic Quality Improvement Program (AQIP)**. The PEAQ method focuses on institutional documentation and review of past performance; the AQIP method supports a continuous improvement model and is consistent with the Secretary of Education's Commission on the Future of Higher Education's recommendations (The Higher Learning Commission [HLC], 2007).

The PEAQ method is based on the concept of institutional self-study: the evaluation of an institution through self-study, followed up by visits from a team of trained external peer reviewers. The results of the review are then submitted to the Higher Learning Commission for authorization. The new AQIP accreditation method offers institutions a greater degree of self-direction than PEAQ (Haneline, 2006). The PEAQ method was the only option for accreditation prior to 1999. In July 1999, the Higher Learning Commission (HLC) introduced an alternative method of accreditation, shifting its focus from a model of compliance to one of continuous improvement (Stewart, 2006).

The Academic Quality Improvement Program (AQIP) represents a significant change in how higher education institutions achieve accreditation and ensure quality. By sharing their process improvements and the results of the improvements, an AQIP-accredited institution provides evidence that the Higher Learning Commission requires to make judgments about quality (Spangehl, 2004). The AQIP approach requires the institution to demonstrate to the AQIP Review Panel that its members are committed to continuous quality improvement. As part of this process, dynamic improvement projects are designed to promote learning and cultural change and respond to opportunities for improvement.

PROBLEM STATEMNET

The problem addressed in this study is the slow adoption of AQIP accreditation, which reflects best practices in higher education. Limited accountability exists under the traditional accreditation method, PEAQ (Beard, 2006). As of 2010, only few institutions of higher education had adapted the AQIP accreditation method (AQIP, 2008). The PEAQ accreditation method does not address or mention quality education in the mission of this method and adoption of AQIP accreditation has been slow (Beard, 2006). Institutions with the traditional PEAQ accreditation are only required demonstrate compliance with the standards of accreditation once in every ten year cycle and often do not maintain their quality standards after accreditation visits (Beard, 2006). Constituencies and stakeholders of higher education institutions started questioning the value and standards of the traditional accrediting process and started demanding accountability and education quality (Beard, 2006).

The literature review and associated empirical research have indicated a knowledge gap in the area of AQIP adoption while support AQIP as a better method than PEAQ for quality education and continuous improvement process.

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PURPOSE OF STUDY

The purpose of this study was to examine the extent to which PEAQ and AQIP accredited organizations differ based on Leadership Practices, leaders' tenure, institution size, institutional location (rural, suburban, or urban), institution type (highest degree offered), and age of the institution among institutions of higher education. Leadership strength was measured by the LPI, using five subscales: (a) Modeling the Way; (b) Inspiring a Shared Vision; (c) Challenging the Process; (d) Enabling Others to Act; and (e) Encouraging the Heart. Study examined the extent to which traditionally (PEAQ) accredited schools differ from continuous improvement accredited schools.

THEORITICAL FRAMEWORK

For the purposes of this study, many theories were examined to ascertain their levels of applicability. Leadership has been researched through a number of organizational, situational and behavioral theories (Yukl, 1989). Yukl identified four approaches for studying leadership: power influence, behavior, trait, and situational approach. Most theorists believe that managerial and leadership skills are different. "Leaders create and articulate vision; managers insure it is put into practice" (Syrett and Hogg, 1992, p. 5). One of the most researched and significant leadership theories is transformational leadership. Initially developed by Bass (1985), transformational leadership behaviors have been found to motivate followers to excel their own personal interests in favor of the organization.

The theoretical framework for this study involves the conceptualization of the adoption of AQIP accreditation as a form of organizational change. According to the LPI model there are five best practices of leaders: (a) Modeling the Way; (b) Inspiring a Shared Vision; (c) Challenging the Process; (d) Enabling Others to Act; and (e) Encouraging the Heart (Kouzes & Posner, 1988).

The following are the basic characteristics of any system according to the Association for Educational Communications and Technology (AECT) Council on Systemic Change (2008):

(a) Systems consist of interrelated components (a relationship exists between parts and the whole),

(b) Systems are arranged in a hierarchy (subsystems and suprasystems).

(c) Synergies among system components create a whole that is more than the sum of its parts,

(d) System boundaries are artificial: systems are components of another larger system. Systems can be open (influenced by their environment) or closed (not influenced by their environment),

(e) Systems have inputs, processes, outputs, and feedback loops,

(f) The process of homeostasis acts to bring a system back to equilibrium when it is disturbed by external forces,

(g) Unless energy is continually focused on this activity, the process of entropy causes energy within a system to dissipate and become random, (p. 6)

OBJECTIVES OF THE STUDY

1. To analyze what extent do administrators' leadership practices differ based on the institution's accreditation method
2. To evaluate the extent administrators' use modeling the way leadership practices differ based on the institution's accreditation method
3. To know administrators' use of inspiring a shared vision leadership practices differ based on the institution's accreditation method
4. To know administrators' use of challenging the process leadership practices differ based on the institution's accreditation method.
5. To analyse how the size of the institution differ based on the institution's accreditation method

SIGNIFICANCE OF STUDY

Accreditation processes have been fluid and in progress since the inception of accrediting associations. Institutions of higher education have been held accountable to their stakeholders to ensure quality education. Even though accreditation for higher education is a voluntary, accreditation provides institutions with access to funding; credibility to stakeholders and employers, and smoother transfer of credits from one accredited institution to another. The present research may be useful to administrators of higher education who must work with the respective accreditation models, traditional method which is compliance based; the new method which is well defined and newly strengthened and based on continuous improvement model. The study will be important to the field of business administration, particularly in Higher Education settings and the accrediting agencies.

DEFINITIONS

Academic Quality Improvement Program (AQIP). AQIP is a program for maintaining affiliation with the HLC based on the principles of continuous improvement (HLC, 2007).

Accreditation association or commission. An accreditation association or commission is a nongovernmental body established to administer accrediting procedures (HLC, 2007).

Challenging the Process. Leaders persuade organizational systems to create new products, services, and processes. Challenging the process consists of two components: 1) searching for opportunities; and 2) experimenting and taking risks (Kouzes & Posner, 2003).

Inspiring a Shared Vision. This behavior consists of two components: envisioning the future and enlisting others. Strong leaders have a vision for the optimal functioning of their organizations. A leader's hope for the future is communicated through his or her conviction that the people in his or her organization can improve it. Enlisting others to join the leader's team and work toward accomplishing the leader's vision is a trademark of a good leader (Kouzes & Posner, 2003).

Enabling Others to Act. This practice consists of two components: 1) fostering collaboration; and 2) strengthening others. Once a leader has built a vision and enlisted others to join the mission, a good leader must get the people to work together as a team. To accomplish the vision, the leader must strengthen the team members by developing skills and letting each person know how important he or she is to the team (Kouzes & Posner, 2003).

Modeling the Way. This practice requires leaders to set the example and plan small wins. Having a vision and building support are not enough. Leaders need to lead by example (Kouzes & Posner, 2003).

Encouraging the Heart. This practice consists of two commitments: 1) recognizing individual contributions to the success of every project; and 2) celebrating team accomplishments regularly. (Kouzes & Posner, 2003).

The Higher Learning Commission (HLC). The commission of the North Central Association of Colleges and Schools that accredits degree-granting higher education organizations (HLC, 2009).

Program to Evaluate and Advance Quality (PEAQ). Often referred to as traditional accreditation, this program is based on criteria established by the HLCof the North Central Association. PEAQ utilizes periodic self-study, peer review, and final approval by the HLC as a means of evaluating academic quality and effectiveness (Beard, 2006).

LITERATURE REVIEW

Slow adoption of AQIP accreditation, which reflects best practices in higher education. Limited accountability exists under the traditional accreditation method, PEAQ (Beard, 2006). Limited accountability contributes to inconsistency in quality education and learning program success (Rothgeb, 2008). The PEAQ accreditation method does not address or mention quality education in the mission of this method (Beard, 2006). Institutions with the traditional PEAQ accreditation are only required demonstrate compliance with the standards of accreditation once in every 10 year cycle and often do not maintain their quality standards after accreditation visits (Beard, 2006). Constituencies and stakeholders of higher education institutions started questioning the value and standards of the traditional accrediting process and started demanding accountability and education quality (Beard, 2006).

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The focus of the study is to improve understanding about the factors that may contribute to the decision to adopt the AQIP method, by examining the extent to which leadership styles, leaders' tenure (CEO), size of the institution (denoted how many Full Time Equivalents), institutional location (rural, suburban, or urban), institution type (highest degree offered), and the age of the institution are associated with for adopting or not adopting the AQIP method.

QUALITY IN HIGHER EDUCATION

The word quality has many definitions. Quality is degree of excellence or distinguished attribute (Merriam-Webster Online Dictionary, 2008). Sahney, Banwet, & Karunes (2006) defined quality as customer service and treating a student as a customer. The objective of Sahney, Banwet, & Karunes' study was to identify an integrated framework that would lead to quality in education. The authors concluded that quality in education is a multiple concept with varying conceptualizations and posed problem in formulating a single and comprehensive definition. Also the authors concluded that turning to TQM as a way of managing organization in global competitive market.

Zhang (2009) researched the different levels of quality of education in United States. Zhang explained that there is no clear measurement of quality. Zhang estimated the average quality of public colleges in US states based on the value added to individuals' early career earnings. The author utilized the data from National Association of State Budget Officers and National Center for Education Statistics for 2001 and 2002 graduates of all states. The data included those who have jobs and documented earnings.

Zhang concluded in the study that there considerable variation across states in the average quality. Even though Zhang associated quality with earnings, the author did not reach a quality comparison at the college level. Another point this study exposes is that although all institutions are accredited by the same accrediting agency (HLC), institutions have considerable variation. Education quality are sometimes elusive.

Nadiri, Kandampully, and Hussain (2009) explained that higher education is a fast growing service industry and faced with more globalization processes every day. Authors measured quality with student satisfaction. Six hundred questionnaires were distributed to students and 492 were returned and used for the study. The sample was from males and females, different age ranges, and from different countries (European, Asian, and African). The authors stated that their study provided higher education quality researchers with useful guidelines for future research. The authors emphasized the term quality is measured by student satisfaction. As is evident, the term quality as widely varying definitions. Zhang (2009) associated quality with earning and Nadiri etal., associated quality by student satisfaction.

Quality experts believe that that measuring customer satisfaction in higher education might be regarded by educators as one of the greatest challenges to evaluating quality (Quinn, Lemay, Larsen, & Johnson, 2009). Quinn et al. examined the most widely used quality improvement methodologies from industry that in the context of higher education: TQM, Quality Function Deployment (QFD); Six Sigma: International Organization for Standardization (ISO) 901; and the MBNQA. The authors stated that the AQIP is a continuous improvement technique used solely in higher education. The authors discussed quality in higher education in terms of three broad categories: education/instructional, administration, and auxiliary (e.g. registrar, financial aid, residence halls, etc). An examination of representative historical applications of quality techniques was conducted as well as identification of the differences and similarities surrounding quality improvement attempts. Quinn, et al. described each quality improvement methodologies:

1.	TQM is a way of managing to improve the effectiveness, efficiency, cohesiveness, flexibility, and competiveness of a business as a whole. TQM implementations include leadership, commitment, total customer satisfaction, continuous improvement, total involvement, training and education, ownership of problems, reward and recognition, error prevention and teamwork.
2.	QFD is a method used to translate customer requirements and expectations into product or service attribute and quality. QFD process includes transferring: customer requirements into product/service feature; product features into design requirements; design requirements into process requirements; and process requirements into processes/methods.
3.	Six Sigma is systemic methodology for process improvement. Six Sigma steps are: (1) define the process, (2) measure quality variables valued by customer and set improvement goals, (3) analyze the root causes of current defect levels (4)consider process change alternatives, (5) improve the process by checking and improving, and (6) control and monitor over time.
4.	ISO 9001 is an international quality standard administered through ISO. ISO certifies a process and not a particular product or service. ISO provides a set of standards for process quality improvements that includes 20 elements which include: attention to customer requirements; continuous improvement; adherence to applicable regulatory requirements; and management leadership.
5.	MBNAQ, administered by the National Institute of Standards, recognizes the best quality practices by analyzing seven factors: leadership, strategic planning, customer and market focus, measurement, analysis and knowledge management, human resources focus, process management, and business results. Organizations must complete an extensive application and selection process before being named Baldrige National Quality Award recipients.
6.	AQIP is an accreditation process that infuses the principles and benefits of continuous improvement into the culture of colleges and universities to assure and advance the quality of higher education. AQIP focuses on the following groups of processes: helping students learn, accomplishing other distinctive objectives, understanding students' and other stakeholders needs, valuing people, leading and communicating, supporting institutional operation, measuring effectiveness, planning continuous improvement, and building collaborative relationships.

Quinn, et al. concluded the study with each of the quality improvement techniques and their applicability to higher education. TQM method was the most widely used technique in higher education, which the authors speculated may be because TQM is so broad that administrators lump any quality effort under the TQM umbrella. However, TQM is used in academic/instructional domains more than in administrative or auxiliary areas. Also, the authors speculated that difficulties in implementing TQM in higher education is due to the lack of inter-departmental trust and lack of confidence in administrators' ability to manage the TQM process, especially with respect to students as customers (Quinn, et al., 2009).

The QFD quality technique was often applied in instructional settings. The authors believed that QFD can be used to improve all levels of education activity, from degree program design, to curriculum, to specific courses. To support this believe, the authors mentioned few examples that QFD used in universities.

According to the Quinn (2009) study, Six Sigma quality technique was mostly used in industry, but little used and published in higher education. Six Sigma may be applicable in higher education, but it is limited to a specific administrative setting. The authors indicated that no examples of higher education implementation of Six Sigma efforts appeared in the literature. The authors attributed the hesitation of using Six Sigma in higher education to the requirement of having a full time professional lead the quality improvement team. In industry settings, they employ certified 'Green Belt' or 'Black Belt' Six Sigma leaders to lead the effort of quality improvement (Quinn, et al., 2009).

Quinn, et al. (2009) believed that AQIP is a good fit for implementation in higher education because it was designed for the higher education settings. Most of the enthusiastic discussion about AQIP comes from its sponsor, the HLC. The authors believed that business values are replacing educational values in a rapid rate. The authors elaborated that quality and efficiency goals that lead to standardization make implementation of these standards in higher education difficult because open dialogue and disagreement are valued in higher education. The authors criticized the AQIP method because it did not have a criterion for teaching. Finally, authors claimed that the AQIP method can be promising to integrate continuous improvement in higher education; it is too new to have shown any lasting changes or quantifiable results in the literature (Quinn, et al., 2009).

The last claim by Quinn, et al. made that AQIP was too new to have shown quantifiable results in the literature. An alternative explanation for lack of quantifiable results in the literature is the slow pace of adapting AQIP as accreditation method in higher education instead utilizing the traditional accreditation method PEAQ. The authors' study published almost ten years after the creations of AQIP by HLC. The authors did not consider the possibility that only 20% of

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higher education institutions adapted the AQIP method as 2009. Most of these quality techniques included leadership role in improving quality. This researcher believes that AQIP is a more holistic approach than ISO 9001 (Quinn, et al., 2009).

ACCREDITATION - Institutions or programs have to meet minimum standards of quality through accreditation to obtain public funding or to secure federal financial aid for the students at their institution (Person, 2007). Since 1959, the federal government has relied on the accreditation process to ensure that the highest level of quality in education was being achieved throughout the country (Eaton, 2003). This section of the literature review will provide the background of accreditation in higher education, and outline the two types of evaluation for accreditation.

BACKGROUND OF ACCREDITATION - Since 1959, the federal government has relied on the accreditation process to ensure that the highest level of quality in education was being achieved throughout the country (Eaton, 2003). Eaton (2003), in conjunction with the Council for Higher Education Accreditation, wrote a report on the accountability of the accreditation process. There was a significant dispute and difference of opinion about the quality provided by accreditation and whether accreditation is meeting the needs of students, government, and the public (Eaton, 2003). As a result, the federal government created an accreditation board to carry out periodic reviews of institutions of higher education. This process, known as recognition, consists of examination of compliance with federal standards. Accrediting organizations are responsible not only for conducting reviews, but also for providing evidence that institutions and programs are performing well in general, and specifically, in student learning (Eaton, 2003). As part of the accreditation process, an institution is required to exhibit to the external review team that it is meeting the standards established by the accrediting agency (Lawrence & Dangerfield, 2001).

The purpose of accreditation is to scrutinize colleges and universities for quality assurance and quality improvement (Budaghyan, 2009). Budaghyan stated the following four purposes of accreditation:

1. **Assuring quality**
2. **Access to federal funds**
3. **Facilitating transfer of credits**
4. **Engendering employer confidence**

PEAQ ACCREDIATION METHOD

The HLC has indicated that accreditation standards and processes have changed over the past ninety years. The PEAQ is the traditional accreditation method. The HLC made major changes to the PEAQ method in the 1930s, in the 1950s, and finally in the 1970s. Even the name of the accreditation took on variations until the HLC settled on the name PEAQ as the standard accreditation method (HLC, 2007). The HLC stated the following in its handbook of accreditation:

The Program to Evaluate and Advance Quality (PEAQ), therefore, on the surface may appear simply to be traditional accreditation renamed. But the name itself, like AQIP, sets goals and objectives of the program. Moreover, by looking at traditional accreditation processes through the lens of a program, the commission is better able to raise important questions about the fit of process to broader goals. In fact, shortly after PEAQ was named, the Board of Trustees adopted as a major goal for the next four years the study of ways to make PEAQ more effective (p. 5.1-1)

PEAQ HAS FIVE CRITERIA

1. Mission and integrity, which means that the organization operates with integrity to ensure the fulfillment of its mission through structures and processes that involve the board, administration, faculty, staff, and students.
2. Preparing for the future, which means that the organization's allocation of resources and its processes for evaluation and planning demonstrate its capacity to fulfill its mission, improve the quality of its education, and respond to future challenges and opportunities.
3. Student learning and effective teaching, which means that the organization provides evidence of student learning and teaching effectiveness that demonstrates it is fulfilling its educational mission.
4. Acquisition, discovery, and application of knowledge, which means that the organization promotes a life of learning for its faculty, administration, staff, and students by fostering and supporting inquiry, creativity, practice, and social responsibility in ways consistent with its mission.
5. Engagement and service, which means that, as called for by its mission, the organization identifies its constituencies and serves them in ways that both parties value (HLC, 2007, Chapter 3.1).

The PEAQ process has been the primary course for institutional evaluation. The PEAQ methodology employs a five-step comprehensive evaluation process to determine continued accredited status.

THE EVALUATION PROCESS IS AS FOLLOWS:

(a) the organization engages in a self-study process;
(b) the HLC sends an evaluation team to the institution;
(c) the documents relating to the comprehensive visit are reviewed;
(d) the evaluation team takes action based on the documents and interviews; and
(e) the committee informs the stakeholders of the final decision (HLC, 2007).

The major processes involved in the PEAQ accreditation process are the self-study report, the evaluation of a team of trained peer reviewers, and final decision by the HLC. The self-study report is supposed to include all important and new developments, whether positive or negative, that occurred since last peer review visit. The self-study process is supposed to engage all faculty and staff within the institution (Snyder, 2006).

AQIP ACCREDIATION METHOD

In July 1999, the HLC introduced an alternative method of accreditation, one that shifted its focus from a model of compliance to one of continuous improvement. AQIP represents a significant change in how higher education institutions achieve accreditation and ensure quality. By sharing its process improvements and the results of those improvements, an AQIP-accredited institution provides evidence that the HLC requires to make judgments about quality (HLC, 2007).

AQIP HAS NINE CRITERIA:

1. Helping students learn, which identifies the shared purpose of all higher education organizations, focuses on the teaching-learning processes, and addresses how the entire organization contributes both to student learning and to overall student development.
2. Accomplishing other distinctive objectives, which addresses the processes that contribute to the achievement of an institution's major objectives that complement student learning and fulfill other portions of the institution's mission.
3. Understanding students' and other stakeholders' needs, which involves examination of how an institution works actively to understand student and other stakeholder needs.
4. Valuing people, which involves exploration of commitment to the development of faculty, staff, and administrators, since the effort of all are required for institutional success.
5. Leading and communicating, which addresses how an institution's leadership and communication structures, networks, and processes guide the institution in setting directions, making decisions, seeking future opportunities, and building and sustaining a learning environment.
6. Supporting institutional operations, which addresses the institutional support processes that help provide an environment in which learning can thrive.
7. Measuring effectiveness, which involves examination how the institution collects, analyzes, and uses information to manage itself and to drive performance improvement.
8. Planning continuous improvement, which involves examination of the institution's planning processes and how strategies and action plans are helping achieve the mission and vision.

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9.   Building collaborative relationships, which involves examination of an institution's relationships, current and potential, to analyze how they contribute to accomplishing the institution's mission (HLC, 2007, Chapter 6.4).

AQIP requires a level of trust between the accrediting body and the institution, as the institution must demonstrate to the AQIP Review Panel that the organization's members are committed to continuous quality improvement. Action projects are dynamic improvement projects that promote learning and cultural change and respond to opportunities for improvement within the institution. Within the first 3 years of participation, the institution, with broad faculty and staff participation, develops a systems portfolio, a public portfolio describing the fundamental institutional systems, covering the nine AQIP criteria, and describing the processes, results, and improvements in each system. The systems portfolio is intended to build shared understanding, consensus, and support for the institution by the institution's employees (Stewart, 2006). However, both sets of accreditation criteria are overseen by the Higher Learning Commission of the Colleges and Schools.

The main intent of AQIP is to help colleges and universities improve their performance and enhance their effectiveness. AQIP uses institutions' perspectives on processes, results, and opportunities for continuous improvement. The AQIP accreditation process assists institutions in preparing for the future and in compiling information needed for decision making. The process starts with a self-assessment of the institution's opportunities for improvement using a quality-based instrument that utilizes the nine criteria of AQIP. These opportunities, along with the feedback from external perspectives, are documented in a systems portfolio that is updated annually. The system portfolio describes the institution's fundamental system. It is created over the first three years of participation in the AQIP accreditation method. The action projects are specific improvement projects used to drive institutions' quality program. Each year, a panel of quality experts review the reports submitted by institutions to determine their progress (Pemberton, 2005).

PEAQ VERSUS AQIP

Each of the accreditation methods has broad criteria under which institutions provide patterns of evidence or provide results. The PEAQ method has five criteria and AQIP, nine criteria. Criteria for both accreditation methods overlap. The HLC attempted to align the five criteria of the traditional PEAQ accreditation and the nine criteria of the new AQIP accreditation method. For example, the HLC explained that PEAQ's criteria one "mission and integrity" is equivalent to AQIP' s first criteria "helping students learn" second "accomplishing other distinctive objectives," third "understanding students' and other stakeholders' needs," fifth "learning and communicating," and eighth "planning continuous improvement" (HLC, 2007, p. 6.2-3).

However, there are many differences between the AQIP and PEAQ accreditation methods and their processes.

1.   AQIP accreditation method is only available to institutions that already have PEAQ accreditation.
2.   If an AQIP accredited institution does not exhibit continual effort to improve, the institution will be returned to PEAQ accreditation.
3.   After passing the accreditation process, a PEAQ accredited institution has eight years before starting to prepare for the next round of accreditation, but an AQDP institution has to show progress through system portfolio every year.
4.   Finally, it is important to note that the HLC acknowledged that PEAQ is less effective than AQIP and made the point stronger by saying "the creation of AQIP made that lesson clear, and it helped the Commission look afresh at the assumption and goals of the traditional process for accreditation" (HLC, 2007, p. 5.1-1).

AQIP INVOLVE THE FOLLOWING SEVEN DOMAINS

1	Leadership	including how senior leadership addresses organizational values, performance expectations, and organizational learning.
2	Strategic planning	including how the organization plans and evaluates objectives.
3	Student, stakeholder, and market focus	which involves how the organization determines stakeholder requirements and addresses stakeholder relationships.
4	Measurement, analysis, and knowledge management	which involves how knowledge assets are managed.
5	Faculty and staff focus	which involves work processes, motivation, and employee learning.
6	Process management	which refers to the evaluation of both educational and support activities.
7	Organizational performance	including the results of student learning, stakeholder satisfaction, financial, budgetary and market performance

Source: Baldrige National Quality Program, 2004, pp. 15-29

LEADERSHIP AND ACCREDIATION

This section will include a review of the literature on the importance of leadership in higher education and related studies of accreditation. In 2003, the Kellogg Foundation funded a study by the American Association of Community Colleges (AACC) to initiate discussions of leadership among community college administrators. Four summits were conducted to gather "opinions relating to leadership within community colleges from experts representing various community college settings" (Vincent, 2004, p. 3). These summits were planned and resulted in the formation of the AACCs Leading Forward Project (Stevenson, 2008).

First, the study was on the leadership regardless of which accreditation method. Hansman explained that HLC is a regional accrediting agency responsible for developing institutional accreditation policies and procedures, has placed an increased emphasis on effective leadership in its two accreditation methods, AQIP and PEAQ. Also, Hansman showed through a systemic review of existing literature that effective leadership can help facilitate organizational change and institutions could benefit from adoption of leadership assessment tools. Hansman cited Bass (1985), Bass and Avolio (1993), Amis, Slack, & Hinings (2004), and Adebayo (2005) as prior studies that demonstrated that individuals within organizations exhibit more transformational leadership characteristics are better able engage and successfully lead through significant organizational change.

Second, Hansman mentioned the four available leadership tools available in the study: the Multifactor Leadership Questionnaire (MLQ), Leadership Practices Inventory (LPI), the leader-member exchange (LMX), and the Multidimensional LMX (LMXMDM). Hansman chose MLQ leadership assessment tool over the other three tools because MLQ has been the subject of much greater scrutiny than the others. An alternative explanation of Hansman' support for the selection of MLQ may be attributed to the type of journals the researcher reviewed that used MLQ more than other three tools. One of Hansman's concerns was that MLQ is intended to provide a "description - not prescription" (p. 22).

Finally, participants in PEAQ schools more interested in MLQ assessment than this in AQIP schools. This was surprising outcome according to Hansman. An alternative explanation of this finding is might be that participants in PEAQ schools are more interested in improving leadership style to stay competitive. Hansman proposed another possible avenue for future research concerns determining what other leadership assessment instruments were in use within colleges and universities, as a handful of the research participants indicated that they were already using some sort of leadership assessment within their organization other than the MLQ.

Bennis (2007) explained that leadership, while always essential, has never been more important than it is now. Experts generally believe that College administrators have a significant impact on the success of the institution (Goldstein, 2007). Ball (2008) stated that understanding the effectiveness of today's community college leaders has long been an important factor. Ball conducted a quantitative study of 77 Chief Institutional Effectiveness Officers. Ball developed the definition of Chief Institutional Effectiveness Officer as an individual who serves as the highest level administrator, other than the position of president that is directly accountable for the institutional effectiveness of the entire institution. The study's objective was to examine to what extent presidents played a role in the implementation of institutional effectiveness as defined by the criteria of the accreditation agency. Also, were there differences in the presidential role in the implementation of institutional effectiveness based upon institution type (single campus versus multi-campus institution), size (denoted how many Full Time

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Equivalent), and institutional location (rural, suburban, or urban). The study findings indicated that the president or CEO is either often or always involved in the most indicators of the implementation of institutional effectiveness. As such, studies on the implementation of institutional effectiveness or improving institutional effectiveness may benefit from examination of characteristics of key institutional leaders. One limitation this researcher found that the distinction of CEO or President and the Chief Institutional Effectiveness Officer (CIEO). CIEO is not well defined and Ball developed the definition. Even Ball indicated in the methodology procedure that CIEO had different titles from different schools that the researcher surveyed. But did not indicate if sometimes that the CEO or President of the institution is same as CIEO. However, this researcher found institution types defined by Ball' study is beneficial to this study.

Leadership in community colleges is particularly complex. Boggs (2004) reported that on college campuses, financial resources are being stretched to the limit. Boggs also noted that employees are overworked and society has witnessed a rise in litigation. Furthermore, there is an increased need to provide evidence that justifies an institution's programs and activities (Boggs, 2004). Leaders in institutions of higher education are expected to provide a positive learning environment on campus to enhance student outcomes. This is required above and beyond the daily responsibilities of maintaining a fiscally and academically sound institution (de Yampert, 2007).

Stevenson (2008) investigated the relationship between the actual and ideal leadership practices of presidents, deans, and their subordinates at community and junior colleges in Mississippi. Each president or dean completed the self-evaluation form of the LPI. The LPI (LPI-self and LPI-observer) was developed by Kouzes and Posner in 1988 and updated by Kouzes and Posner in 1997. Two of their subordinates were randomly chosen from each school to complete the observer form of the LPI. Of the 49 leaders who assesses five leadership practices, each assessed by six statements. Leaders and observers answered six statements, first as participants relate to how leaders actually lead and second, how leaders should ideally lead. Cronbrach's alpha was used to analyze the reliabilities of the six statements for each scale in the LPI. The results of the study found that LPI-self and LPI-observer produced same results. In the current study, the LPI-self will utilized as measure of leadership strength.

Another study of leaders in Fortune 500 companies in which the LPI instrument was utilized was Mancheno-Smoak (2008). The LPI-Self was used in Mancheno-Smoak's study to assess the participants' responses regarding Kouzes and Posner's definition of a transformational leader. The study showed significant correlations between job satisfaction and transformational leadership. In the study, the LPI was utilized in a business setting and this study LPI will be utilized in education setting which may add credibility of LPI usage for leadership measurement. Also, there are five subscales for this measure that include: Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, and Encourage the Heart. Thirty items comprise the LPI-Self. Mancheno-Smoak (2008) reported that this instrument had an internal reliability coefficient consistently above .75. The test-retest reliability coefficient was above .90, and factor analyses with the five constructs remain consistently supportive with the data over time.

SUMMARY

The review of the literature identified and summarized key themes in references on the importance of leadership in the accreditation process. The accreditation agency Higher Learning Commission (HLC) responded to higher accountability and quality education by stakeholders and introduced AQIP accreditation in 1999 as an alternative to already existing traditional PEAQ accreditation method. AQIP utilizes the Baldrige criteria for continuous improvement quality. The HLC acknowledged that PEAQ is less effective than AQIP. Yet, institutions of higher education are choosing the AQIP accreditation method as a voluntary practice. Most of the higher education institutions are still utilizing PEAQ as the accreditation method. Strong leadership styles of institutions' administrators contribute to an institution's success and effectiveness. The literature indicates that more research is needed on the comparison of the two accreditation programs, AQIP and PEAQ, in relation to leadership styles. The study provided reliability and validity for the instrument used. A study of the relationship of leadership style to AQIP and PEAQ accreditation methods will contribute much-needed data to the topic of quality improvement and accreditation in higher education.

RECOMMENDATIONS

The purpose of this study is to examine the extent to which PEAQ and AQIP accredited organizations differ based on Leadership Practices Inventory (LPI) (Kouzes & Posner, 2003), leaders' tenure (CEO), institution size (denoted how many Full Time Equivalents), institutional location (rural, suburban, or urban), institution type (highest degree offered), and age of the institution among institutions of higher education.

Based on the study, recommendations are presented to aid further research in this area. Study results are expected to allow leaders of higher education institutions and Higher Learning Commission access to knowledge to select AQIP accreditation that designed as best practice method and improve the rate of AQIP accreditation method adoptions: practical recommendations and recommendation for future research.

PRACTICAL RECOMMENDATIONS

The AQIP was specifically designed to address weakness in PEAQ and is considered to reflect best practices in higher education (HLC, 2007, p. 5.1-1). The literature review and associated empirical research have indicated a knowledge gap in the factors related to AQIP adoption while support AQIP as a better method than PEAQ for quality education and continuous improvement process (Garcia, 2009; Jenkins, 2008, & Rothgeb, 2008). One recommendation is to have HLC to require all PEAQ institutions to adapt AQIP accreditation method for one cycle instead of leaving it as voluntary basis.

Many institutions may stay with AQIP accreditation and not revert to PEAQ method. Because MA and higher instructions are less likely to adopt AQIP than PEAQ, effort may be needed to understand the barriers that exist to AQIP adoption for these schools. Also, I recommend that HLC consider making these findings from this research and other related researches available to the leaders of PEAQ institutions.

FUTURE RESEARCH

Future research is needed on the accreditation method differences in leadership style utilizing both the self-LPI and observed-LPI. The data collected represent perceptions of leadership behavior versus actual leadership style (Avolio & Bass, 2004). Research encompassing perceived and actual behaviors would allow for better assessment and help in judging the accuracy of perceptual data. Future research is needed as the current study focuses on Higher Learning Commission, so results may be generalizeable to the whole population. Also, researchers of future studies may want to limit the research to the leaders of institutions that went through one cycle of accreditation. Future researchers may also wish to consider additional variables to give deeper meaning to the factors associated with AQIP addition, which may prove valuable to the institutions leaders, HLC, and stakeholders.

CONCLUSION

The problem addressed in this study is the slow adoption of AQIP accreditation, which reflects best practices in higher education. Limited accountability exists under the traditional accreditation method, PEAQ. The purpose of this study was to examine the extent to which PEAQ and AQIP accredited organizations differ based on Leadership Practices Inventory (LPI), leaders' tenure (CEO), size of the institution (denoted how many Full Time Equivalent), institutional location (rural, suburban, or urban), institution type (highest degree offered), and age of the institutions among institutions of higher education. The study indicated there is a difference in the subscale of LPI "modeling the way" leadership practices based on accreditation method, with AQIP instructions evidencing higher levels than PEAQ institutions. Also, the study indicated there is a difference in the type of institution (highest degree offered) based on accreditation method. The result indicated that associate degree granting institutions were more than twice as likely to use the AQIP accreditation method. The study should be replicated and empirically verified before the study can be generalized to other regions. Conducting the study with additional variables will add to the depth of information. Expanding and gathering actual leadership behavior verses perceived leadership behavior is recommended.

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VOLATILITY OF AGGREGATE MARKET INDICES

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ABSTRACT

The purpose of the paper is to establish and validate the long term relationship of stock prices in Indian context. This gives a strong subjective background to test the existence of relationship between market index and other sector indices. The paper primarily deals with an empirical method by combining different statistical techniques to check the presence of co-integration between the stock index (Sensex) and other sector indices. Co-integration is a well accepted indicator of a long term relationship between more than one time series variables. Concepts of time series modeling and regression are also visited to the extent required for the study. A step by step process was followed, though a basic one, to bring out the conclusion regarding the existence of co-integration between the given time series variables. The study takes into consideration past ten years data which reflected in the stock index. A causal relationship could not be established without the existence of co-integration between the selected indices. The paper also tries to combine the techniques with sophisticated statistical software by using E-views for all the statistical processes used. At the end, the paper also explains various other factors which may affect the outcome of the quantitative techniques used. It also puts emphasis on the strong subjectivity of the inferences drawn from the results.

KEYWORDS
Stock Market, Volatility of Market.

INTRODUCTION

During the last decade the world financial market experienced a rapid growth of emerging stock markets. Studies related to these markets show that equities from emerging stock markets have different characteristics than equities from developed stock markets. Four distinguishing features of emerging market returns are higher sample average return, low correlations with developed market returns, more predictable returns and higher volatility. Because of the current international status and growth rate of emerging markets, many researchers focus on the volatility of these markets. For example, Choudhry (1996) studies volatility, risk premium and the persistence of volatility in six emerging markets; Argantina, Greece, India, Mexico, Thailand and Zimbabwe, before and after the 1987 stock market crash. Santis and Imrohoroglu (1997) study the dynamics of expected stock returns and volatility in emerging financial markets. They find clustering, predictability and persistence in conditional volatility in these markets. Bekaert and Harvey (1997) analyze the reasons that volatility is different across emerging markets, particularly with respect to the timing of capital market reforms. They find that capital market liberalizations often increase the correlation between local market returns and the world market but do not drive up local market volatility. More recently Agarwal, Inclan and Leal (1999) examine global and local events that cause large shifts in the volatility of emerging stock markets.Different statistical models such as the rolling standard deviations, parametric ARCH or stochastic-volatility models have been used in these studies. In this chapter, traditional method of volatility estimation by computing the monthly standard deviations based on daily return observation to analyze the time-varying volatility of aggregate market indices of Indian Stock Exchange is applied. The objective is to determine whether Indian Stock Exchange is characterized by high volatility. It is to examine when large changes in the volatility of Indian Stock Exchange returns occur and what events (political, social, and economic) took place around the period of increased volatility.

DATA AND VOLATILITY MEASUREMENT

The behavior of stock volatility is analyzed using eleven daily aggregate indices:
BSE 500;
BSE 200;
BSE 100;
SENSEX;
Consumer Durable Sector Index (CD);
Consumer Goods Sector Index (CG);
Auto Sector Index;
FMCG Sector;
Healthcare Sector Index;
IT sector Stocks, Metal Sector; and
Oil and Gas Sector Index.

SENSEX is composed of 30 companies and it is the main index of the Indian Stock Exchange others indices are the sector indices of Indian Stock Exchange. The data is obtained from the Capitaline database and Bombay stock Exchange. The data for period January 3, 2000 to December 30, 2009 is used. Throughout this paper, stock market returns are defined as continuously compounded returns at time t calculated as the natural log difference in the closing market index between two dates.

French, Schwert and Stambaugh (1987) and Schwert (1989) method is used to calculate monthly standard deviation of stock return as a measure of volatility. To estimate the monthly standard deviation of stock returns using the daily returns to Eleven market indices. The estimator of the variance of the monthly return is the sum of the squared daily returns after subtracting the average daily return in the month:

Formula,

$$\sigma_t^{\;2} = \frac{1}{N_{t-1}} \sum_{i\,\tilde{}\;1}^{N_{t-1}} r_{it}^{\;2}$$

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Where there are N_t daily returns r_{it} in month t. Using non-overlapping samples of daily data to estimate the monthly variance creates estimation error that is uncorrelated through time.

FIGURE 1: VOLATILITY OF SENSEX INDEX
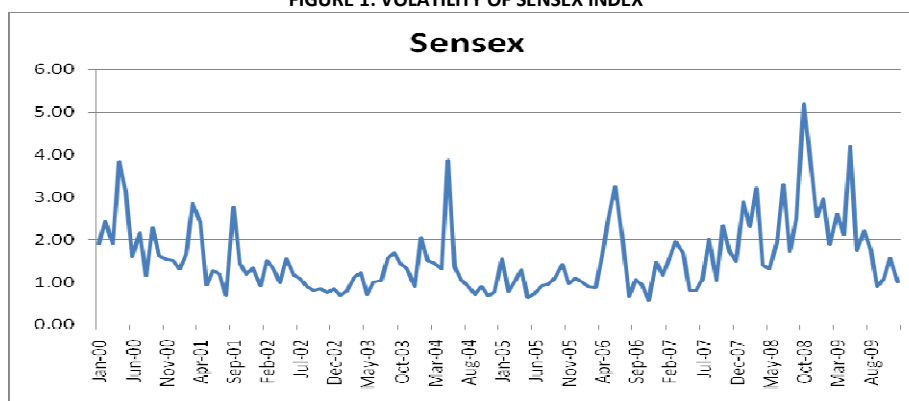
(Monthly: January 2001 – December 2000)

DISCUSSION ON CYCLICAL BEHVIOUR OF AGGREGATE MARKET INDICES

This section discusses the result of the data analysis keeping in view the objective of the study. The main focus is to investigate the level of long – run relationship and the integration that exists between market index and sector based indices. The statistical and econometric methods applied to investigate are follows:

- Descriptive Statistics of daily returns.
- Correlation Test
- Unit root test
- Johansen Co-integration Analysis (Bilateral and Multilateral) and Dickey fuller test
- Granger Causality Test

TABLE - 1: DESCRIPTIVE STATISTICS OF DAILY RETURNS OF MARKET INDEX AND SECTOR INDICES

Indices	AUTO	BSE 100	BSE 200	BSE 500	CD	CG	FMCG	HC	IT	METAL	OIL	SENSEX
Mean	0.08	0.06	0.07	0.07	0.06	0.12	0.05	0.04	0.06	0.12	0.10	0.06
Median	0.14	0.19	0.19	0.21	0.11	0.16	0.05	0.10	0.05	0.18	0.12	0.14
Maximum	11.21	16.75	16.31	15.74	13.29	21.90	8.76	8.06	15.61	16.10	19.11	17.34
Minimum	-10.43	-11.25	-11.87	-11.70	-11.01	-14.58	-10.55	-8.31	-19.99	-13.30	-14.97	-11.14
Std. Dev.	1.70	1.84	1.81	1.79	2.14	2.06	1.58	1.46	2.64	2.46	2.10	1.79
Skewness	-0.27	-0.15	-0.25	-0.32	-0.14	0.22	-0.04	-0.36	-0.08	-0.21	-0.10	0.02
Kurtosis	6.04	8.65	8.84	8.68	6.71	11.07	6.47	7.19	8.46	6.61	10.15	9.40
Jarque-Bera	989.79	3323.51	3572.74	3394.52	1441.83	6793.95	1249.91	1879.91	2978.58	1375.08	5314.48	4253.98
Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sum	204.48	160.86	164.37	167.05	147.97	299.52	117.84	106.99	142.03	299.04	250.15	157.63
Sum Sq. Dev.	7247.72	8442.24	8167.17	7953.84	11393.21	10541.64	6212.07	5298.07	16621.07	15063.66	10958.74	7947.84
Observations	2495.00	2494.00	2494.00	2494.00	2494.00	2494.00	2494.00	2494.00	2392.00	2495.00	2495.00	2494.00

DESCRIPTIVE STATISTICS

Table 3 Provides descriptive statistics of daily returns on index respectively four market indices and eight sector indices are included in the study from January 1, 2000 to December 31, 2009. Daily renters are calculates as log of price relative. It is evident from the table that there is significant positive mean return for all the indices. The highest mean return for all the indices. The highest mean return is found in consumer goods sector and metal with 0.12 percent. Mean returns of market is 0.06 percent and returns in health care sector with 0.04 percent. The volatility of a measured by standard deviation less volatility is found in health care sector 1.58 followed by FMCG with 1.58. Highest volatility is found in IT sector 2.64 followed by metal with 2.46 all market indices have almost same level of volatility between 1.79-1.84.

Sensex return is skewed to the right while the rest are skewed to the left and all other indices are skewed right indicating that distribution is spread to the low-value end i.e. excess tail is on left-hand side. Kurtosis[3] measures the peakedness of the return, the coefficient of kurtosis are high for all selected indices inferring it is more close bunched around the mode since coefficient of kurtosis is greater than 3 it is mores peaked than the normal curve. Jarque-Bera is a test statistic for testing whether the series is normally distributed. The test statistic measures the difference of the skewness and kurtosis of the series with those from the normal distribution. Jorque - Bera statistics is high in all the indices, which means that the null-hypothesis of normal distribution of return in selected indices rejected.

FIGURE 2: INDEX PRICE SERIES OF SELECTED INDICES FROM 2000 - 2009

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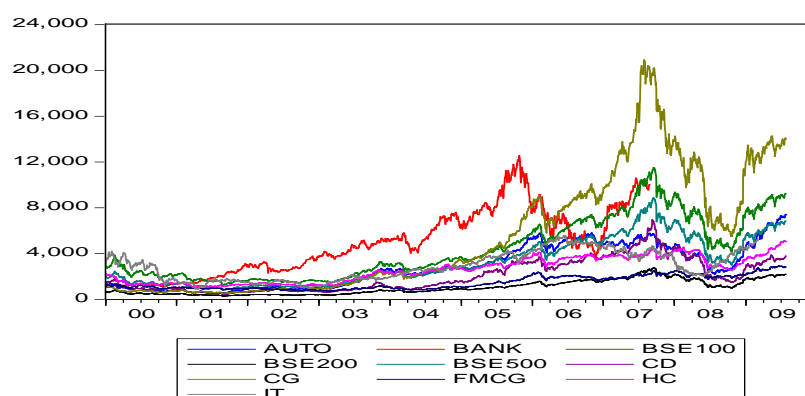
Figure shows the long-run stock price variations in each of selected indices. The market crashed in 2001 and started picking up from 2004. Between 2006 - 07 market was at all time high reaching 23,000 marks. In 2008 again market crashed owing the downturn in world market. A complement to standard descriptive statistics is displayed along with the histogram. All of the statistics are calculated using the observations in the current sample Histogram is used to study the distribution of indices. It includes mean, median, standard deviation, maximum, minimum value, skewness and kurtosis.

FIGURE3: DISTRIBUTION OF SENSEX FROM JANUARY 2000 TO DECEMBER 2009/FIGURE 4: STOCK PRICE MOVEMENT, TREND AND CYCLE OF SENSEX


```
Series: SENSEX
Sample 1/03/2000 12/31/2009
Observations 2495

Mean          8301.749
Median        6227.830
Maximum       20873.33
Minimum       2600.120
Std. Dev.     4976.311
Skewness      0.672417
Kurtosis      2.109829

Jarque-Bera   270.3937
Probability   0.000000
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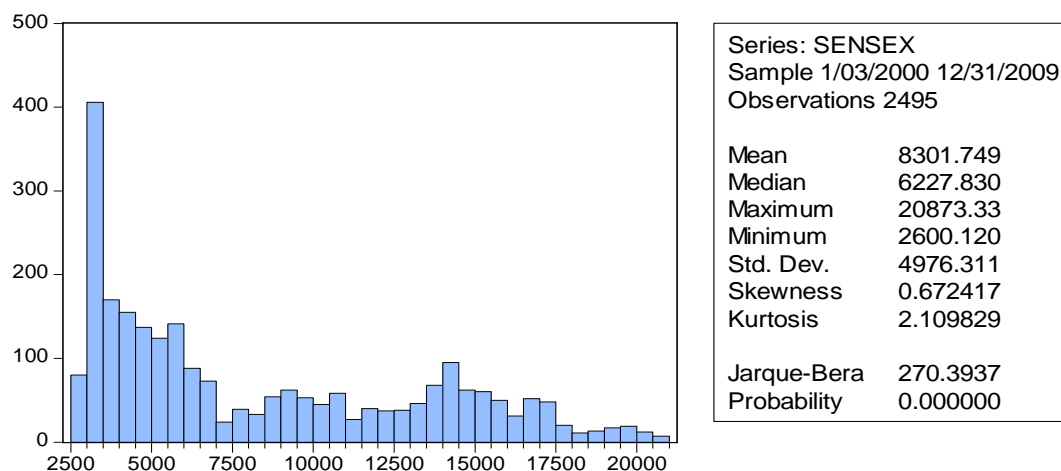
TABLE - 2: CORRELATION MATRIX FOR INDICES BASED ON RETURN

	AUTO	BSE100	BSE200	BSE500	CD	CG	FMCG	HC	IT	METAL	OIL
BSE100	0.25										
BSE200	0.27	1.00									
BSE500	0.28	0.99	1.00								
CD	0.28	0.71	0.73	0.74							
CG	0.29	0.82	0.83	0.83	0.68						
FMCG	0.20	0.67	0.67	0.66	0.50	0.54					
HC	0.29	0.73	0.75	0.75	0.63	0.66	0.58				
IT	-0.02	0.002	0.004	0.004	-0.003	0.02	0.01	-0.02			
METAL	0.71	0.23	0.25	0.26	0.26	0.27	0.17	0.25	-0.02		
OIL	0.67	0.25	0.28	0.29	0.25	0.28	0.17	0.24	-0.02	0.72	
SENSEX	0.24	0.97	0.97	0.96	0.67	0.81	0.71	0.72	-0.003	0.20	0.22

Correlation test, preliminarily indication of relationship, is correlation between market indices and sector indices. Table gives the correlation coefficient (two – tailed) for 12 bilateral pairs of selected indices. It is observed that there is high positive correlation between BSE 100, BSE 200 BSE 500 and consumer durables r =0.83. There is perfect positive correlation between all the market indices. r = 1. The return of IT sector does not have relationship with the returns of other sector return as r =0. The return on IT sector is not even selected to the return on market indices. The return of Consumer Durable, Consumer Goods, FMCG, and Health Care has high positive relationship with market. Whereas metal, oil, auto show less positive association. Correlation of Index movement of market and other sector are highly positive correlated with r-value ranging from 0.67 to 1.

UNIT ROOT TEST

HYPOTHESIS 1

H_0: Unit root exits, the time series is non-stationary and the series I (1).

H_1: Unit root does not exist, the time series is stationary and the series is I (0).

TABLE 3: AUGMENTED DICKEY-FULLER TEST (ADF) FINDING FOR LEVEL FOR VARIOUS

	AUTO	CD	CG	FMCG	HC	IT	METAL	OIL	SENSEX	BSE100	BSE200	BSE500
ADF t-value	0.68	-0.84	-0.39	0.09	0.27	-0.73	-0.23	-0.45	-0.25	-0.26	-0.26	-0.27
Critical Value of t (1%)	-3.43	-3.43	-3.43	-3.43	-3.43	-3.43	-3.43	-3.43	-3.43	-3.43	-3.43	-3.43
Critical Value of t (5%)	-2.86	-2.86	-2.86	-2.86	-2.86	-2.86	-2.86	-2.86	-2.86	-2.86	-2.86	-2.86
Lag Length	1	2	1	0	1	0	1	1	1	1	1	1
H_0	Accepted										
Data Character	Non - Stationary										

TABLE 4: AUGMENTED DICKEY-FULLER TEST (ADF) FINDING FOR FIRST DIFFERENCE

	AUTO	CD	CG	FMCG	HC	IT	METAL	OIL	SENSEX	BSE100	BSE200	BSE500
ADF t-value	-43.39	-31.19	-42.86	-48.11	-45.17	-36.05	-44.11	-45.65	-46.05	-44.92	-44.46	-43.91
Critical Value of t (1%)	-3.43	-3.43	-3.43	-3.43	-3.43	-3.43	-3.43	-3.43	-3.43	-3.43	-3.43	-3.43
Critical Value of t (5%)	-2.86	-2.86	-2.86	-2.86	-2.86	-2.86	-2.86	-2.86	-2.86	-2.86	-2.86	-2.86
Lag Length	0	1	0	0	0	1	0	0	0	0	0	0
H_0	Rejected										
Data Character	Integrated of order one I (1)										

Table results of the unit root test bases on ADF t - statistical are presented in the table. The critical values of the tests are obtained from the table values. Tables by Mackinnon (1996) one - side value are used. Lag length is chosen automatically based on SIC, MAXLAG. Table - 4 shows that the null hypotheses of unit root is not be rejected at 5 percent and 1 percent confidence levels in all of selected market and sector indices. As illustrated in the table, ADF t- values for all indices are higher than the critical values, implying that the series are non-stationary. The null hypothesis of the unit root at first difference is rejected for all indices as

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shows in table 5.8. Statistics of the ADF lie to the left of the critical values implying that the series are stationary at first difference level. The result for all the indices are consistent there is a possibility that co-integration among the series exist.

BI-LATERAL CO-INTEGRATION

Johannes co integration test is performed for each of 58 bilateral pairs identifies with in the group of selected indices for each pair, co integration rack of a and I are examined by comparing the trace statistic to corresponding critical values at 5% and 1% if the trace value is higher than critical values, then co integration exist at that level and vice versa the null hypothesis in the test holds that r = 0 (No co- integration exists) while the alterative holds. That r = 1 (co-integration exists) failure to reject the null hypothesis implies that variables are not co-integrated, where as positive rejection implies that there is at least on co-integrated equation. The result of the Johansen co-integration test for each of the 58 bilateral pair of the selected indices is summarized in Table - 5.

HYPOTHESIS -2

H_0: No bi-variate co integration exists.

H_1: Bi-variate co –integration exists.

TABLE 5: RESULT OF BILATERAL CO-INTEGRATION AMONG SELECTED STOCK INDICES

Indices	Hypothesized number of co-integrated equation	Trace Statistic	5% Critical Value	5% Critical Value
Auto - BSE – 100	None	9.0313	15.49	19.94
Auto - BSE 200	None	9.2056	15.49	19.94
Auto -BSE 500	None	9.7881	15.49	19.94
Auto – Sensex	None	8.5891	15.49	19.94
Auto – CD	None	14.244	15.49	19.94
Auto – CG	None	6.8863	15.49	19.94
Auto – FMCG	None	4.6846	15.49	19.94
Auto – HC	None	14.75	15.49	19.94
Auto – IT	None	11.641	15.49	19.94
Auto – Metal	None	9.8128	15.49	19.94
Auto – Oil	None	4.3995	15.49	19.94
BSE 100 - BSE 500	None	5.2735	15.49	19.94
BSE 100 - BSE 200	None	5.4597	15.49	19.94
BSE 100 – Sensex	None	13.391	15.49	19.94
BSE 100 – CD	None	5.978	15.49	19.94
BSE 100 – CG	None	10.584	15.49	19.94
BSE 100 – FMCG	None	5.7428	15.49	19.94
BSE 100 – HC	None	5.1621	15.49	19.94
BSE 100 – IT	None	15.194	15.49	19.94
BSE 100 – Metal	None	5.9018	15.49	19.94
BSE 100 – Oil	None	5.4798	15.49	19.94
BSE 200 - BSE 500	None	4.6116	15.49	19.94
BSE 200 – Sensex	None	7.3326	15.49	19.94
BSE 200 – CD	None	5.9767	15.49	19.94
BSE 200 – CG	None	9.6421	15.49	19.94
BSE 200 – FMCG	None	5.2345	15.49	19.94
BSE 200 – HC	None	5.5364	15.49	19.94
BSE 200 – IT	None	14.205	15.49	19.94
BSE 200 – Metal	None	6.6874	15.49	19.94
BSE 200 – Oil	None	5.1352	15.49	19.94
Sensex – CD	None	7.1019	15.49	19.94
Sensex – CG	None	9.9021	15.49	19.94
Sensex – FMCG	None	5.7298	15.49	19.94
Sensex – HC	None	4.9416	15.49	19.94
Sensex – IT	None *	15.715	15.49	19.94
Sensex – Metal	None	5.907	15.49	19.94
Sensex – Oil	None	5.6342	15.49	19.94
CD – CG	None	8.3818	15.49	19.94
CD – FMCG	None	4.219	15.49	19.94
CD – HC	None	4.4186	15.49	19.94
CD – IT	None	14.707	15.49	19.94
CD – Metal	None	2.8532	15.49	19.94
CD – Oil	None	4.7511	15.49	19.94
CG – FMCG	None	6.6586	15.49	19.94
CG – HC	None	4.9201	15.49	19.94
CG- IT	None	10.157	15.49	19.94
CG – Metal	None	7.7091	15.49	19.94
CG – Oil	None	11.725	15.49	19.94
FMCG – HC	None	4.8452	15.49	19.94
FMCG- IT	None	8.1655	15.49	19.94
FMCG – Metal	None	5.6534	15.49	19.94
FMCG – Oil	None	6.38	15.49	19.94
HC – IT	None	6.8341	15.49	19.94
HC – Metal	None	8.2677	15.49	19.94
HC – Oil	None	4.9889	15.49	19.94
IT – Metal	None	10.159	15.49	19.94
IT – Oil	None	8.3785	15.49	19.94
Metal – Oil	None	5.3926	15.49	19.94

Trace test indicates 1 co-integrating eqn (s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

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The result of Johansen co-integration test indicates that integration among selected stock indices is minimal. Out of 58 bilateral pairs of 11 stock indices, one pair is found to be co-integrated i.e., the market index Sensex and Information Technology stock. The selected market indices and sector indices are not co-integrated because; the trace statistics are less than the Critical value at both 5% and 1%. Only in case of integration between Sensex and IT sector exist as the trace statistics so null hypothesis is accepted. Table 5 shows that no co-integration exist between all other pairs

MULTILATERAL CO INTEGRATION

The Johansen co –integration test is performed for twelve set of selected market indices to investigate integration of these indices as group analysis using the Multiple Equation, is based on VAR model, the VAR model of order 2, is chosen acceding to AIC contain 12x1 vector that contain Logarithms of share price index of 12 indices. The multivariate approach examines co integrating vector in the stochastic matrix possible number of matrix. A sequence of hypotheses test using maximum likelihood method, establishing the greatest possible number of vector within the system.

The analysis of Johansen multivariate approach is to test null hypothesis of r co integrated vectors against the alternative that r+1 co integrated vectors are present where r is the number of hypothesized co integration equations. The Null hypotheses assume that for each row of numbers: zero at most one, at most two so on till at most eleven. The alternative hypotheses states one, two, three, four to eleven co – integration equation respectively for each row. As long as trace statistics exceeds critical values at 5% or 1%, the alternative accepted. The results of test are present in Table 4.10.

HYPOTHESIS -3

H_0: r =0 NO multilateral co-integration exists.

H_1: r =1 Multilateral co-integration exists.

TABLE 6 : RESULT OF MULTILATERAL CO-INTEGRATION AMONG SELECTED STOCK INDICES

Trend assumption: Linear deterministic trend

Hypothesized No. of CE(s)	Trace Statistic	5% Critical Value	1% Critical Value
None *	417.6811	334.9837	351.2421
At most 1 *	321.4965	285.1425	300.2879
At most 2 *	245.2836	239.2354	253.2348
At most 3	189.9102	197.3709	210.0548
At most 4	142.7832	159.5297	171.0905
At most 5	101.6739	125.6154	135.9732
At most 6	72.35678	95.75366	104.9615
At most 7	47.40551	69.81889	77.81884
At most 8	27.10295	47.85613	54.68150
At most 9	14.50918	29.79707	35.45817
At most 10	6.379869	15.49471	19.93711
At most 11	0.472348	3.841466	6.634897

Trace test indicates 3 co-integrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level and 0.01 level

**MacKinnon-Haug-Michelis (1999) p-values

As illustrated in the table, the trace statistics indicate three co integration vector at 5% and 1% significance level among the indices selected. Since trace statistics 417.68 exceeds the 5% and 1% critical values, it is possible to reject the null hypothesis of no co integration vector, indicating that there are three co-integration equations. For the fourth null hypothesis, the trace statistics of 189.91 is less than the 5% and 1% critical values, which implies that the hypothesis cannot be rejected, indicating that there is at most one co integrating vector. Findings of multilateral co-integration indicate that the level of integration with respect to the group of twelve selected indices is low because only three co-integrated vector is found. The result of the Johansen multivariate test on the group of twelve selected indices has supported the proposition of integration across all twelve indices on bilateral basis because only one pair is found to be integrated.

GRANGER CAUALITY TEST

The finding of co-integration testing do not indicate the direction of relationship among selected market indices, Granger causality test is performed to examine the casual relationship among these indices. If two variables are co-integrated, Granger causality must exist at least in one direction. The Granger causality approach seeks to determine how much of a current variable Y can be explained by past values of Y and lagged values of another variable X. There are four possible patterns of the test. There can be unconditional causality from X to Y. There can be unconditional causality occurs from Y to X, There can be bidirectional causality. NO causality exists between X and Y.

HYPOTHESIS -3

H_0: No Causality exists between Sensex and Sector Indices.

H_1: Causality exists between Sensex and Sector Indices.

The Granger causality test is applied to log values for the twelve selected indices Table 7 presents the output of the test, which includes calculated F- statistics and the probability for each pair of the market index and sector indices. If the probability of non – causality is less than 0.25, the hypothesis of non – causality is rejected implying that the casual relationship exists. Findings of Granger causality test show clearly that the causality in terms of co – dependencies on each other's lagged indices runs from Sensex i.e. market index and other selected sector indices. As illustrated in Table 7, the probability of accepting the null hypothesis that Sensex returns does not cause Auto sector return is 0%, which means the auto return is affected by Sensex return by 100 percent. Likewise the Consumer Durable sector return is also affected by market return by 99 percent. Consumer Goods sector return is affected by 95 percent by Sensex return, FMCG returns are affected by 80 percent, Health-Care returns are affected by 88 percent. IT sector returns are affected by 93 percent and Metal sector and Oil sector returns are affected by market return by 100 percent. The causality test indicates that market returns are independent variable. The result suggests a Granger causality running from only Market to other sector indices.

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TABLE 7 : RESULT OF GRANGER CAUSALITY AMONG SENSEX AND SECTORAL INDICE

Null Hypothesis:	Obs	F-Statistic	Prob.
SENSEXRETURN does not Granger Cause AUTORETURN	2492	725.61	0.00
AUTORETURN does not Granger Cause SENSEXRETURN		0.0733	0.9293
SENSEXRETURN does not Granger Cause CDRETURN	2492	6.25156	0.002
CDRETURN does not Granger Cause SENSEXRETURN		2.39797	0.0911
SENSEXRETURN does not Granger Cause CGRETURN	2492	3.10794	0.0449
CGRETURN does not Granger Cause SENSEXRETURN		3.6097	0.0272
SENSEXRETURN does not Granger Cause FMCGRETURN	2492	1.63498	0.1952
FMCGRETURN does not Granger Cause SENSEXRETURN		8.83762	0.0001
SENSEXRETURN does not Granger Cause HCRETURN	2492	2.14256	0.1176
HCRETURN does not Granger Cause SENSEXRETURN		3.74642	0.0237
SENSEXRETURN does not Granger Cause ITRETURN	2390	2.61673	0.0733
ITRETURN does not Granger Cause SENSEXRETURN		0.97827	0.3761
SENSEXRETURN does not Granger Cause METALRETURN	2492	833.871	0.00
METALRETURN does not Granger Cause SENSEXRETURN		1.39489	0.2481
SENSEXRETURN does not Granger Cause OILRETURN	2492	855.885	0.00
OILRETURN does not Granger Cause SENSEXRETURN		1.28192	0.2777

CONCLUSION AND SUGGESTIONS

Aggregate volatility is analyzed using market and sectoral indices: Sensex, BSE 100, BSE 200, and BSE 500 Indices. Financial sector index, consumer durable sector index, consumer goods sector index and other indices. Using the daily returns, the monthly standard deviations of stock returns are estimated as a measure of volatility. The plots of the volatility measures show an upward trend in volatility in all indices. This result confirms that the investor has the correct impression about the increased stock market volatility in Indian Stock Exchange. The plots also reveal that the sectoral indices also shows upward trend. All volatility plots have significant jumps during the times of important political and economic events of India.

The increased volatility during 2000 - 2001 was due to dot com bust. Beginning of year 2000, the market was bolstered by a positive investment environment supported by the IMF-backed disinflation program, with 5.6% GDP increase year-to-year, high confidence due to financial sector reforms, new license policy, FEMA, and a decline in interest rates and inflation. Positive news included a new law snowing international arbitration between the government and foreign investors, and new measures to prevent insider trading. Despite these reforms, investor confidence declined and share prices plunged because of political turmoil.

After a period of robust global growth and favorable economic conditions in 2006, global financial markets entered a turbulent phase because of the subprime crisis which started in mid-2007. Non-performing housing loans, declining global equity prices and the rising cost of default protection on corporate bonds forced some major banks in the US incurred losses. Alongside, the tightening of banking credit standards in major industrial economies has reinforced worries of an impending credit crunch. The impact has been compounded by the volatility in international food and oil prices. These effects have impacted global economic growth in the current year as well as next.

The increased FII flows till 2007-08 reversed its trend in 2008-09. The judgment about excess volatility of capital flows will depend not merely on the quantity of the flow, but to some extent on the quality in terms of components of the capital flow i.e., whether capital flows are of enduring nature or temporary. Strategic management of the capital account would warrant preparedness for all situations.

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STUDENT FEED BACK: A TOOL TO ENHANCE QUALITY IN ENGINEERING EDUCATION

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ABSTRACT

In an environment of global competitiveness it is important to see that our products of technical education institutions are as competent as graduates of any other country, not only in their scholastic attainment but also in terms of the value system and richness of their personality. Unless the quality and standard of our technical education institutions are enhanced zealously and sustained at a high level through innovation, creativity and regular monitoring. One of the most difficult problems in engineering education is concerned with the evaluation of the effectiveness of teaching. Teaching is complex process which involves the selection of ideas like concepts, values, skills and planning of experiences designed to foster mastery of these ideas in the people subjected to the educational process. Evaluation is inevitable in education and is required in all phases and at all levels of the education. There are different methods to evaluate a teacher; this paper concentrates on the faculty appraisal by students to enhance the quality in technical education.

KEYWORDS
Evaluation, Feedback, Quality.

INTRODUCTION

Helterbran (2008) suggests that teaching is a complex process that "involves the interweaving of content knowledge, pedagogy skills and a knowledge and appreciation of the multi-faceted nature of students to, in the end, be able to point to evidence that learning has occurred. The process of learning is one of the key elements of education; without it there is no legitimacy for any educational institution. Any discussion about education quality should refer to the learning process and its results, proven by the students through various tests, competitions, examinations. In order to accomplish a quality education, it is necessary that students prove a thorough learning process. This is possible only if students are motivated in this respect. In order to be motivated, it is essential to involve the students, especially in the relationship with the faculty, a relationship which must be profound. All these types of assessment reflect a facet of the faculty and together they offer the whole portrait, as it is perceived in the educational environment. The quality of education provided to the students relies on the quality of academic staff, as a result of the analysis of three components: student assessment, peer assessment and institutional assessment of the teaching staff. Without diminishing the importance of any of these evaluations, we consider that the influence of the interaction with students by means of the educational and teaching process is a very important and accurate one. Actually, it defines the faculty's pedagogical and teaching dimension and justifies his/her presence in that educational context. This aspect of the faculty's image is as it is perceived by the students.

NECESSITY OF EVALUATION

Regardless of purpose of student evaluations, formative or summative, their use implies belief in the following principles (Stockham & Amann, 1994):
1. Learning is an active process and student involvement is an integral part of that process.
2. Student characteristics and behaviors impact perception of and interaction with the teacher.
3. Teachers view their teaching with regard to the paradigms of their students in order to facilitate change and build for growth.
4. Teachers recognize that students can make important contributions to the teaching-learning process.
5. The teaching-learning process is dynamic and should change over time and with context.
6. It acts as a measure of control.
7. It makes accountability of the teaching-learning process.
8. Acts as a media to evaluate faculty.
9. Creates the assessment feature in students' fraternity.
10. Builds relation between the faculty and students.

OTHER SIDE OF THE RIVER

Usually in all academic activities the learner is always assessed at regular intervals and that makes him to improve, but here in the faculty assessment the student is on the other side of the context, getting a chance to assess the teacher by sitting on the other side of the river.

Students need not be silent partners in the improvement of teaching learning process. Students have a front row seat to observe teachers' behavior and class room processes and are the best judge of what they have learned (Scriven, 1995). Actively seeking students' responses in colleges and universities are sending the message that they honor and support the teaching-learning process. Students' evaluations provide important feedback from the consumer's point of view. the use of standardized evaluations implies, though, that students have the ability to make fair, overall judgments about teaching effectiveness based on legitimate factors that actually relate to effective teaching and learning (Harrison, 1996) have suggested that college students in general possess self-insight in to how they make judgments concerning their faculties since they have an implicit awareness of the relative importance of the factors they are considering.

NEGATIVE IMPLICATIONS IN THE STUDY

Wachtel (1998) question whether students have the capacity to actually evaluate teaching and teaching effectiveness. Although hundreds of papers have been written regarding the effectiveness of student evaluations on faculty performance, such papers cannot be easily summarized. Researcher's opinions run the gamut from valid, reliable, and useful to invalid, unreliable, and useless. Many articles appear in journals that focus, not on how to more effectively teach the discipline, but on how faculty teaching is evaluated. Researchers frequently point out that because student's ratings are often used to both establish teaching competence and as a component of overall faculty evaluation, the origins of the ratings and the influences on the ratings are critical to consider. Moore (2008) notes many of these controversies in a recent work that also addresses the perceptions students hold regarding evaluation processes. Published studies of course and faculty evaluation by students generally fall into two separate but related areas. The first area addresses the accuracy of perceptions by students' on faculty performance, while the second research focuses on the sources of students' perceptions about teaching effectiveness. The first area, accuracy of perceptions, often involves grading leniency as related positively to student evaluation, a commonly held perception among faculty. The students who extended effort learned more and were subsequently rewarded, rated faculty more highly than simply expected grade.

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BASIS FOR EVALUATION

Feldman (1988) compared the opinions of college faculty with those of college students as to what teacher characteristics resulted in what one might call good teaching. Faculty and students agreed on nine points. They are as follows.

1. Knowledge in the subject/discipline;
2. Course preparation and organization;
3. Clarity and understandability in the course;
4. Enthusiasm for subject/teaching;
5. Sensitivity and concern with students' level and learning progress;
6. Availability and helpfulness;
7. Quality of examinations;
8. Impartiality in evaluating students; and
9. Overall fairness to students.

RATING CONCEPTS

The followings are the few rating concepts,

1. **Halo effect**: Rating a staff excellent in one quality, which in turn influences the rater to give a similar rating or a higher than deserved rating on other qualities.
2. **Horn effect**: Rating a staff unsatisfactory in one quality, which in turn influences the rater to give a similar rating or a lower than deserved rating on other qualities.
3. **Central tendency**: Providing a rating of average or around the midpoint for all qualities. Since many staff do perform somewhere around average, it is an easily rationalized escape from making a more meaningful appraisal.
4. **Strict rating**: Rating consistently lower than the expected norm or average; being constantly harsh in rating performance qualities.
5. **Lenient rating:** Rating consistently higher than the expected norm or average; being overly generous in rating performance qualities. This is probably the most common form of rating error. A major reason for this error is to avoid conflict; it provides a path of least resistance.
6. **Latest behavior**: Rating influenced by the most recent behavior; failing to recognize the most commonly demonstrated behaviors during the entire appraisal period.
7. **Initial impressions**: Rating based on first impressions; failing to recognize most consistently demonstrated behaviors during the entire appraisal period.
8. **Spill over effect**: Allowing past performance appraisal ratings to unjustly influence current ratings.
9. **Same as me**: Rating higher than deserved because the person has qualities or characteristics similar to those of the rater (or similar to those held in high esteem).
10. **Different from me**: Rating lower than deserved because the person has qualities or characteristics dissimilar to the rater (or similar to those held in low esteem).
11. **Need to criticize**: Since every staff can potentially improve performance, raters sometime focus on small or inconsequential issues and often offend the best producers. Criticisms and suggestions for improvement.

WAY OF COLLECTING FEEDBACK

Two basic principles governing distribution, collection, and handling of evaluation instruments are anonymity and confidentiality preferably. Faculty would not be present while students are completing questionnaires in an attempt to control please for sympathy or indulgence by the teacher (Scriven, 1995). Questionnaires should be distributed and collected by a non-teaching employee or designated student representative, who delivers the completed questionnaires to the appropriate official, where they remain until grades are administered.

CASE STUDY

A case study has been taken to evaluate the effectiveness of the feedback system in Sambhram Institute of Technology, Bangalore, India, during the last semester. In the college the feedback is collected after every internal test to assess the effect of the teaching –learning process. The following tables show the difference between the feedbacks which were collected after first test (Table-1) and third test (Table-2).

Feed back of teaching staff for FIFTH semester August 2010   Date: 24 - 08- 2010

TABLE-1: FEED BACK AFTER THE FIRST TEST

Sl .No	Particulars	06AL51 M&E	06ME52 DME-I	06ME53 DOM	06ME54 ENR.ENGG	06ME55 TURBO M/C	06ME56 ENGG. ECO.
1	Subject Knowledge	5	3	3	4	4	5
2	Ability to Explain	5	3	4	4	4	5
3	Language and clarity	5	4	3	3	4	5
4	Motivation	5	3	4	3	5	5
5	Clearing the doubts	4	3	3	4	3	4
6	Syllabus coverage	5	4	2	3	4	5
7	Effective utilization of 60 min.	4	5	2	4	5	4
8	Punctuality	3	4	3	4	4	3
9	Controlling the Class	3	3	4	4	3	3
10	Personal appearance & Body Language	3	2	5	3	3	2
	Total	**42**	**34**	**33**	**33**	**39**	**41**

Grade: <u>Excellent: 5</u>   <u>Very good: 4</u>   <u>Good: 3</u>   <u>Fair: 2</u>   <u>Poor: 1</u>

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Feed back of teaching staff for FIFTH semester November 2010   Date: 10 - 11- 2010

TABLE-2: FEED BACK AFTER THE THIRD TEST

Sl .No	Particulars	06AL51 M&E	06ME52 DME-I	06ME53 DOM	06ME54 ENRG. ENGG	06ME55 TURBO M/C	06ME56 ENGG. ECO.
1	Subject Knowledge	5	5	5	5	5	5
2	Ability to Explain	5	5	5	5	5	5
3	Language and clarity	4	4	5	5	5	5
4	Motivation	4	5	4	5	5	5
5	Clearing the doubts	4	5	5	4	5	5
6	Syllabus coverage	5	4	5	5	5	5
7	Effective utilization of 60 min.	5	4	4	5	5	5
8	Punctuality	5	5	5	4	5	5
9	Controlling the Class	5	4	4	4	5	4
10	Personal appearance & Body Language	5	5	4	4	4	5
	Total	**47**	**46**	**46**	**46**	**49**	**49**

Grade: Excellent: 5   Very good: 4   Good: 3   Fair: 2   Poor: 1

COMMENTS

It is evident that the rating of the faculty is increased from the first test to the third test; following measures were taken to improve the quality in engineering education.

1.   Compulsory attendance of the students to all the classes.
2.   All faculties are informed to cover the 100% syllabus, and the same is monitored at regular intervals.
3.   Faculties are advised to prepare notes by referring the prescribed text books.
4.   Junior faculties are given orientation regarding the class handling.
5.   Faculties are advised to handle class with enthusiasm and informed not to talk negative thoughts in the class.
6.   Faculties are explained about the importance of the body language in the teaching-learning process.

CONCLUSION

Evaluation of teaching has been around for a long time and is usually concerned with accountability - to assure the student and relevant authorities of the standards of teaching at the institution. Regrettably, evaluation of teaching has had a lot of opposition and lots of controversy, even to date. However, evaluation has got accepted and is widespread. The evidence has shown that students taught by highly rated teachers tend to learn the subject matter better than those taught by lower rated teachers. However, it must be admitted that student evaluation of teaching does not tell the whole story and can be lacking in scope to measure the worth of academic standards, and must always be supplemented by other sources of data on teaching and academic contribution. The quality of teaching in the academic department improved after evaluation of teaching was introduced. The purpose of a case study is to review the impact of student evaluation of teaching, which definitely shows the positive impact in the academia.

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JOB SCHEDULING OF NURSE STAFFING: A DYNAMIC PROGRAMMING APPROACH

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ABSTRACT

Optimization of employee scheduling is of prime importance in healthcare sectors as they operate on shifts seven days a week round the clock. Several research investigations have been carried out to explore the possibilities of employee scheduling in compressed workweeks. Such research has translated into several positive outcomes in the healthcare organizations with a resultant increase in the productivity and reduction in the absenteeism of employees. Mathematical algorithms for varying compressed workweeks such as 5-day, 4-day have been proposed in the literature. However, there is dearth of literature in compressed workweek job scheduling which considers half-day work. Hence, the present study deals with the development of mathematical algorithm for solving workforce scheduling problem with 4.5-days workweek. The objective is to find a minimum staff size ensuring that each employee is entitled for 2.5 days as off-days. The results indicated the feasibility of using such workforce modeling with each employee being eligible for 2.5 off-days. The proposed algorithm is simple and will be useful in organizations working 7-days a week with multiple shifts such as general healthcare. The present model also ensures that no employee in the organization works continuously more than 5 days in a week. Even though the algorithm presented has been developed for a healthcare sector, it can be used for any organization operating in shifts with a requirement of overlapping of shifts in sectors such as call centers, workshops, etc. The algorithm presented can be implemented manually, or if desired, it can be computerized easily.

KEYWORDS
Health Service, Manpower planning, Optimization, Scheduling, Shift work.

INTRODUCTION
cheduling of the employees is the most challenging aspect in organizations that operate seven days week or 24 hours a day in shifts. Cheng and Gordon (1994) described a dynamic programming algorithm for workforce scheduling on a single machine involving batch deliveries. The algorithm proposed by them could also be used for several multiplicity jobshop scheduling problems. Narasimhan (2000) described various factors that are involved in the employee scheduling problems as number of shifts, number of employee skills or categories, pattern of labour demand, limits on the length of work stretches, limits on weekend work frequency, and number of workdays per week, whereas, Azmat and Widmer (2004) illustrated the employee scheduling problem in a single-shift or multiple-shift organization as a regular 5 workdays a week work schedules, or compressed 3 or 4 workdays a week work schedules, or other hierarchical schedules for a workforce with varying skill levels, and for annualized hours schedules. Extensive research has been carried out on the employee scheduling in compressed workweeks by several researchers including Hung (1996) and Ernst et al. (2004). Dynamic programming has found several applications such as scheduling of doctors at an emergency department to minimize the maximum absolute deviation from the requirement of each hour (Vassilacopoulos, 1985), minimization of expected cost of idle drivers and cancelled bus tours (Johnson, 1987, Easton and Rossin 1991).

Alfares and Bailey (1997) proposed an algorithm using dynamic programming to determine the number of off-days in an integrated model for minimum-cost scheduling of project tasks. Workforce scheduling problems at an emergency call center have also been addressed using dynamic programming (Caprara et al., 2003) whereas Koole and Pot (2005) studied the scheduling of multi-skilled workers at call centers. The applications of dynamic programming in workforce scheduling have been improved with the use of genetic algorithms, simulated annealing, and fuzzy logic (Mohamed et al., 2003).

STATEMENT OF THE PROBLEM
Scheduling of the staff, maintaining minimum workforce during each shift satisfying the shift changes and off-days of the employees is of prime importance in organizations operating seven days week. Optimization of workforce modeling with flexible workweek for the employees is a never ending endeavor. There has been a steady increase in the implementation of flexible workweek in the recent past in many organizations with considerable improvements in the productivity, reduction in the overtime and absenteeism of the employees. Drawing from the outcomes of these studies, present study makes an attempt to develop an algorithm to minimize the workforce size in the context of staff nurses required in a typical healthcare sector, subject to satisfying of the staffing requirements and work rules.

OBJECTIVES OF THE STUDY
Objectives of the present study were
- To develop a workforce scheduling algorithm under 4.5-day workweek with different weekday and weekend manpower requirements.
- To satisfy the staffing requirements and to permit two and half-days as off-days in a week to all the employees.

WORKWEEK MODEL
The present model considers following work rules as applicable to a typical healthcare sector:
a)   The organization operates seven days a week but not necessarily 24 hours a day with 'k' number of daily shifts (say, 3 shifts such as day, evening and night). During operation the shifts in the organization may overlap (in order to improve communication between the shifts, which is especially required in case of healthcare sectors).
b)   Workforce requires that a minimum number of employees, D_i, must be on duty on shift i on week days. A minimum of E_i employees must be on duty during shift k on weekends. We assume, $D_i \geq E_i$ where i = 1, . . . , k.

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c) Each worker can only work one shift per day and must receive at least one off-day (i.e., a day with no work on any shift) before changing shifts. Each worker must receive at least A out of every B weekends off, $0 \leq A < B$, and a work stretch of no more than five days (This indicates that no employee can be on duty for more than five consecutive days). Every employee must receive a minimum of two and half days as off-days in each week. The objective is to generate a workweek schedule for B weeks (i.e., a schedule that repeats itself every B weeks) with a minimum workforce size subject to the work rules described.

SCHEDULING ALGORITHM

In the present model, it is assumed that a week runs from Sunday through Saturday. The days in each week are abbreviated as Su, Mo, Tu, We, Th, Fr and Sa. Saturday of week p and Sunday of week (p+1) is designated as weekend (p+1). [x] is defined as the smallest integer equal to or greater than x and [x] is also defined as the greatest integer equal to or less than x.

Following cases are used to develop the scheduling algorithm:

Number of shifts per day, k = 3.

$D_1 = 5$	$E_1 = 5$
$D_2 = 5$	$E_2 = 4$
$D_3 = 5$	$E_3 = 3$

(A, B) = (1,3) = at least one out of three weekends off

COMPUTING WORKFORCE SIZE

Let $D = \sum_{i=1}^{k} D_i$ and $E = \sum_{i=1}^{k} E_i$

Let $L_2 = [BE/(B-A)]$ and Let $L_1 = [(5D + 2E)/4.5]$

Then, W = workforce size = $\max\{L_1, L_2\}$

In our present model

$$L_1 = \left\lceil \frac{5D + 2E}{4.5} \right\rceil = \left\lceil \frac{5 \times 15 + 2 \times 12}{4.5} \right\rceil = 22$$

Where

$$D = \sum_{i=1}^{k} D_i = 15 \qquad E = \sum_{i=1}^{k} E_i = 12$$

$$L_2 = \left\lceil \frac{BE}{B-A} \right\rceil = \left\lceil \frac{3 \times 12}{2} \right\rceil = 18$$

$$W = Max\{L_1, L_2\} = 22$$

ASSIGNING WEEKENDS AS OFF-DAY

Let (W − E) employees take off-day on the first weekend, the next (W − E) employees take off-day on second weekend, and so on until (W − E) employees have been assigned to take off-day on weekend B, at which, one cycle of proposed model is complete. As a result, W − (W − E) = E workers are on duty during each weekend. In our example, (W - E) = 22-12 = 10(1 to 10) employees are taking off-day on first weekend. The next (W − E) (i.e., 11 to 20) employees are allotted to take off-day on second weekend. The remaining employees (21, 22 employees) will be assigned off –day on third weekend along with eight other employees (1 to 8 employees).

ASSIGNING WEEKDAY AS OFF-DAY

Total workforce in the organization has been divided into 4 classes depending on their duty schedule on Saturday and Sunday as shown in Table 1.

TABLE 1: CLASSIFICATION OF EMPLOYEES BASED ON DUTY SCHEDULE DURING WEEKENDS

Class	Week q	
	Su	Sa
1	Off	Off
2	Off	On
3	On	Off
4	On	On

In each week, Friday is assigned as off-day until (W − D) off-Fridays are given out, giving first priority to Class 4 employees and second priority to Class 2 employees. Friday can be given out as off-day for (W − D) employees when workforce is in the even number. However, if the workforce is in odd number, at least one worker must get half-day-off on Friday.

In each week, if there are class 2 workers without an off-day on Friday then let each of those workers take Thursday as off-day.

In the present case, on week 1, the employees belonging to Class 4 employees are 21 and 22. For them, first assign Friday as off-day along with five other employees (1 to 5 employees). Five employees i.e., 6 – 10 employees will be assigned Thursday as off-day who belong to class 2 employees.

Also let an equal number of class 3 workers take Monday as off-day. Remaining employees those who are not getting two days as off-days in a particular week will be equally divided and will be assigned Tuesday and Wednesday as off-days (i.e., if 'n' number of employees are not getting two days as off-day in a particular week and when the 'n' is even number, then for n/2 workers assign Tuesday as off-day and for remaining n/2 employees assign Wednesday as off-day). However, if 'n' is odd, assign Tuesday of particular week (q) as off-day for (n+1)/2 employees and assign Wednesday of particular week (p) as off-day for (n-1)/2 employees. Similarly, in the following week (i.e., p+1), assign Tuesday as off-day for (n-1)/2 employees whereas (n+1)/2 employees will be assigned Wednesday as off-day.

Same number of employees as on Thursday i.e., 5 employees will be assigned Monday as off-day but these employees belong to class 3 (11 to 15 employees). For remaining employees, those who are not getting two days as off-day in week 1, assign Tuesday and Wednesday as off-day. Among remaining 7 employees(16 to 22 employees) assign Tuesday as off-day for 4 employees (16 to 19 employees) and Wednesday as off-day for remaining 3 employees (20 – 22 employees). Similar procedure is followed for all the three weeks.

ASSIGNING HALF-DAY AS OFF-DAY DURING WEEKDAYS

In this model, each shift in a day is divided into two levels (first half of the shift and second half of the shift). Employee 1 will be assigned first half of the shift as off-day assigning half-days starting from Monday and employee 2 will be assigned second half of the shift as off-day. Similarly, employee 3 and 4 will be assigned first half and second half of the shift on Tuesday as off-day respectively. If it is not possible to assign the half-day as off-day to the employees in a particular

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sequence, then it can be assigned randomly satisfying the workforce requirements. This process is repeated till all the employees are assigned half of the shift as off-day ensuring that (W – D) employees are assigned off-day on week days and (W – E) employees are assigned off-day on weekends. It is to be noted that half day of the weekends are not assigned as off-day (Table 2).

TABLE 2: ASSIGNING OF OFF-DAYS DURING THE WORKWEEKS

Employee	Week 1							Week 2							Week 3						
	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
1	x	*				x		x	*					x	x	x		*		x	
2	x		*			x		x		*				x	x	x		*		x	
3	x		*			x		x			*			x	x	x	*			x	
4	x			*		x			x		*			x	x	x	*		x		
5	x			*		x			x		*			x	x	x	*		x		
6	x				*	x			x			*		x	x	x	*		x		
7	x	*				x			*		x			x	x	x		*	x		
8	x		*			x				*	x			x	x	x		*	x		
9	x		*			x			*		x		x		x			*			x
10	x			*		x				*	x		x		x				*		x
11		x		*			x	x			*			x		x	*				x
12		x			*		x	x				*		x		x	*				x
13		x			*		x	x				*	x		x		*				x
14		x				*	x	x				*	x			x	*				x
15		x		*			x	x	*					x		x	*				x
16			x		*		x	x			x				x			*			x
17			x	*			x	x	*		x				x	x					x
18			x		*		x	x		*	x				x		*	x			x
19			x			*	x	x		*	x				*	x		x		x	
20				x		*	x	x		*	x				*	x		x		x	
21			*	x		x		x	*				x	x				*		x	
22			*	x		x		x		*			x	x				*		x	

x = Off-day and * = Half of the shift is off day

ASSIGNING OF WORK SHIFTS DURING WEEKDAYS AND WEEKENDS

On Sunday of week 1, arbitrarily E_i number of employees are assigned duty. On Monday of week 1, if the employees of E_i do not have off-day, they must continue with the same shift on Monday. If an employee is assigned with off-day on Monday, then the employee can change the shift on Tuesday. Similar procedure can be followed to assign the shifts for the remaining days in the week and following weeks. For example, on Sunday of week 1, arbitrarily select E_i on duty workers i.e. 11, 14, 17, 20 and 21 employees for shift 1; 12, 15, 18 and 22 employees are assigned to shift 2, and the remaining 3 employees (13, 16, 19) are assigned shift 3 on the same day. Employees 16 – 22 have Sunday and Monday as work days and for these employees same shift is assigned on both the days.

ASSIGNING HALF-DAY WORK

If the employee 1 is having first half of i shift as work day, assign the same i shift to employee 2 in the second half as work day. Similarly, assign half day as work day for all the employees satisfying that D number of employees are working on weekdays.

Employee 21 has been assigned half-day as off-day (first half of the shift on that day) on Tuesday and employee 22 has been assigned half-day off (second half of the shift on that day) on Tuesday. This means that they both together successfully completed shift 2 work along with 3, 4, 7, 9, 10 and 12 employees on that particular day. Among these, employee 7 and 12 will be working full time in the shift whereas 3, 4 and 9, 10 will be sharing the shift 2 equally and get half-day as off-day. Similarly, assign the work for all the employees in the workweek following the work rules. A completed work schedule is shown in Table 3.

NECESSARY WEEKDAY SHIFT ASSIGNMENT

If the employees are assigned work on j^{th} day and $(j+1)^{th}$ day continuously, and they are not assigned shifts on $(j+1)^{th}$ day, for those employees assign same shifts of j^{th} day. Assign just enough on duty employees who have not been assigned shifts on that day to shift i to satisfy the staffing requirements D_i. For example, when the shift assignments have already been made on Monday, Su ≤ Mo ≤ Th, consider those employees who have been assigned shifts on Monday and who are also working on Tuesday, but have not yet received shift assignments. If a worker is on shift 2 on Monday, assign the employee to shift 2 on Tuesday (i.e., occupying Monday's assignment) so that the worker does not change shifts. After these assignments, if there are insufficient employees on duty on shift 2 on Tuesday, assign just enough on-duty employees who have not been assigned shifts on that day to shift 2 to satisfy the staffing requirement D_2.

EXTRA WEEKDAY SHIFT ASSIGNMENT

Assignment of extra weekday shift is not necessary for the present case. However, if there are employees who have not been assigned between two off-days, arbitrarily assign any shift i on the day(s) between. Also, if the employee have not been assigned between an off-day and shift i, assign shift i on the day(s) in-between.

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TABLE 3: A COMPLETED SCHEDULE

Employee	Week 1							Week 2							Week 3						
	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
1	x	*1	1	1	1	x	1	1	x	*2	2	2	2	x	x	2	2	*2	2	x	1
2	x	1	*1	1	1	x	2	2	x	2	*2	2	2	x	x	2	2	2	*2	x	1
3	x	1	*2	2	2	x	3	3	x	1	*3	3	3	x	x	*3	3	3	3	x	3
4	x	2	2	*3	3	x	1	1	1	x	3	*1	1	x	x	3	*1	1	x	2	2
5	x	3	3	*3	3	x	3	3	3	x	3	*1	1	x	x	1	*2	2	x	2	2
6	x	3	3	3*	x	1	1	1	1	x	1	1	*3	x	x	2	2	*2	x	2	2
7	x	*2	2	2	x	2	2	2	*2	2	x	2	2	x	x	3	3	*1	x	3	3
8	x	2	*3	3	x	2	2	2	2	*1	x	1	1	x	x	1	1	1*	x	3	3
9	x	3	*2	2	x	1	1	1	1	*3	x	1	x	1	1	x	3	3	*3	3	x
10	x	2	2	*1	x	3	3	3	3	3*	x	3	x	2	2	x	3	3	3	*2	x
11	1	x	3	*2	2	2	x	x	2	2	*2	2	x	2	2	x	*1	1	1	1	x
12	2	x	2	2	*3	3	x	x	2	2	2	*1	x	1	1	x	1	*3	3	3	x
13	3	x	3	3	*1	1	x	x	1	1	1	*3	x	1	1	x	2	*3	3	3	x
14	1	x	1	1	1	*3	x	x	3	3	3	3*	x	2	2	2	x	3	*1	1	x
15	2	x	1	*3	3	3	x	x	*3	3	3	3	x	3	3	3	x	2	*1	1	x
16	3	3	x	3	*2	2	x	x	3	*1	1	x	1	1	1	1	x	1	1	*2	x
17	1	1	x	*1	1	1	x	x	2	*2	2	x	2	2	2	*1	x	1	1	1	x
18	2	2	x	1	*1	1	x	x	2	2	*1	x	1	1	1	1	*1	x	1	1	x
19	3	3	x	2	*2	2	x	x	3	3	*1	x	3	3	3	3	*3	x	2	x	1
20	1	1	1	x	2	*3	x	x	1	1	1*	x	3	3	3	3	3*	x	2	x	2
21	1	1	*2	x	3	x	1	1	x	*3	3	3	3	x	x	1	1	*2	2	x	1
22	2	2	2*	x	2	x	2	2	x	3	*2	2	2	x	x	2	2	2	*3	x	1

1 = First shift, 2 = second shift, 3 = third shift, x = off-day, * = half of the shift as off-day

DISCUSSION AND CONCLUSIONS

The model developed in this study for a general healthcare sector will be useful to any organization working on 7-days a week and multiple shifts looking for a change in workweek arrangement. In the present study, modeling of the workforce for 4.5 day workweek has been carried out. The results indicated the feasibility of using such workforce modeling with each employee being eligible for 2.5 off-days.

The present model also ensures that no employee in the organization works continuously more than 5 days in a week. In the present study, although, overlapping of the shifts has not been considered, it can be easily implemented with the present model simply by increasing the work time in each shift. Even though this work was based on a healthcare sector, this can be applied in other service sectors such as emergency hospitals, call centers, workshops etc., to improve the communication between the shifts.

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INFLUENCE OF PERSONAL FACTORS ON ORGANISATIONAL CLIMATE IN IT COMPANIES

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ABSTRACT

Organisations in the 21st century are facing more challenges than ever before. These challenges are not unique to any specific organisation or industry, but affect all organisations, regardless of their structure or size. Organisational climate in particular is constantly challenged by changes impacting organisations today. To survive and outdo their competitors, organisations are constantly seeking to improve their performance. The employees of IT companies have been selected by adopting random sampling and the data and information have been collected from 300 employees and pertain to the year 2011-2012. The foregoing analysis shows that about two-third of employee are males and more than one-third of employees belong to the age group of 36-40 years. One third of employees are B.E. graduates and half of the employees are programmers. Nearly one-third of employees belong to the monthly income group of Rs. 35001-40000 and the majority of employees have the working experience of 3.1.-5.0. The age is positively correlated with innovation and socio-emotional support and education is positively associated with decision making. The monthly income is positively associated with socio-emotional support and decision making and experience is positively correlated with role conflict, conflict management, innovation and organizational structure. The regression analysis shows that age, education and experience are positively, significantly influencing the total organizational climate. Hence, the effective organizations are increasingly realizing that of the varied factors that contribute to performance, the human element is clearly most critical. Regardless of the size or nature of an organisation, the activities it undertakes, and the environment in which operates, its success is determined by the decisions its employees make and the behaviour they engage. There is no one method in developing creative environment; rather, the choice of the correct principle or technique is contingent upon the combination of situations facing the employees. Policies produced by managers must be contingent upon the situation in which they will operate both its organisational aspects and the personal factors of the workforce.

KEYWORDS

Correlation, Organisational Climate, Personal Factors, Regression.

INTRODUCTION

Organisations in the 21st century are facing more challenges than ever before. These challenges are not unique to any specific organisation or industry, but affect all organisations, regardless of their structure or size. Organisational climate in particular is constantly challenged by changes impacting organisations today. If these changes are not managed appropriately by the organisation, they could result in a change in the behaviour and perception of individuals employed in the organisation, which could lead to, interalia, decreased motivation and employee satisfaction, increased turnover and absenteeism and hence a decline in organisational performance. To survive and outdo their competitors, organisations are constantly seeking to improve their performance. Authors such as Brown and Leigh (1996) think that organisational climate is becoming more important than ever before because organisations need to ensure that those individuals who add value to the bottom line will want to stay in the organisation and will want to continue pouring their effort into their work to the benefit of the organisation.

With changing business trends through out the world, there are drastic changes in the business practices of companies. Since world has globalized, firms are not looking at local markets rather introducing themselves all over the world. As a result firms are not only competing locally but internationally as well. This changed competitive market/s has changed the ways firms operate. These changing trends have brought importance of some of the ignored or dormant business concerns. Human resource is one of those issues. Now firms consider their human resource as most valuable asset and the sole determinant of competitive advantage directly or indirectly.

Now companies assign special budgets to hire, train and retain their work force. Organizations spend huge amount on the human resource budgets. Managing human resource is not enough, but managing human resource with minimal cost is desire of the time. One way is to retain the work force as it will reduce the hiring cost, save the production disturbances and many more returns. But retention of work force is function of their satisfaction. Greater the level of satisfaction of employees more employees are willing to retain themselves at the present job. With this background, the present study was attempted to examine the influence of personal factors of employees on organisational climate of IT companies in Chennai.

METHODOLOGY

Among the different companies in Chennai, the IT companies in Chennai have been purposively selected for the present study. The employees of IT companies have been selected by adopting random sampling technique through pre-tested, structured questionnaire. A two part questionnaire was administered of which the first section relates to the personal factors and the second section contains the dimensions of organisational climate. The Likert five point scale (strongly agree to strongly disagree) was used to measure the organisatinal climate dimensions. The data and information have been collected from 300 employees of IT companies pertain to the year 2011-2012.

STATISTICAL TECHNIQUES

The frequency and percentage analyses were carried out to understand the personal factors of employees of IT companies. The correlation analysis has been carried out to examine the relationship between personal factors and organisational climate. In order to examine the influence of personal factors of employees on organisational climate, the multiple regression analysis has been employed.

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RESULTS AND DISCUSSION

PERSONAL FACTORS OF EMPLOYEES

The personal factors of employees of IT companies were analyzed and the results are presented in **Table 1.** The results show that about 64.67 per cent of the employees are males and the rest of 35.33 per cent of the employees are female. The results also indicate that about 40.00 per cent of the employees belong to the age group of 36-40 years followed by 31-35 years (24.33 per cent), 25-30 years (23.00 per cent) and more than 40 years (12.67 per cent).

It is apparent that most of the employees (32.33 per cent) are B.E. graduates followed by both B.Tech and M.C.A.(15.67 per cent), M.E.(15.00 per cent), M.Sc(CS)(9.00 per cent), M.Tech(7.33 per cent) and M.B.A.(5.00 per cent) and about 51.00 per cent of the employees are programmers followed by developer(31.67 per cent), analyst(10.67 per cent) and tester(6.66 per cent).

From the results, it is clear that about 31.00 per cent of employees belong to the monthly income group of Rs. 35001-40000 followed by Rs. 30001-35000(26.67 per cent), Rs. 40001-45000(20.00 per cent), Rs. 25001-30000(18.33 per cent)and more than Rs. 45000(4.00 per cent) and about 40.67 per cent of employees have the working experience of 3.1.-5.0 years followed by 5.1.-7.0 years(34.33 per cent), less than three years(19.00 per cent) and more than seven years(6.00 per cent).

TABLE – 1: PERSONAL FACTORS OF EMPLOYEES OF IT COMPANIES

Personal Factors	Frequency	Per Cent
Gender		
Male	194	64.67
Female	106	35.33
Age(Years)		
25-30	69	23.00
31-35	73	24.33
36-40	120	40.00
>40	38	12.67
Education		
B.E.	97	32.33
B.Tech	47	15.67
M.E.	45	15.00
M.Tech	22	7.33
M.C.A.	47	15.67
M.Sc(CS)	27	9.00
M.B.A	15	5.00
Designation		
Analyst	32	10.67
Developer	95	31.67
Programmer	153	51.00
Tester	20	6.66
Monthly Income(Rs)		
25001-30000	55	18.33
30001-35000	80	26.67
35001-40000	93	31.00
40001-45000	60	20.00
>45000	12	4.00
Experience(Years)		
<3	57	19.00
3.1.-5.0	122	40.67
5.1-7.0	103	34.33
>7	18	6.00

ORGANISATIONAL CLIMATE DIMENSIONS

The mean and standard deviation of dimensions of organisatioal climate is presented in **Table 2.**

TABLE – 2: ORGANISATIONAL CLIMATE DIMENSIONS

Dimensions	Mean	SD
Role Clarity	32.33	2.847
Innovation	31.38	2.447
Conflict Management	31.94	2.868
Socio-Emotional Support	31.73	2.341
Organisational Structure	32.28	2.138
Leadership	32.48	2.478
Decision Making	31.56	2.716
Communication	32.10	2.366
Interpersonal Relationship	31.11	2.561
Teamwork	32.52	2.471

The standard deviations of organisational climate dimensions are ranging from 2.138 to 2.847, suggesting that none of the dimensions are marked by excessive restrictions in range. The mean of the organisational dimensions lie between 31.11 for interpersonal relationship to 32.52 for teamwork. The role clarity has a mean score of 32.33, organisatinal structure and leadership have the means scores of 32.28 and 32.48 respectively and the mean score for communication is 32.10. The means score for innovation and decision making are 31.38 and 31.56 respectively. The mean scores for conflict management and socio-emotional supports are 31.94 and 31.73 respectively.

RELATIONSHIP BETWEEN PERSONAL FACTORS AND ORGANIZATIONAL CLIMATE DIMENSIONS

The relationship between personal factors and organisational climate dimensions was examined through Pearson Correlation Coefficient and the results are presented in **Table 3.** The correlation matrix reveals that age is positively, significantly correlated with innovation and socio-emotional support at one per cent level of significance.

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TABLE-3: RELATIONSHIP BETWEEN PERSONAL FACTORS AND ORGANISATIONAL CLIMATE DIMENSIONS

	AG	ED	MI	EX	RC	IN	CM	SE	OS	LE	DM	CO	IR	TW
AG	**1.00**													
ED	0.15**	**1.00**												
MI	0.39**	0.15**	**1.00**											
EX	0.58**	0.08	0.49**	**1.00**										
RC	0.03	-0.04	-0.05	0.22**	**1.00**									
IN	0.22**	-0.08	-0.09	0.09*	0.41**	**1.00**								
CM	-0.03	0.02	0.06	0.22**	0.30**	0.29**	**1.00**							
`SE	0.23**	-0.04	0.11*	0.02	0.29**	0.21**	0.16**	**1.00**						
OS	-0.03	-0.03	-0.04	0.11*	0.21**	0.18**	0.31**	0.19**	**1.00**					
LE	0.02	-0.02	-0.19**	0.02	0.26**	0.25**	0.43**	0.28**	0.32**	**1.00**				
DM	0.01	0.14**	0.12*	0.04	0.25**	0.22**	0.32**	0.27**	0.29**	0.31**	**1.00**			
CO	-0.02	-0.16**	-0.15**	0.03	0.24**	0.28**	0.42**	0.22**	0.16**	0.39**	0.21**	**1.00**		
IR	0.05	-0.05	-0.12**	0.04	0.25**	0.17**	0.26**	0.13*	0.14*	0.31**	0.35**	0.27**	**1.00**	
TW	-0.02	-0.03	-0.09	0.03	0.22**	0.20**	0.27**	0.20**	0.24**	0.28**	0.31**	0.36**	0.28**	**1.00**

Note: ** indicates significance at one per cent level   * indicates significance at five per cent level

AG=Age   ED=Education   MI=Monthly Income   EX=Experience
RC=Role Clarity   IN=Innovation   CM=Conflict Management   SE=Social-Emotional Support
OS=Organisational Structure   LE=Leadership   DM=Decision Making   CO=Communication
IR=Interpersonal Relationship   TW=Teamwork

The education is positively, significantly associated with decision making and is negatively significantly correlated with communication at one per cent level of significance. The monthly income is positively, significantly correlated with socio-emotional support and decision making at five per cent level of significance and it is negatively, significantly associated with leadership, communication and interpersonal relationship. The experience is positively, significantly associated with role conflict, and conflict management at one per cent level of significance and it is positively, significantly correlated with innovation and organisational structure at five per cent level of significance.

RELATIONSHIP BETWEEN PERSONAL FACTORS AND TOTAL ORGANIZATIONAL CLIMATE

The relationship between personal factors and total organisational climate was studied by Pearson Correlation Coefficient and the results are presented in **Table 4.**

TABLE – 4: RELATIONSHIP BETWEEN PERSONAL FACTORS AND TOTAL ORGANISATIONAL CLIMATE

	Age	Education	Monthly Income	Experience
Total Organisational Climate	-0.04	0.12*	0.27**	0.16**

Note: ** indicates significance at one per cent level   * indicates significance at five per cent level

The correlation matrix shows that monthly income and experience are positively, significantly correlated with total organisational climate at one per cent level of significance and education is also positively, significantly correlated with total organisational climate at five per cent level of significance.

INFLUENCE OF PERSONAL FACTORS ON ORGANIZATIONAL CLIMATE

In order to examine the influence of personal factors on organization climate, the multiple regression model has been employed and the results are presented in Table 5. The results indicate that the coefficient of multiple determination (R^2) is 0.47 showing the regression model is moderately fit. The adjusted R^2 is 0.41. Indicating that the population effect size is moderate.

TABLE – 5: INFLUENCE OF PERSONAL FACTORS ON ORGANISATIONAL CLIMATE -MULTIPLE REGRESSION

Personal Factor	Regression Coefficients	t-value	Sig
Intercept	2.427**	11.392	.000
Age(X_1)	.984**	3.964	.012
Education(X_2)	.875**	3.762	.011
Designation(X_3)	.429	1.114	.294
Monthly Income (X_4)	-.326	1.128	.319
Experience(X_5)	.779**	3.692	.011
R^2	0.47		
Adjusted R^2	0.41		
F	1.689		0.02
N	300		

Dependent Variable= Total Organisational Climate
Note: ** Significance at one per cent level

The results show that age, education and experience are positively, significantly influencing the total organizational climate at one per cent level of significance in IT companies.

CONCLUSION

The foregoing analysis shows that about two-third of employee are males and more than one-third of employees belong to the age group of 36-40 years. One third of employees are B.E. graduates and half of the employees are programmers. Nearly one-third of employees belong to the monthly income group of Rs. 35001-40000 and the majority of employees have the working experience of 3.1.-5.0. The age is positively correlated with innovation and socio-emotional support and education is positively associated with decision making. The monthly income is positively associated with socio-emotional support and decision making and experience is positively correlated with role conflict, conflict management, innovation and organizational structure.

The regression analysis shows that age, education and experience are positively, significantly influencing the total organizational climate. Hence, the effective organizations are increasingly realizing that of the varied factors that contribute to performance, the human element is clearly most critical. Regardless of the size or nature of an organisation, the activities it undertakes, and the environment in which operates, its success is determined by the decisions its employees make and the behaviour they engage. There is no one method in developing creative environment; rather, the choice of the correct principle or technique is contingent upon the combination of situations facing the employees. Policies produced by managers must be contingent upon the situation in which they will operate both its organisational aspects and the personal factors of the workforce.

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The climate dimensions examined in this study lend themselves to easy analysis by administrators and employers; for example freedom (The independence in behaviour exerted by the people in the Organisation), Trust and Openness (The emotional safety in relationship), Debate (The occurrence of encounters and clashes between viewpoints, Ideas and different experience or knowledge) and Idea Time (The amount of time people use to elaborate ideas). If there are discrepancies in relative policies then policies can be revised or improved.

Specifically in attempting to build a positive creative climate, IT companies must consider not only the size, ownership and existing structures of the organisations, but must also consider the retention policies, training experience, length of service, education level and age of the employees (seniority of the workers). Policies based on organisational factors only may have no effect on improving the organisational climate, and may not make effective use of the organisation's resources. The most effective recommendations are: Greater importance of non-financial recognition and appreciation effective training needs, adjustments in work content and physical work environment. Management has to be aware of these age related changes and has to provide a work environment that recognizes and accommodates the unique needs and capabilities of all workers to keep them active and motivated.

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ANALYSIS OF CUSTOMER SATISFACTION OF THE HOTEL INDUSTRY IN INDIA USING KANO MODEL & QFD

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ABSTRACT

The hotel industry is a new developing growing service with huge potential in India for next decade. So far, it has already been an industry of highly ripe development, and the orientation is served in hotel Industry. However, with the improvement in the competition, hotel industry must offer good quality services to customers. In this study an investigation is carried out about quality of service being received by the customers from hotel industry. Unlike other traditional approaches of measuring product or service quality, a method is used which integrates the Kano model into the quality function deployment (QFD) to identify the critical quality elements. This study conducts a survey about customers' perception by using a questionnaire which consists of 34 service quality factors of hotel industry. The quality factors are classified according to Kano categories and the satisfaction increment index (SII) and dissatisfaction decrement index (DDI) are calculated, which in turn those indices are applied to compute the weights of the QFD for a better understanding of the voice of the customer (VOC). To do so, QFD engineers can use the analytical results to build the house of quality (HOQ) and to further identify the critical quality techniques.

KEYWORDS

Customer satisfaction, Hotel industry, Kano model, Quality function deployment, Service quality.

INTRODUCTION

In the past decade, service industries in India were growing up fast, especially in recreation activities. With the advance in technology and the change of people living style, the points of economic activities have been changed from a world of products to a realm of services. It has becomes exceedingly difficult for a company to gain consumers' recognition while offering services rather than products. Typical service providers such as hotel industry particularly face this problem. Indian government's statistical report points out that the hotel industry has high profits and recoverable cost for less than one year. This leads to more and more companies to join setting up hotels. Facing the competitive environment, companies are constantly introducing new services such as e-service, diversification of food and audio rooms, discount, and registering the audio room through internet or cell-phone. The key for companies to succeed is to offer the products or services that fulfill customers' needs. To do so, companies are able to improve their competitiveness and profit rate. A useful method for designing efficient service is to clearly understand what service quality of items that consumers want and to know how customers compare the service performance with other competitors.

Because the management environment of the hotel industry changes, strengthening the quality of serving has become the important issue. The traditional measure of the quality elements are according to the customer satisfaction of quality elements. The degree of customer's satisfaction is from very satisfied to very unsatisfied to divide into 5-7 scales, and this measure implied the influence of quality elements to customer's satisfaction is linear (Huiskone & Pirttial, 1998). The one-dimension quality model focuses on one quality element. It states that if the quality element is of sufficiency then the customer is satisfied, otherwise the customer is unsatisfied. Kano et al. (1984) first reported two-dimension quality model. The two-dimension quality model argued that quality elements sufficiency may not enough to satisfy the customer's quality expectation. Sometimes it may result in unsatisfied or no feeling for the customer. This is the core concept of the two-dimension quality model.

QFD is a method for defining design qualities that goes with customer expectations and then translates the customer requirements into design targets and critical quality assurance points. In recent years, a number of researchers began to use Kano model integration with QFD (Matzler & Hinterhuber, 1998; Tan & Shen, 2000; Shen et al., 2000; Tan & Pawitra, 2001), there were only discussions to the method but few discussions to the service industry. This paper is based on the integration method that was proposed by Tan & Pawitra (2001), to set up a model which is suitable for the hotel industry and to effectively manage the service quality of the hotel.

LITERATURE REVIEW

SERVICE QUALITY: Mostly service qualities have both poor and versatile characteristics because service quality is based on the customers' feelings. Therefore, the evaluation of service quality is more difficult than that of the product quality. Parasuraman et al. (1988) developed the instrument SERVQUAL for measuring customers' perceptions of service quality. SERVQUAL is based on the conceptualization of service quality as the difference between customers' expectations and perceived performances. In other words, the assessment of service quality is conceptualized as a gap between what the customer expects from a class of service providers and their evaluations of the performance of a particular service provider within that class. Service quality is presented as a multi-dimensional construct that is measured by SERVQUAL along the five dimensions as given below:

(1) Tangible-physical facilities , equipment , and the appearance of personnel ;
(2) Reliability-ability to perform the promised service accurately and dependably ;
(3) Responsiveness-willingness to help customers and to provide prompt service ;
(4) Assurance-knowledge and courtesy of employees and their ability to convey trust and confidence ;
(5) Empathy-caring and individualized attention to customers.

From the widespread applications published, the benefits of SERVQUAL can be summarized as follows:

- It is good at eliciting the views of customers regarding service encounters, e.g. Customer relative importance, expectations and satisfaction.
- It is also able to alert management to consider the perception of both management and customers.
- SERVQUAL is able to identify specific areas of excellence and weaknesses.
- It is able to prioritize areas of service weaknesses.
- It provides benchmarking analysis for organization in the same industry.
- SEVAQUAL can trace the trend of customer relative importance, expectation, and perception, if applied periodically.

This research is focused on how to improve service quality and at the same time provide input into an innovation process. Kano's model is proposed to be integrated into SERVQUAL in order to eliminate the linearity assumption and to also provide innovative inputs. Kano's model categorizes the attributes of a product or service based on how well the attributes are able to satisfy customer needs (Kano et al., 1984). It is therefore, able to help SERVQUAL to prioritize the

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improvement of an organization's weakness based on the category of need that can lead to the highest customer satisfaction. The following section describes how Kano's model categorizes the attribute of a product or service based on their ability to satisfy customer needs.

KANO'S MODEL: Kano et al. (1984) developed a model to categorize the attributes of a product or service based on how well they are able to satisfy customer needs. The **Kano model** is a theory of product development and customer satisfaction developed in the 80s by Professor Noriaki Kano which classifies customer preferences into five categories: (i) Attractive, (ii)One-Dimensional, (ii)Must-be, (iv) Indifferent,(v) Reverse. The one-dimension quality model focuses on one quality element. It states that if the quality element is of sufficiency then the customer is satisfied, otherwise the customer is not satisfied. Two-dimension quality model argued that quality elements sufficiency may not enough to satisfy the customers' quality expectation. Sometimes it may result in unsatisfaction or no feeling for the customer. This is the core concept of the two-dimension quality model. The concept of the two-dimension quality is proposed by Herzberg in 1987. Kano called the Herzberg's Motivator-Hygiene theory as the quality's (Motivator-Hygiene) M-H theory. Due to this terminology is too complicate to use it. Kano redefines the quality's M-H theory as attractive quality and must-be quality, and distinguishes the service quality in terms of attractive quality elements, one-dimension quality elements, must-be quality elements, indifferent quality elements and reverse quality elements. The following are the quality elements categories:

These categories have been translated into English using various different names (delighters/exciters, satisfiers, dissatisfiers, etc.), but all refer to the original articles written by Kano (see Figure 1).

1. Attractive Quality: These attributes provide satisfaction when achieved fully, but do not cause dissatisfaction when not fulfilled. These are attributes that are not normally expected, For example, a thermometer on a package of milk showing the temperature of the milk. Since these types of attributes of quality unexpectedly delight customers, they are often unspoken.

2. One-dimensional Quality: These attributes result in satisfaction when fulfilled and dissatisfaction when not fulfilled. These are attributes that are spoken of and ones which companies compete for. An example of this would be a milk package that is said to have ten percent more milk for the same price will result in customer satisfaction, but if it only contains six percent then the customer will feel misled and it will lead to dissatisfaction.

3. Must-be Quality: These attributes are taken for granted when fulfilled but result in dissatisfaction when not fulfilled. An example of this would be package of milk that leaks. Customers are dissatisfied when the package leaks, but when it does not leak the result is not increased customer satisfaction. Since customers expect these attributes and view them as basic, then it is unlikely that they are going to tell the company about them when asked about quality attributes.

4. Indifferent Quality: These attributes refer to aspects that are neither good nor bad, and they do not result in either customer satisfaction or customer dissatisfaction.

5. Reverse Quality: These attributes refer to a high degree of achievement resulting in dissatisfaction and to the fact that not all customers are alike. For example, some customers prefer high-tech products, while others prefer the basic model of a product and will be dissatisfied if a product has too many extra features.

The Kano model offers some insight into the product attributes which are perceived to be important to customers. The purpose of the tool is to support product specification and discussion through better development team understanding. Kano's model focuses on differentiating product features, as opposed to focusing initially on customer needs. Kano also produced a methodology for mapping consumer responses to questionnaires onto his model.

FIGURE 1 KANO'S MODEL
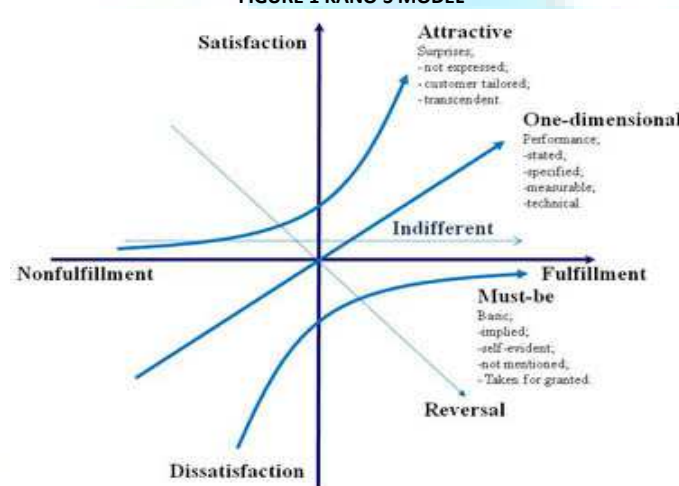
Considering the function of Kano's model, integrating it into SERVQUAL can help the latter to prioritize which service gaps to focus efforts on. The entire service development process can be further improved if periodic measurements can be systematically deployed into pragmatic ways of improvement. This is where quality function deployment (QFD) can be Useful.

QUALITY FUNCTION DEPLOYMENT: QFD was developed in Japan, by Yoji Akao in 1972.QFD is define as a system for translating customer requirements into appropriate technical requirement at every stage of a product's life cycle, from product conception to sales to service. Quality Function deployment (QFD) makes use of the Kano model in terms of the structuring of the Comprehensive QFD matrices. Mixing Kano types in QFD matrices can lead to distortions in the customer weighting of product characteristics. For instance, mixing must-Be product characteristics --such as cost, reliability, workmanship, safety, and technologies used in the product--in the initial House of Quality will usually result in completely filled rows and columns with high correlation values. Other Comprehensive QFD techniques using additional matrices are used to avoid such issues. Kano's model provides the insights into the dynamics of customer preferences to understand these methodology dynamics.

To survive in the market, companies have to produce exactly the product the consumer has been waiting for at the moment the consumer wants it without making concessions to the quality of the product. Moreover, time-to-market is becoming increasingly important for the success of new products. These developments call for an efficient and new structured service or product development process. One method to organize the new service or product development process is the QFD method. QFD is an adaptation of some tools used in Total Quality Management (TQM). It is a method to encourage product development team members to communicate more effectively with each other using a complex set of data. It helps teams to formulate business problems and possible solutions (Cohen, 1995).

QFD is a method for structured product / service planning and development that enables a development team to specify the consumer ' s demands and needs , and to evaluate the proposed product / service systematically in order to determine its impact on meeting these needs . The QFD method consists of the construction of one or more matrices. QFD employs several matrices to clearly establish relationships between company functions and customer satisfaction. These matrices are based on the "what-how" matrix, which is called HOQ (House of Quality). For detailed discussion, readers can refer to Donald & Mark (1998), Hauser & Clausing (1998) and Sullivan (1988).

Despite the benefits, there are also the following limitations are reported by Bourchereau and Rowlands (1999) and shen et al. (2000):
- There can be ambiguity in the voice of customer.

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- There is the need to input and analyze large amounts of subjective data.
- The manual input of customer survey information into the HOQ is time consuming and difficult.
- THE HOQ can become large and complex. Setting target values in the HOQ is imprecise.
- QFD is not qualitative.
- QFD assumes that the relationship between customer satisfaction and product /attributes performance is linear.

The integration of SERVQUAL and Kano's model into QFD is able to overcome some of the above limitations.

METHODOLOGY

FRAMEWORK: This paper is based on the integration method involving SERVQUAL, Kano's model, and quality function deployment, which are proposed by Tan & Pawitra (2001). Figure 1 depicts the framework that illustrates how Kano's model and SERVQUAL can be integrated into QFD for a better understanding of customers' voices. First, Based on SERVQUAL to determine the appropriate Kano category for each attribute involving attractive, one-dimensional, must-be, indifferent, reverse quality elements. Second, analyze the hotel industry service quality between importance and satisfaction that customer perceived. Third, use the Kano categories to calculate customer satisfaction (CS) coefficient involving calculate satisfaction increment index (SII) and dissatisfaction decrement index (DDI). Forth, assign multiplier values of 4, 2, and 1 to the attractive, one-dimensional, and must-be categories, respectively. Fifth, combine the predicted service score of SERVQUAL to calculate new weight value and feed into the HOQ. Finally, calculate the priority of quality improves technology.

FIGURE 2: THE FLOWCHART OF THE RESEARCH METHOD
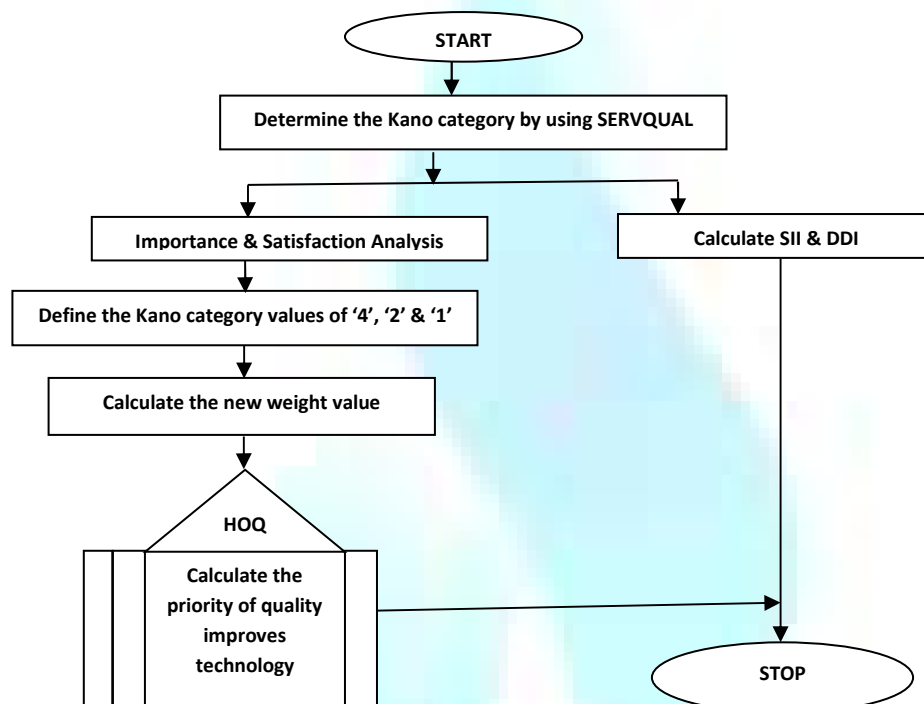
QUESTIONNAIRE DESIGN

We use questionnaire to obtain the customer's demand for the quality elements of hotel industry. The questionnaire design follows Parasuraman et al. (1988). This questionnaire is divided into five parts as follows: the individual basic data involving sex, occupation, income, education, expenditure, date of goes to hotel recently, and times of goes to hotel per year; Kano two-dimension positive quality questionnaire; Kano two-dimension negative quality questionnaire; the importance of service quality; and the satisfaction of service quality.

METHODOLOGY DESCRIPTION

We apply Cronbach's α to test the questionnaires' consistency. If Cronbach's α exceed the value 0.70, the reliabilities are acceptable (Nunnally, 1978). Moreover, we follow Matzler & Hinterhuber (1998) to apply the Kano classifications to divide the quality elements into attractive, one-dimensional, must-be, indifferent, and reverse quality elements (See Table 1).

TABLE 1: KANO EVALUATION TABLE

Product requirement → ↓		Dysfunctional form of the question				
		I like that way	It must be that way	I am neutral	I can live with it that way	I dislike that way
Functional form of the question	I like that way	Q	A	A	A	O
	It must be that way	R	I	I	I	M
	I am neutral	R	I	I	I	M
	I can live with it that way	R	I	I	I	M
	I dislike that way	R	R	R	R	Q

(Matzler & Hinterhuber, 1998)

[Note]: A: attractive, O:one-dimensional, M:must-be, I: indifferent , R:reverse, Q:question

The customer satisfaction (CS) coefficient follows Berger et al. (1993). The customer satisfaction (CS) coefficient is divided into two parts as follows: satisfaction increment index (SII) is the calculation of the average impact on satisfaction it is necessary to add the attractive and one-dimension columns and divide by the total number of attractive, one-dimensional, must-be, and indifferent response; dissatisfaction decrement index (DDI) is the calculation of the average impact on dissatisfaction, add the one-dimension and must-be columns and divide by the total number of attractive, one-dimensional, must-be, and indifferent response .Mathematically it is expressed as.

Satisfaction increment index $\quad SII = \dfrac{A + O}{A + O + M + I}$ (1)

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Dissatisfaction decrement index $DDI = - \dfrac{M + O}{A + O + M + I}$ (2)

The positive CS coefficient ranges from 0 to 1; the closer the value is to 1, the higher the influence on customer satisfaction. A positive CS coefficient which approach 0 signifies that there is a very little influence. At the same time, however, one must also take the negative CS coefficient into consideration. If it approaches -1, the influence on customer dissatisfaction is especially strong as the analyzed product feature is not fulfilled. A value of about 0 signifies that this feature does not cause dissatisfaction if it is not met (Matzler & Hinterhuber, 1998).

RESULTS

SAMPLE AND QUESTIONNAIRE RELIABILITY

This study includes approximately 250 consisting male and female customers. According to sex attributes, the no. of female respondent is more than that of male respondent. The percentage distributions across the attributes are also included. The reliability study based on this data is conducted as follows. As to age attribute, most of the customers are in the range of age group of 21-30 (62.2%) years. With respect to occupation, the students population forms 51%, whereas considering the level of education, most of the customers belong to college going which comes to be 75.6 percent similar study was conducted consisting of employed customers whose income is less than Rs. 10,000 which comes to be 45.2% of the total population of the data. The expenditure per visit average below Rs. 500 is maximum and forms 49.5% of the total whereas based on number of visits per year less than 5 times; the total percentage comes to be 60.3%.

To test the reliability analysis of this above responses using Cronbach's alpha formula, the consistency of the questionnaire was examined. The result using Cronbach's alpha is obtained and equal to 0.71. Which is in between 0.7073 to 0.8962.This value is very near to excellent category of consistency of the questionnaire. Therefore, the data may further be used for other analysis such as finding service quality, Customer satisfaction coefficient, importance and satisfaction analysis and to develop house of quality of the hotel.

FIGURE 3: RELIABILITY ANALYSIS OF QUESTIONNAIRES
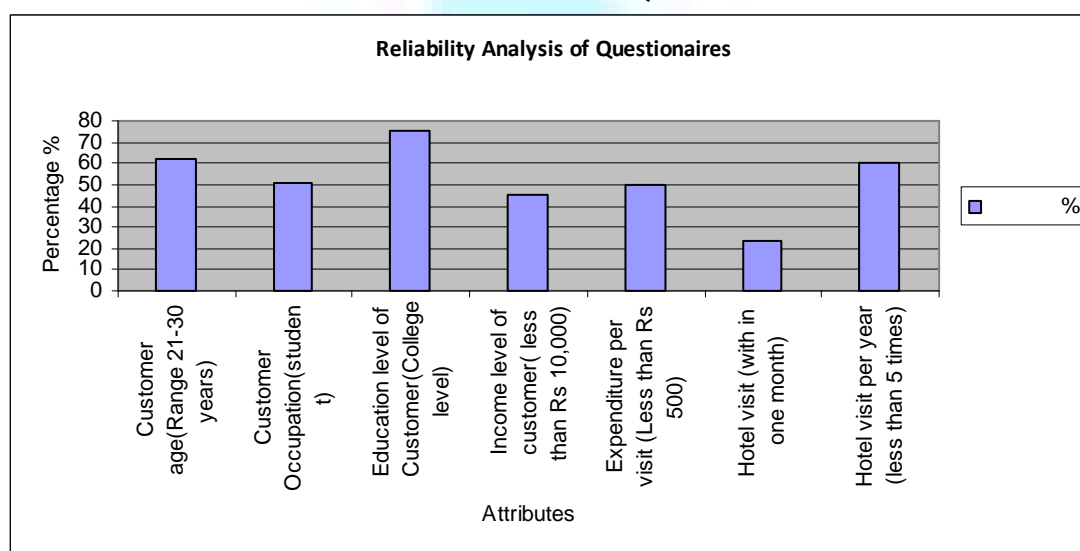
HOTEL SERVICE QUALITY

According to the Kano two-dimension quality model, the service quality of the hotel industry is analyzed by summarizing into 34 quality elements as shown in Table 2, Where no one sorted as "one-dimensional", "reverse", and "question" quality elements. There are 2 essential quality factors be classified as "attractive quality elements". 28 quality items are classified as "must-be quality elements". Finally, find that "indifferent quality elements" have 4 quality essential factors be identified (See Table 2).

CUSTOMER SATISFACTION COEFFICIENT (CS)

According to the formula proposed by Berger et al. (1993), we obtain the customer satisfaction (CS) coefficient was obtained about satisfaction increment index (SII) and dissatisfaction decrement index (DDI) which is shown in Table 2. The result shows that DDI higher than SII in all service quality. It also indicates that hotel industry should improve the service to decrease the dissatisfaction of customer. Especially in "clear and comfortable", "accuracy of settlement", "friendliness services", "disciplined attendants", "thorough fire protection equipment", and "exit direction smooth and clear".

IMPORTANCE AND SATISFACTION ANALYSIS

According to the importance and satisfaction analysis, we extract the top five priorities of service quality which customer perceived. The result shows that importance of service quality are "accuracy of settlement", "exit direction smooth and clear", "thorough fire protection equipment", "clear and comfortable environment", "friendliness services"; and satisfaction of service quality are "diversification of balcony", "clear and comfortable environment", "pleasant lobby or waiting area", "order systems convenient", "disciplined attendants" (See Table 3).

INTEGRATE KANO MODEL AND QFD

In order to integrate Kano model and QFD, first, we extract from important two-dimensional attribution category of service quality involving attractive, one-dimensional, and must-be service quality.

Second, we follow Wasserman (1993) to apply the Quality Attribute Ranking to calculate "Service Quality Factor Weight Value". Quality Attribute Ranking is using the average of importance and satisfaction that minus 3 degreed of new value and ranking. The purpose is to let the average from the range of (1, 5) become (-2, 2). Table 3 lists the data.

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TABLE 2: KANO TWO-DIMENSIONAL ATTRIBUTION CATEGORY AND CS COEFFICIENT

Structure	No.	Item	Kano two-dimensional attribution (%)						summarizing	CS coefficient	
			A	O	M	I	R	Q		SII	DDI
Tangibles	7	luxuriously building	29.5	11.2	39.1	18.0	1.6	0.6	M	0.4162	-0.5143
	16	good ambiance	25.1	17.4	44.	10.6	1.8	0.2	M	0.4337	-0.6357
	18	clear and comfortable environment	12.8	33.5	46.3	5.2	1.4	0.8	M	0.4734	-0.8160
	23	enough microphones	30.9	20.2	34.3	12.4	1.0	1.2	M	0.5225	-0.5573
Reliability	4	update new songs quickly	18.8	32.1	39.1	7.6	1.6	0.8	M	0.5215	-0.7295
	21	play songs quickly	18.8	26.3	43.9	7.6	2.0	1.4	M	0.4669	-0.7267
	22	good video tape of MTV	19.0	27.9	45.5	5.6	1.6	0.4	M	0.4786	-0.7490
	24	good audio and video	20.6	26.1	44.7	6.2	1.0	1.4	M	0.4785	-0.7254
	32	accuracy of settlement	11.8	32.3	48.7	5.4	0.4	1.4	M	0.4491	-0.8248
Assurance	1	good honor and impression of the company	25.7	17.2	47.5	7.8	1.0	0.8	M	0.4369	-0.6589
	10	friendliness services	9.6	32.1	51.3	4.6	2.0	0.4	M	0.4273	-0.8545
	11	disciplined attendants	12.0	28.1	52.7	5.6	1.4	0.2	M	0.4075	-0.8211
	12	thorough fire protection equipment	12.4	29.9	50.1	5.6	1.2	0.8	M	0.4316	-0.8163
	13	exit direction smooth and clear	9.8	30.3	51.1	6.2	1.6	1.0	M	0.4117	-0.8357
	15	privacy of balcony	16.4	27.5	45.5	8.0	1.6	1.0	M	0.4507	-0.7495
	17	good deafening	15.6	29.3	46.5	5.4	2.0	1.2	M	0.4638	-0.7831
Responsiveness	26	drinks and foods delivery soon	24.4	17.2	45.3	10.6	1.2	1.2	M	0.4267	-0.6410
	27	attendants come soon when customer push the services button	19.0	20.4	52.1	6.4	1.4	0.6	M	0.4025	-0.7406
	29	attendants ask customer want actively and handle the problems well	30.3	20.0	34.7	11.8	2.4	0.8	M	0.5196	-0.5651
Empathy	2	variety of made reservations	32.9	17.6	37.9	9.4	1.2	1.0	M	0.5164	-0.5675
	3	provide membership personal services	30.1	17.6	30.1	19.2	2.0	1.0	A	0.4918	-0.4918
	5	convenience traffic	23.6	17.8	38.1	17.8	1.2	1.4	M	0.4255	-0.5745
	6	provide free parking space	33.9	16.6	30.5	14.6	3.4	1.0	A	0.5282	-0.4927
	8	pleasant lobby or waiting area	22.6	15.4	46.7	13.8	0.8	0.6	M	0.3858	-0.6305
	9	supply smoking section	17.0	16.1	40.9	19.2	7.2	1.6	M	0.3403	-0.6026
	14	diversification of balcony	28.7	19.0	40.3	9.6	1.0	1.4	M	0.4887	-0.6076
	19	order systems convenient	21.2	26.5	44.1	5.8	1.2	1.2	M	0.4887	-0.7234
	20	find songs easily	22.4	23.8	44.9	5.6	2.4	0.8	M	0.4778	-0.7104
	25	abundant drinks and foods	33.5	13.8	33.9	15.6	2.0	1.2	M	0.4886	-0.4928
	28	attendant understand what customer needs	22.0	23.8	43.5	8.6	1.4	0.6	M	0.4678	-0.6874
	30	set up automatic rating system	27.1	6.0	16.6	42.5	6.8	1.0	I	0.3590	-0.2451
	31	provide record songs service	29.1	6.6	18.0	41.5	3.8	1.0	I	0.3750	-0.2584
	33	abundant and variety dividends choice	29.3	8.0	29.9	30.1	2.2	0.6	I	0.3834	-0.3895
	34	provide call taxi service	29.7	8.4	25.7	32.9	2.4	1.0	I	0.3940	-0.3526

[Note]: A: attractive ,O:one-dimensional, M:must-be, I: indifferent ,R:reverse,Q:question

TABLE 3: IMPORTANCE AND SATISFACTION DATA TRANSFERRING

Structure	No.	Importance			Satisfaction		
		Average (before)	Average (after)	Rank	Average (before)	Average (after)	Rank
Tangibles	7	3.70	0.7	29	3.97	0.97	8
	16	4.09	1.09	18	3.95	0.95	9
	18	4.53	1.53	4	4.01	1.01	2
	23	4.03	1.03	22	3.60	0.60	28
Reliability	4	4.37	1.37	12	3.95	0.95	9
	21	4.44	1.44	8	3.80	0.80	22
	22	4.33	1.33	14	3.86	0.86	18
	24	4.38	1.38	10	3.88	0.88	16
	32	4.59	1.59	1	3.85	0.85	19
Assurance	26	3.95	0.95	25	3.65	0.65	27
	27	4.23	1.23	15	3.84	0.84	20
	29	4.10	1.1	17	3.73	0.73	24
Responsiveness	1	4.06	1.06	20	3.98	0.98	6
	10	4.50	1.5	5	3.95	0.95	9
	11	4.47	1.47	6	3.99	0.99	5
	12	4.56	1.56	3	3.94	0.94	13
	13	4.58	1.58	2	3.93	0.93	15
	15	4.34	1.34	13	3.95	0.95	9
	17	4.47	1.47	6	3.87	0.87	17
Empathy	2	3.99	0.99	23	3.98	0.98	6
	3	3.84	0.84	27	3.68	0.68	26
	5	4.08	1.08	19	3.76	0.76	23
	6	3.94	0.94	26	3.20	0.20	30
	8	3.97	0.97	24	4.01	1.01	2
	9	3.66	0.66	30	3.53	0.53	29
	14	4.06	1.06	20	4.08	1.08	1
	19	4.42	1.42	9	4.01	1.01	2
	20	4.38	1.38	10	3.94	0.94	13
	25	3.83	0.83	28	3.70	0.70	25
	28	4.22	1.22	16	3.82	0.82	21

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Then, using "improvement index of quality" and "difference index" we can determine the priority of customer's demand. Two principles are used as follows:

(1)   Those difference indices are minor (especially in the negative value) should have priority to be improved.

(2)   If two or more difference indices are the same, the element with a smaller index of quality has priority to be improved.

Applying these two principles to rank the priority of customer's demands, we can get the standard weights, which are given in Table 4. On the other hand, we determine to the technological structure of service quality which are divided "Management for operation", "Management for information" by interviewing the administrative staff. This technological structure of service quality whole involving 18 quality technology (See Table 5).

TABLE 4: STANDARD WEIGHT OF IMPORTANT SERVICE QUALITY

Structure	No.	Improvement index of quality	Difference index	Original priority weight	Original weigh	Standard weight
Tangibles	7	0.679	21	29	2	0.0043
	16	1.0355	9	25	6	0.0129
	18	1.5453	2	20	11	0.0237
	23	0.618	-6	7	24	0.0516
Reliability	4	1.3015	3	22	9	0.0194
	21	1.152	-14	2	29	0.0624
	22	1.1438	-4	13	18	0.0387
	24	1.2144	-6	8	23	0.0495
	32	1.3515	-18	1	30	0.0645
Assurance	26	0.6175	-2	16	15	0.0323
	27	1.0332	-5	10	21	0.0452
	29	0.803	-7	6	25	0.0538
Responsiveness	1	1.0388	14	26	5	0.0108
	10	1.425	-4	14	17	0.0366
	11	1.4553	1	18	13	0.0280
	12	1.4664	-10	5	26	0.0559
	13	1.4694	-13	3	28	0.0602
	15	1.273	4	23	8	0.0172
	17	1.2789	-11	4	27	0.0581
Empathy	2	0.9702	17	27	4	0.0086
	3	0.5712	1	19	12	0.0258
	5	0.8208	-4	12	19	0.0409
	6	0.188	-4	11	20	0.0430
	8	0.9797	22	30	1	0.0022
	9	0.3498	1	17	14	0.0301
	14	1.1448	19	28	3	0.0065
	19	1.4342	7	24	7	0.0151
	20	1.2972	-3	15	16	0.0344
	25	0.581	3	21	10	0.0215
	28	1.0004	-5	9	22	0.0473

CONCLUSIONS

According to the Kano two-dimension quality model, we analyze the whole quality of the hotel industry. By summarizing 34 quality elements, we found that two essential quality factors be classified as "attractive quality elements"; 28 quality items are "must-be quality elements"; and 4 quality items are "indifferent quality elements". It indicates that hotel service quality really possesses two-dimensional quality rather than simple one-dimensional quality. Also, we analysis the customer satisfaction (CS) coefficient about satisfaction increment index (SII) and dissatisfaction decrement index (DDI). The result showed that DDI higher than SII in all service quality. It indicates that hotel industry should improve the service to decrease the dissatisfaction of customer. Especially in "clear and comfortable", "accuracy of settlement", "friendliness services", "disciplined attendants", "thorough fire protection equipment", and "exit direction smooth and clear". In summary, this paper only analyzed the hotel industry in India.

RECOMMENDATIONS FOR FUTURE RESEARCH

We suggest that in the future. Researchers can follow this concept to compare several different facilities in hotel industry of different countries. In future research involves identifications of the Kano category parameters (i.e. "4", "2"and "1").Presently; this is left to the QFD practitioner's expert opinion. It may be worthwhile to propose a means for objectively determining these numerical values. Its purpose would be to reduce ambiguity for attribute that straddle between two categories. Another recommendation might be to consider incorporation of the customers' future voices.

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TABLE

TABLE 5: HOQ OF THE HOTEL

Kano category value
A = 4 : Attractive
O = 2 : One-dimensional
M = 1 : Must-be

Relationship symbol
◎ = 5 : Highly relevant
o = 3 : Medium relevant
△ = 1 : Lower relevant

		Kano category	Management for operation						Management for information	Weight computation				
			Management of branch service	Capability of create goodwill	Marketing capability	Development of drinks and foods	Design of balcony	Design of order system	Play songs system	Improvement index of quality	Difference index	Original priority weight	Original weight	Standard weight
Tangibles	luxuriously building	M						◎		0.679	21	29	2	0.0043
	good ambiance	M						◎		1.0355	9	25	6	0.0129
	clear and comfortable environment	M	◎					o		1.5453	2	20	11	0.0237
	enough microphones	M						◎		0.618	-6	7	24	0.0516
Reliability	update new songs quickly	M		△	△					1.3015	3	22	9	0.0194
	play songs quickly	M	o					◎	◎	1.152	-14	2	29	0.0624
	good video tape of MTV	M							o	1.1438	-4	13	18	0.0387
	good audio and video	M	△							1.2144	-6	8	23	0.0495
	accuracy of settlement	M	△							1.3515	-18	1	30	0.0645
Assurance	good honor and impression of the company	M	△							0.6175	-2	16	15	0.0323
	friendliness services	M	△							1.0332	-5	10	21	0.0452
	disciplined attendants	M	△							0.803	-7	6	25	0.0538
Responsiveness	drinks and foods delivery soon	M		◎	◎	△	o	△		1.0388	14	26	5	0.0108
	attendants come soon when customer push the services button	M	△							1.425	-4	14	17	0.0366
	attendants ask customer want actively and handle the problems well	M	△							1.4553	1	18	13	0.0280
	variety of made reservations	M	◎					o		1.4664	-10	5	26	0.0559
	provide membership personal services	M	◎					◎		1.4694	-13	3	28	0.0602
	convenience traffic	M	△							1.273	4	23	8	0.0172
	provide free parking space	M						◎		1.2789	-11	4	27	0.0581
Empathy	pleasant lobby or waiting area	M	◎							0.9702	17	27	4	0.0086
	supply smoking section	A								0.5712	1	19	12	0.0258
	diversification of balcony	M						◎		0.8208	-4	12	19	0.0409
	order systems convenient	A	o							0.188	-4	11	20	0.0430
	find songs easily	M	◎							0.9797	22	30	1	0.0022
	abundant drinks and foods	M	◎							0.3498	1	17	14	0.0301
	attendant understand what customer needs	M						◎		1.1448	19	28	3	0.0065
	set up automatic rating system	M							◎	1.4342	7	24	7	0.0151
	provide record songs service	M							◎	1.2972	-3	15	16	0.0344
	abundant and variety dividends choice	M				◎				0.581	3	21	10	0.0215
	provide call taxi service	M								1.0004	-5	9	22	0.0473
quality technology absolute weight			1.9338	0.0734	0.0734	0.1183	1.2392	0.7748	0.4281					
quality technology relative weight			0.1475	0.0056	0.0056	0.0090	0.0945	0.0591	0.0326					
priority of quality improves technology			2	17	17	16	4	8	10					

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BEHAVIOUR OF STOCK MARKET VOLATILITY IN DEVELOPING COUNTRIES

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ABSTRACT

BRICM (Brazil, Russia, India, China, and Mexico) economies are the largest developing countries which provide the profitable opportunities to the investors in the future. Mexican economy is also considered in the same line. The present study is an attempt to know the risk and return relationship and nature of stock market volatility of these countries' stock market by applying GARCH, GARCH-M, and EGARCH models over a period of January 1999 to May 2010. The study found a significant asymmetry effect in all the selected countries but no significant relationship was found between expected return and conditional variance. Recent news and historical volatility plays a significant role in explaining the current volatility.

KEYWORDS

BRICM, GARCH, GARCH-M, EGARCH, Conditional Variance.

INTRODUCTION

Modelling and forecasting financial markets volatility has received considerable attention from academic researchers, policy makers and practitioners during the past 25 years and since the appearance of the seminal paper of Engle (1982). The main reason for this enormous interest is because volatility is used as a measure of risk and different participants of the financial markets need this measure for various purposes. For instance, volatility is needed as an input in portfolio management by portfolio managers and investors. It is needed in the pricing of derivatives securities (pricing of options in particular). The well-known option pricing formula of Black-Scholes (1973) requires a measure of stock price volatility. Financial regulators and financial institutions require quantifying the financial risk. The principal difficulty is that volatility is not constant over time and that financial market Volatility exhibits certain characteristics that are specific to financial time series (Bollerslev, 1986 and 1990). Therefore, practitioners and financial econometricians have developed a variety of time-varying volatility models that takes into account these characteristics. However, investments in these economies are looking quite lucrative still one should understand the basic nature of the underlying countries' stock markets. The present study is an attempt in the same direction as it examines the relationship between time varying return and volatility in these five markets named Brazil, Russia, India, China and Mexico.

LITERATURE REVIEW

Extensive empirical research has been carried out to investigate the stock market volatility in different countries. French *et al* (1987) examined the relation between stock return and stock market volatility by using GARCH-in-mean model of Engle et al and found positive relation between expected risk premium and volatility. Akgiray (1989) presented new evidence about the time series behavior of stock market returns by applying some new time series model to daily return series. Geyer (1994) analyzed the properties of volatility estimates based on traditional methods and GARCH models. Nicholls and Tonuri (1995) presented an overview of the GARCH family of variance models examined the behavior of Australian aggregate stock market volatility over the period 1988-91 using the GARCH framework. Koutmos (1999) and Koutmos and Saidi (1995) found that the conditional variance of Asian stock markets is an asymmetric function of past innovations. Positive past returns are on average 1.4 times more persistent than negative past returns of an equal magnitude. Aggarwal, Inclan, and Leal (1999) explored the stock market volatility of 10 largest emerging markets in Asia and Latin America. They found that shifts in volatility of considered emerging markets is related to important country-specific political, social, and economic events. Moreover, the time- varying stock market volatility is modelled by GARCH models. Researchers have empirically demonstrated (e.g., Harvey, 2001; Li et al., 2003) that the relationship between return and volatility depends on the specification of conditional volatility. Guojun Wu (2001) developed an asymmetric volatility model where dividend growth and dividend volatility are the two state variables of the economy. The model allows the asymmetric effect and the volatility feedback effect, the two popular explanations of asymmetry. he found that both the asymmetric effect and volatility feedback are important determinants of asymmetric volatility, and volatility feedback is significant both statistically and economically.In particular, using a parametric GARCH-M model, Li et al. (2003) found that a positive but statistically insignificant relationship exists for all the 12 major developed markets. By contrast, using a flexible semiparametric GARCH-M model, they document that a negative relationship prevails in most cases and is significant in 6 out of the 12 markets. Xuejing Xing (2004) found that the education level of investors plays a significant role in explaining cross-country market volatility differences. Jaeun Shin, (2005) Both parametric and semi parametric GARCH in mean estimations found a positive but insignificant relationship between expected stock returns and volatility in emerging stock markets. The 1997–1998 global emerging market crises seem to induce changes in GARCH parameters. Hui Guo and Christopher J. Neely (2006) analyzed the risk-return relation using the component GARCH model and international daily MSCI stock market data, concluded that that the relation is positive in almost all markets and often statistically significant. Charlie X. Cai, Robert W. Faff, David J. Hillier and Michael D. McKenzie (2006) empirically investigated the exposure of country-level conditional stock return volatilities to conditional global stock return volatility. It provides evidence that conditional stock market return volatilities have a contemporaneous association with global return volatilities. Rajni Mala and Mahendra Reddy (2007) used the Autoregressive Conditional Heteroskedasticity (ARCH) models and its extension, the Generalized ARCH model was used to find out the presence of the stock market volatility on Fiji's stock market and it was found out that seven out of the sixteen firms listed on Fiji's stock market is volatile. Christos Floros (2008) examined the use of GARCH-type models for modelling volatility and explaining financial market risk. He used daily data from Egypt (CMA General index) and Israel (TASE-100 index). Various time series methods were employed, including the simple GARCH model, as well as exponential GARCH, threshold GARCH, asymmetric component GARCH, the component GARCH and the power GARCH model and concluded that increased risk will not necessarily lead to a rise in the returns. Hung-Chun Liu, Yen-Hsien Lee and Ming-Chih Lee(2009) found that GARCH-SGED model is superior to the GARCH-N model in forecasting China stock market's volatility. Sabur Mollah and Asma Mobarek(2009) investigated the time-varying risk return relationship and the persistence of shocks to volatility within GARCH framework both in developed and emerging markets. Found that there is a long-term persistence shock in emerging markets compared to developed markets. Amir Rafique and Kashif-Ur-Rehman(2011) compared the variance structure of high (daily) and low (weekly, monthly) frequencies of data. By employing ARCH (1) and GARCH (1, 1) models and found that the variance structure of high-frequency data were dissimilar from the low frequencies of data.

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In Indian financial markets ARCH/GARCH models have been used by Thomas (1995, 1998), Pattanaik and Chatterjee (2000) and Kaur (2002) to model volatility. Shenbagaraman (2003) examined the impact of introduction of index futures and options on the volatility of underlying stock index using a GARCH model. Kumar and Mukhopadhyay (2002) applied the GARCH models to examine the co-movement and volatility transmission between the US and Indian stock markets. Hojatallah Goudarzi (2011) studied the effects of good and bad news on volatility in the Indian stock markets using asymmetric ARCH models and concluded that, bad news in the Indian stock market increases volatility more than good news.

Compared to a large empirical literature on developed markets, only a few studies have been conducted on emerging markets, including Choudhry (1996) on 6 emerging markets, De Santis and Imrohoroglu (1997) on 14 emerging markets, and Lee et al. (2001) on China's stock markets. All these studies report positive but not statistically significant relationships between stock market returns and conditional variance in most of the emerging stock markets under investigation. The main contribution of this study is to present more reliable evidence on their relationship between stock returns and volatility, and asymmetry effect in emerging stock markets.

DATA AND METHODOLOGY

According to the Goldman Sachs report (2003) Brazil, Russia, China and India (BRIC) are the most emerging markets over the world. Goldman Sachs argues that the economic potential of Brazil, Russia, India, and China is such that they could become among the four most dominant economies by the year 2050. In its revised report in 2005 Goldman reported the Mexico is also a potential country which can join BRIC on the economic growth ground. So these five most emerging markets have been taken as sample for the study.

SENSEX has been taken as a proxy to its market. Actually, SENSEX is a representative index of Indian stock market, which comprises thirty most liquid individual stocks at Bombay Stock Exchange Ltd. (BSE). It is also considered as an indicator of the performance of whole economy. RTSI has been used as a proxy of the Russian Trading System Stock exchange for Russia. Shanghai Stock Exchange (SSE) for China, Brazil BOVESPA Index for Brazil, IPC of Mexican Stock Exchange (BMV:BOLSA) for Mexico .Accordingly, the daily closing prices of all indices were collected from moneycontrol.com for the period January 1999 to May 2010.

Daily stock prices have been converted to daily returns. The present study uses the logarithmic difference of prices of two successive periods for the calculation of rate of return. Time series data are often assumed to be non-stationary. It is thus necessary to perform a pre-test to ensure that a stationary relationship existed among the variables. This would avoid problems of spurious regressions. To test for the presence of unit roots, the standard Augmented Dickey-Fuller (ADF) and Philips-Perron (PP) tests are employed in the study. Econometrics analysis package EView has been used to test the return and volatility data for various statistical properties and to estimate GARCH/GARCH-M/EGARCH/models.

MODEL SPECIFICATION

This study is based on four model specification-Standard GARCH model, GARCH-M model and EGARCH model. One of the primary restrictions of GARCH models is that they enforce a symmetric response of volatility to positive and negative shocks. This arises since the conditional variance in GARCH model is function of the magnitudes of the lagged residuals and not their signs (in other words, by squaring the lagged error in GARCH, the sign is lost). However, it has been argued that a negative shock to financial time series is likely to cause volatility to rise by more than a positive shock of the same magnitude. In the case of equity returns, such asymmetries are typically attributed to asymmetric effects, whereby a fall in the value of a firm's stock causes the firm's debt to equity ratio, to rise. This leads shareholders, who bear the residual risk of the firm, to perceive their future cash flow stream as being relatively more risky (Brooks, 2002). To model this phenomenon in this study we applied the model that allow for asymmetric shocks to volatility, the Exponential GARCH (EGARCH) model proposed by Nelson (1991).

GARCH MODEL

The basic and most widespread model GARCH (1, 1) was used in this study. The GARCH (1, 1) model is based on the assumption that forecasts of time varying variance depend on the lagged variance of the asset. An unexpected increase or decrease in returns at time *t* will generate an increase in the expected variability in the next period. The specification of the GARCH (1,1) model:

$R_t = c + \rho R_{t-1} + \varepsilon_t$ ....1(a)

$\varepsilon_{t/} \varepsilon_{t-1} \sim N(0, \sigma_t^2)$ ....1(b)

$\sigma_t^2 = \omega + \alpha \varepsilon_{t-1}^2 + \beta \sigma_{t-1}^2$ ....1(c)

R_t is the stock market return and ε_t stand for a Gaussian innovation with zero mean.

σ_t^2 is known as conditional variance since it is a one period ahead estimate for the variance calculated based on any past information thought relevant. $\alpha \varepsilon_{t-1}^2$ is the information about volatility during the previous period and $\beta \sigma_{t-1}^2$ is shows the fitted variance from the model during the previous period.

GARCH-M MODEL

GARCH in mean or GARCH-M Model was originally proposed by Engle, Lilien and Robins (1987). In this model conditional mean is specified as a linear function of conditional variance. This study uses the following GARCH-M (1, 1) Model:

$R_t = c + \rho R_{t-1} + \gamma \sigma_t^2 + \varepsilon_t$ ....2(a)

$\varepsilon_{t/} \varepsilon_{t-1} \sim N(0, \sigma_t^2)$ ....2(b)

$\sigma_t^2 = \omega + \alpha \varepsilon_{t-1}^2 + \beta \sigma_{t-1}^2$ ....2(c)

R_t is the stock market return and ε_t stand for a Gaussian innovation with zero mean. Among the parameters to be estimated, the most relevant one for this study is the parameter γ because both the sign and significance of this parameter directly shed light on the nature of relationship between stock market return and volatility. More precisely a significant positive estimate of γ implies that investors who trade stocks are compensated with higher returns for bearing higher level of risk. A significant negative estimates indicates that investors are penalized for bearing higher level of risk.

σ_t^2 is known as conditional variance since it is a one period ahead estimate for the variance calculated based on any past information thought relevant. $\alpha \varepsilon_{t-1}^2$ is the information about volatility during the previous period and $\beta \sigma_{t-1}^2$ is shows the fitted variance from the model during the previous period.

EGARCH MODEL

This model was proposed by Nelson (1991). EGARCH Model is based on log transformation of conditional variance $[\log(\sigma_t^2)]$ then even if the parameters are negative, σ_t^2 will be positive.. Thus there is no need to artificially impose non negativity constraints on model parameters. Therefore this Exponential GARCH Model is most popular among the asymmetric GARCH Models.

$$h_t = \alpha_0 + \sum_{i=1}^{p} \alpha_i \frac{|\varepsilon_{t-i}| + \gamma_i \varepsilon_{t-i}}{\sigma_{t-i}} + \sum_{j=1}^{q} b_j h_{t-j}$$

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Where $h_t = log\ \sigma_t^2$. Note that when ε_{t-i} is positive or there is "good news" , the total effect *of* ε_{t-i} is $(1+\gamma_i)\ |\ \varepsilon_{t-i}\ |$; in contrast, when ε_{t-i} is negative or there is "bad news", the total effect of ε_{t-i} is

$(1-\gamma_{i)}\ |\ \varepsilon_{t-i}\ |$. Bad news can have a large impact on volatility and the value of γ_i would be expressed to negative.

This study uses the following EGARCH (1, 1) model:

$R_t\ =\ c\ +\ \rho R_{t-1}\ +\ \varepsilon_t$ ....4(a)

$$\ln\ h_t^{\,2}\ =\ \omega\ +\ \alpha\ \left| \frac{\varepsilon_{t-1}}{h_{t-1}} \right|\ +\ \gamma\ \frac{\varepsilon_{t-1}}{h_{t-1}}\ +\ \beta\ \ln\ h_{t-1}^{\,2}$$

...............3(a)

To accept the Null Hypothesis of no asymmetric effect in EGARCH model, the γ coefficient must not be negative otherwise alternative hypothesis will be accepted. In other words, if the γ coefficient is negative there is evidence of asymmetric effects in the series.

EMPIRICAL FINDINGS

First of all comparative analysis of different markets have been done on the basis of various descriptive statistics measures and the results of the same are given in Table 1.

TABLE 1: DESCRIPTIVE STATISTICS OF THE RETURN SERIES OF VARIOUS STOCK MARKETS' RETURN FOR THE PERIOD JANUARY 1999 TO MAY 2010

Statistics	BRAZIL	MEXICO	RUSSIA	INDIA	CHINA
Mean	0.001	0.001	0.001	0.001	0.000
Median	0.001	0.001	0.002	0.001	0.000
Std. Dev.	0.021	0.016	0.026	0.018	0.017
Kurtosis	17.847	6.522	10.246	8.497	7.341
Skewness	0.800	0.128	-0.316	-0.106	-0.098
ARCH-LM Statistics	63.906(0.000)	38.3825(0.000)	111.432(0.000)	107.697(0.000)	48.945(0.000)
K-S Statistics	2.541(0.000)	3.308(0.000)	3.308(0.000)	4.076(0.000)	4.383(0.000)
Minimum	-0.121	-0.083	-0.212	-0.118	-0.093
Maximum	0.288	0.104	0.202	0.160	0.094

Table1 shows that over the sample period January 1999 to May 2010 highest daily mean return was given by Russian stock market with highest standard deviation which conform the thumb rule of higher risk and higher return. Out of all six markets, second rank has been achieved by Brazil with an average daily return of .08 per cent and standard deviation of the return series is 2.11 per cent. Mexico stock market gained the third highest return followed by India and China respectively. But in case of risk India stock market attained third position with a standard deviation of 1.78 per cent followed by the China and Mexico. In each country null hypothesis is of homoskedasticity but by looking at the p value given in above table it can be interpreted that null hypothesis is rejected at 5% significance level. It suggests that there is heteroskedasticity in stock returns.

The time series have self-explaining power. So sometime these normal statistical tests produce misleading results, in order to remove this ambiguity econometric tools have been used. For an econometric model it is a pre-condition that the series must be stationary and to check whether these time series are stationary or not Augmented Dickey Fuller (ADF) and Phillip Perron test have been applied. Results of the same have been produced in Table 2. Table shows that all series are stationary at 5 per cent level of significance. Null hypothesizes for both of the tests that the series have a unit root are rejected as the test statistics in all case are higher the critical values given in table.

TABLE 2: RESULTS OF AUGMENTED DICKEY FULLER (ADF) TEST AND PHILLIP PERRRON (PP) TEST

	Augmented Dickey Fuller Test(ADF)		Phillip Perron Test (PP)	
Country	With Intercept	With Trend & Intercept	With Intercept	With Trend & Intercept
Brazil	-38.12856*	-38.12531*	-52.00967*	-52.00436*
Russia	-34.95468*	-34.99189*	-47.52974*	-47.56467*
India	-37.69513*	-37.68983*	-49.39980*	-49.39202*
China	-37.11691*	-37.10996*	-51.38015*	-51.37072*
Mexico	-38.10030*	-38.09711*	-47.97436*	-47.96885*
Critical Values				
1 % level of Significance	-3.432483	-3.961305	-3.432479	-3.961299
5 % level of Significance	-2.862367	-3.411402	-2.862366	-3.411402
10 % level of Significance	-2.567255	-3.127552	-2.567254	-3.127552

Note: * Rejection of null hypothesis at 5 per cent level of significance.

BRAZIL

Table 3 presents the results of standard GARCH model and GARCH-M model. GARCH-M model shows that coefficient of variance in return equation is positive and significant .This result is consistent with ICAPM theory means as risk increase, return also increase.

The log likelihood value of both models shows that after including the variance term in return equation there is no significant improvement in model specification. In variance equation the coefficient of lagged squared residual and lagged conditional variance is positive and highly significant. Sum of both coefficients is close to unity which indicates that shock to conditional variance will be highly persistent. Impact of previous volatility on current volatility is more in comparison to impact of recent information on current volatility.

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TABLE 3: RESULTS OF GARCH AND GARCH-M MODELS IN BRAZIL

PARAMETERS	GARCH			GARCH – M		
	Coefficient	Z – Value	p – value	Coefficient	Z – Value	p – value
Return Equation						
Intercept (c)	0.0012	3.4016	0.0007	-0.0003	-0.0439	0.9650
AR (1)	0.0151	0.7615	0.4463	0.0123	0.5767	0.5641
Volatility	-	-	-	3.9371	2.6466	0.0081
Variance Equation						
Intercept (ω)	0.0001	5.8554	0.0000	0.0001	5.9587	0.0000
A	0.0731	8.8609	0.0000	0.0953	12.1912	0.0000
B	0.8961	81.7093	0.0000	0.8672	74.4304	0.0000
Diagnostic Statistics						
log likelihood	7212.1510			7204.4750		
Durbin waston statistic	1.9880			1.9862		
Schwarz criterion	-5.1045			-5.0963		
Akaike Information criterion	-5.1151			-5.1089		

Table 4 shows the results of EGARCH model which presents that coefficient of asymmetry (-0.087930) is negative and highly significant which prove the strong presence of asymmetry in volatility, i.e., tendency for volatility to rise more following a large price fall than following a price rise of the same magnitude.

TABLE 4: RESULTS OF EGARCH MODEL IN BRAZIL

PARAMETERS	EGARCH		
	Coefficient	Z - Value	p - value
Return Equation			
Intercept (c)	0.0006	1.8305	0.0672
AR (1)	0.0308	1.5071	0.1318
Variance Equation			
Intercept (ω)	-0.3658	-8.4014	0.0000
A	0.1321	9.3109	0.0000
B	0.9672	207.8423	0.0000
Asymmetry (γ)	-0.0879	-9.3302	0.0000
Diagnostic Statistics			
log likelihood	7244.9960		
Durbin waston statistic	2.0191		
Schwarz criterion	-5.1250		
Akaike Information criterion	-5.1377		

RUSSIA

Table 5 presents the results of GARCH model and GARCH-M model which shows that coefficient of variance in return equation is positive but insignificant which is consistent with ICAPM theory log likelihood of both model shows that after including variance term in return equation makes no improvement in model specification.

Coefficient of lagged squared residual and lagged conditional variance is positive and significant in case of both the model. Impact of lagged conditional variance on volatility is higher than impact of lagged squared residual.

TABLE 5: RESULTS OF GARCH AND GARCH-M MODELS IN RUSSIA

PARAMETERS	GARCH			GARCH – M		
	Coefficient	Z – Value	p - value	Coefficient	Z – Value	p – value
Return Equation						
Intercept (c)	0.0019	5.0807	0.0000	0.0019	3.6683	0.0002
AR (1)	0.0975	4.8207	0.0000	0.0978	4.8094	0.0000
Volatility	-	-	-	0.1763	0.1643	0.8695
Variance Equation						
Intercept (ω)	0.0001	8.0565	0.0000	0.0001	7.9942	0.0000
A	0.1249	12.5593	0.0000	0.1253	12.5073	0.0000
B	0.8598	81.4847	0.0000	0.8596	80.8548	0.0000
Diagnostic Statistics						
log likelihood	6922.0010			6921.5080		
Durbin waston statistic	1.9692			1.9686		
Schwarz criterion	-4.8606			-4.8575		
Akaike Information criterion	-4.8711			-4.8701		

Table 6 presents results of EGARCH model where coefficient of asymmetry is negative (-0.044375) and highly significant. It means asymmetry effect present in volatility of Russian stock market, i.e. tendency for volatility to rise more following a price fall than following a price rise of the same magnitude.

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TABLE 6: RESULTS OF EGARCH MODEL IN RUSSIA

PARAMETERS	EGARCH		
	Coefficient	Z – Value	p - value
Return Equation			
Intercept (c)	0.0016	4.4191	0.0000
AR (1)	0.0985	5.1710	0.0000
Variance Equation			
Intercept (ω)	-0.4289	-11.8162	0.0000
A	0.2372	14.9591	0.0000
B	0.9676	274.4145	0.0000
Asymmetry (γ)	-0.0444	-5.2320	0.0000
Diagnostic Statistics			
log likelihood	6913.7760		
Durbin waston statistic	1.9721		
Schwarz criterion	-4.8521		
Akaike Information criterion	-4.864631		

INDIA

Table 7 presents the results of GARCH and GARCH-M model. The coefficient of variance in return equation is negative and statistically insignificant for sensex index. This result is inconsistent with ICAPM theory .in other words, the market does not seems to price time varying volatility. The log likelihood value of GARCH-M model in comparison to GARCH model is not significant. Therefore including variance term in return equation does not make any improvement in model specification.

In both model coefficient of both lagged squared residual and lagged conditional variance term in variance equation are highly statistically significant. Also the sum of coefficient of lagged squared residual and lagged conditional variance is very close to unity. This implies that shock to the conditional variance will be highly persistent.

TABLE 7: RESULTS OF GARCH AND GARCH-M MODELS IN INDIA

PARAMETERS	GARCH			GARCH – M		
	Coefficient	Z – Value	p – value	Coefficient	Z – Value	p – value
Return Equation						
Intercept (c)	0.0143	5.7342	0.0000	0.0014	3.9674	0.0001
AR (1)	0.0789	3.9060	0.0001	0.0791	3.8967	0.0001
Volatility	-	-	-	-0.0581	-0.0353	0.9719
Variance Equation						
Intercept (ω)	0.0001	7.5898	0.0000	0.0001	7.5875	0.0000
A	0.1324	14.3627	0.0000	0.1323	14.3370	0.0000
B	0.8500	93.1404	0.0000	0.8501	93.0647	0.0000
Diagnostic Statistics						
log likelihood	7766.8950			7766.9020		
Durbin waston statistic	2.0044			2.0050		
Schwarz criterion	-5.4983			-5.4954		
Akaike Information criterion	-5.5088			-5.5081		

Table 8 presents the results of EGARCH model which shows that the coefficient of asymmetry is (-0.109289) negative and highly significant. The results indicates a strong presence of the asymmetry effect in volatility i.e., volatility increase disproportionately with negative shock in stock return.

TABLE 8: RESULTS OF EGARCH MODEL IN INDIA

PARAMETERS	EGARCH		
	Coefficient	Z – Value	p – value
Return Equation			
Intercept (c)	0.0007	2.7641	0.0057
AR (1)	0.9723	0.0201	0.0000
Variance Equation			
Intercept (ω)	-0.5616	-12.8031	0.0000
A	0.2484	16.1216	0.0000
B	0.9556	215.1066	0.0000
Asymmetry (γ)	-0.1093	-10.9850	0.0000
Diagnostic Statistics			
log likelihood	7796.1840		
Durbin waston statistic	2.043183		
Schwarz criterion	-5.516219		
Akaike Information criterion	-5.528874		

CHINA

Table 9 shows the results of GARCH and GARCH-M model presents that coefficient of variance in return equation is positive which is consistent with ICAPM theory means market price the time varying volatility. The log likelihood value of GARCH-M model in comparison to standard GARCH model is not significant. Therefore including variance term in return equation does not make any improvement in model specification.

In both model coefficient of lagged squared residual and lagged conditional variance is positive and highly significant and sum of both the coefficient is close to unity means shock to conditional variance will be persistent and impact of GARCH term on volatility is more than impact of ARCH term.

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TABLE 9: RESULTS OF GARCH AND GARCH-M MODELS IN CHINA

PARAMETERS	GARCH			GARCH – M		
	Coefficient	Z – Value	p - value	Coefficient	Z – Value	p – value
Return Equation						
Intercept (c)	0.0003	1.3272	0.8440	-0.0007	-0.1862	0.8523
AR (1)	0.0132	0.7008	0.4835	0.0134	0.7029	0.4821
Volatility	-	-	-	2.1834	1.2829	10.1995
Variance Equation						
Intercept (ω)	0.0000	7.0562	0.0000	0.0000	6.7599	0.0000
A	0.0668	8.3594	0.0000	0.0672	17.4172	0.0000
B	0.9255	292.1904	0.0000	0.9252	264.5065	0.0000
Diagnostic Statistics						
log likelihood	7469.3440			7465.8410		
Durbin waston statistic	2.0124			2.0087		
Schwarz criterion	-5.5615			-5.5559		
Akaike Information criterion	-5.5725			-5.5691		

A table 10 shows result of EGARCH model which presents that coefficient of asymmetry is negative and highly significant. It proves that asymmetry presents in volatility means if there is negative news then volatility will be high in comparison to volatility rise as a result of positive news.

TABLE 10: RESULTS OF EGARCH MODEL IN CHINA

PARAMETERS	EGARCH		
	Coefficient	Z - Value	p – value
Return Equation			
Intercept (c)	0.0004	1.6177	0.1057
AR (1)	0.0097	0.5421	0.5877
Variance Equation			
Intercept (ω)	-0.1884	-14.2962	0.0000
A	0.1243	22.9289	0.0000
B	0.9882	619.5284	0.0000
Asymmetry (γ)	-0.0257	-5.7102	0.0000
Diagnostic Statistics			
log likelihood	7477.0330		
Durbin waston statistic	2.0052		
Schwarz criterion	-5.5643		
Akaike Information criterion	-5.577479		

MEXICO

Table 11 shows the results of standard GARCH model and GARCH-M model. The coefficient of volatility in return equation is positive and insignificant means as risk increase return also increase. The log likelihood value shows that after including variance term in return equation there is no significant improvement in the GARCH-M model in comparison to standard GARCH model. The coefficient of lagged squared residuals and lagged conditional variance is positive and highly significant and sum of both the coefficient is close to unity which shows that shock to conditional variance will persist in future volatility.

TABLE 11: RESULTS OF GARCH AND GARCH-M MODELS IN MEXICO

PARAMETERS	GARCH			GARCH – M		
	Coefficient	Z – Value	p - value	Coefficient	Z – Value	p – value
Return Equation						
Intercept (c)	0.0120	4.5502	0.0000	0.0008	1.9262	0.0541
AR (1)	0.0904	4.4838	0.0000	0.0909	4.4588	0.0000
Volatility	-	-	-	2.8992	1.4985	0.1340
Variance Equation						
Intercept (ω)	0.0000	5.6294	0.0000	0.0000	5.6164	0.0000
A	0.0739	10.3138	0.0000	0.0770	10.4422	0.0000
B	0.9148	126.8353	0.0000	0.9115	123.1356	0.0000
Diagnostic Statistics						
log likelihood	8188.7050			8187.6520		
Durbin waston statistic	1.9504			1.9482		
Schwarz criterion	-5.7145			-5.7109		
Akaike Information criterion	-5.7249			-5.7234		

Table 12 indicates result of EGARCH model. The coefficient of asymmetry is negative (-0.102642) and highly significant. It proves that asymmetry effect present in volatility of Mexico stock market.

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TABLE 12: RESULTS OF EGARCH MODEL IN MEXICO

PARAMETERS	EGARCH		
	Coefficient	Z – Value	p – value
Return Equation			
Intercept (c)	0.0007	2.8261	0.0047
AR (1)	0.0990	5.0532	0.0000
Variance Equation			
Intercept (ω)	-0.2988	-9.5097	0.0000
A	0.1442	9.0446	0.0000
B	0.9782	341.2436	0.0000
Asymmetry (γ)	-0.1026	-11.2057	0.0000
Diagnostic Statistics			
log likelihood	8235.7140		
Durbin waston statistic	1.9679		
Schwarz criterion	-5.7446		
Akaike Information criterion	-5.757058		

CONCLUSION

This study investigated and modeled the stock market volatility in five developing stock markets using GARCH class of models; it is found that the sum of the GARCH coefficient is close to one in almost all the cases. That implies persistent of the conditional variance in all selected developing countries. The study shows positive relationship between expected stock return and conditional volatility prevails in Mexico, Russia and china, while such a relationship is insignificant in all the above said countries. This finding of the study is consistent with the literature using GARCH-M model (e.g., French et al, 1987; Choudhary 1996; De Santis, 1997; Lee et al., 2001; Jaeun shin, 2005). Where the existence of week relationship between risk and return is documented. In Brazil it is found that relationship is positive and highly significant which support the literature (Hui Guo and Christopher J.Neely, 2006). India is the only country in selected countries where the relationship between risk and return is negative but this relationship is insignificant which support the literature (Christos Floros, 2008). Hence it is possible that investor in Brazil, Mexico, Russia and China are compensated for bearing relevant local market risk while investors in India are often penalized by bearing irrelevant local market risk. EGARCH model used in this study shows that a strong asymmetric reaction of conditional volatility in response to the positive and negative innovation in conditional returns in all the selected developing countries. This finding is consistent with the literature (Hojatallah Goudarzi, 2011)

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FINANCIAL DERIVATIVES IN INDIA: DEVELOPMENT PATTERN AND TRADING IMPACT ON THE VOLATILITY OF NSE

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ABSTRACT

In India, the emergence and growth of derivatives market is relatively a recent phenomenon. Since its inception in June 2000, derivatives market has exhibited exponential growth both in terms of volume and number of traded contracts. The market turn-over has grown from Rs.2365 crore in 2000-2001 to more than Rs. 4356754.53 crores in 2010-2011. Within a short span of nine years, derivatives trading in India has surpassed cash segment in terms of turnover and number of traded contracts. The present study encompasses in its scope an analysis of historical roots of derivative trading, types of derivative products, trend and growth, future prospects and challenges of derivative market in India. This paper is an attempt to examine the time varying properties of volatility of India's stock index futures market. The application of GARCH class models provides the evidence of the persistence of time varying volatility, and its asymmetric effect. It is also inferred that in India's stock index futures market, bad news increases the volatility substantially. This volatility behavior of Indian capital market may be due to recent global financial meltdown that originated from US subprime crisis. Such empirical evidence keeps much relevance to policy makers and regulators of India in devising prudential norms and implementing warranted policy reforms.

KEYWORDS
Development pattern of Financial Derivatives, Derivatives trading and its impact on volatility of NSE, Financial Derivatives, Risk Management.

INTRODUCTION
Risk is a characteristic feature of all commodity and capital markets. Over time, variations in the prices of agricultural and non-agricultural commodities occur as a result of interaction of demand and supply forces. The last two decades have witnessed a many-fold increase in the volume of international trade and business due to the ever growing wave of globalization and liberalization sweeping across the world. As a result, financial markets have experienced rapid variations in interest and exchange rates, stock market prices thus exposing the corporate world to a state of growing financial risk.

The most desired instruments that allow market participants to manage risk in the modern securities trading are known as derivatives. The main logic behind the derivatives trading is that derivatives reduce the risk by providing an additional channel to invest with lower trading cost and it facilitates the investors to extend their settlement through the future contracts. It provides extra liquidity in the stock market. They represent contracts whose payoff at expiration is determined by the price of the underlying asset a currency, an interest rate, a commodity, or a stock.

Derivatives are traded in organized stock exchanges or over the counter by derivatives dealers. The issue of the impact of derivatives trading on stock market volatility has received considerable attention in recent years in India, particularly after the stock market crash of 2001. Derivative products like futures and options on Indian stock markets have become important instruments of price discovery, portfolio diversification and risk hedging in recent times. In the last decade, many emerging and transition economies have started introducing derivative contracts.

The present study attempts to discuss the genesis of financial derivatives trading by tracing its historical development, types of derivatives products, trend and growth, future prospects and challenges of derivative market in India. The study is organised into four sections.

Section I deals with the concept, definition, features, applications and types of financial derivatives.

Section II has been devoted to a discussion of the history and growth of derivatives market. Section III discusses Derivatives trading and its impact on volatility of NSE. The last section specifies summary and concluding remarks.

AIMS AND OBJECTIVES
The main aim of this research paper is to study the development pattern of derivative market in India and its trading impact on volatility of NSE. The other objectives of the study are as follows:
- To have an overview of the Financial Derivatives.
- To understand the products and applications of Financial Derivatives
- To analyze the growth of financial derivatives in India through Futures and Options from the period of 2000-01 to 2010-11
- To study the volatility of India's stock index futures market taking into account the National Stock Exchange as the role model by employing GARCH model.
- To propose conclusion and recommendation based upon the findings.

DERIVATIVES: A FINANCIAL RISK MANAGEMENT TOOL
Risk provides the basis for opportunity. The terms *risk* and *exposure* have subtle differences in their meaning. Risk refers to the probability of loss, while exposure is the possibility of loss, although they are often used interchangeably. Risk arises as a result of exposure. Exposure to financial markets affects most organizations, either directly or indirectly. When an organization has financial market exposure, there is a possibility of loss but also an opportunity for gain or profit. Financial market exposure may provide strategic or competitive benefits.

Financial risk management is the practice of creating economic value in a firm by using financial instruments to manage exposure to risk, particularly credit risk and market risk. Other types include Foreign exchange, Shape, Volatility, Sector, Liquidity, Inflation risks, etc. Similar to general risk management, financial risk management requires identifying its sources, measuring it, and plans to address them. Financial risk management can be qualitative and quantitative. As a specialization of risk management, financial risk management focuses on when and how to hedge using financial instruments to manage costly exposures to risk. Organizations manage financial risk using a variety of strategies and products. It is important to understand how these products and strategies work to reduce risk within the context of the organization's risk tolerance and objectives. Strategies for risk management often involve derivatives. Derivatives are traded widely

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among financial institutions and on organized exchanges. The value of derivatives contracts, such as futures, forwards, options, and swaps, is derived from the price of the underlying asset. Derivatives trade on interest rates, exchange rates, commodities, equity and fixed income securities, credit, and even weather. The products and strategies used by market participants to manage financial risk are the same ones used by speculators to increase leverage and risk. Although it can be argued that widespread use of derivatives increases risk, the existence of derivatives enables those who wish to reduce risk to pass it along to those who seek risk and its associated opportunities.

CONCEPT AND ROLE OF FINANCIAL DERIVATIVES

Financial derivatives are financial instruments whose payoffs are dependent upon other financial instruments underlying the transactions. These financial instruments can be anything from securities and currencies to indices. Some of the benefits that buyers of financial derivatives enjoy mainly include risk management and trade efficiency. This benefit is not related to the elimination of risks but is more about management of the investment risks involved. Financial derivatives prove to be powerful tools for limiting the risks which organizations and individuals have to face in ordinary conduction of the businesses.

Managing the risks successfully with financial derivatives require to understand fully the principles which govern the pricing and costs of these derivatives. Such trading activities require deep understanding and skillful execution of transactions. When used properly, it will be surprised to note how financial derivatives are able to save the costs and increase the returns.

Financial derivatives also facilitate the selling and buying of risk, and this is considered to have a great positive impact on the current economic system. Although people lose and gain money through derivatives, it does not adversely affect the economy of a country, which is a good thing to happen. Former chairman of the Federal Reserve Board, Alan Greenspan, said that the use of financial derivatives helps in softening the impact of economic downturn to a great extent. Financial derivatives are used by the investors for speculating and making profits, if the value of underlying assets moves in the desired way. Alternatively, the traders can also use these derivatives for hedging or mitigating the risks in the underlying assets, by entering into derivative contracts whose value has not moved in the expected direction.

Derivatives may be traded for a variety of reasons. Derivatives enable a trader to hedge some pre-existing risk by taking positions in derivatives markets that offset potential losses in the underlying or spot market. In India, most derivatives users describe themselves as hedgers and Indian laws generally require that derivatives be used for hedging purposes only. Another motive for derivatives trading is speculation (i.e. taking positions to profit from anticipated price movements). In practice, it may be difficult to distinguish whether a particular trade was for hedging or speculation, and active markets require the participation of both hedgers and speculators**.**

It is argued that derivatives encourage speculation, which destabilizes the spot market. The alleged destabilization takes the form of higher stock market volatility. The reason behind it is informational effect of the futures trading. Futures trading can alter the available information for two reasons: first, futures trading attract additional traders in the market; second, as transaction costs in the futures market are lower than those in the spot market, new information may be transmitted to the futures market more quickly. Thus, future markets provide an additional route by which information can be transmitted to the spot markets and therefore, increased spot market volatility may simply be a consequence of the more frequent arrival and more rapid processing of information.

Raju and Ghosh (2004) have expressed view for the consideration of volatility in the Indian stock market as tools of analysis of risk factors. Stock prices and their volatility add to the concern of attention. The growing linkages of national markets in currency, commodity and stock with world markets and existence of common players, have given volatility a new property – that of its speedy transmissibility across markets.

Among the general public, the term volatility is simply synonymous with risk. In their view, high volatility is to be deplored, because it means that security values are not dependable and the capital markets are not functioning as well as they should. Merton Miller (1991) the winner of the 1990 Nobel Prize in economics - writes in his book "Financial Innovation and Market Volatility" …. "*By volatility public seems to mean days when large market movements, particularly down moves, occur. These precipitous market wide price drops cannot always be traced to a specific news event.... The public takes a more deterministic view of stock prices; if the market crashes, there must be a specific reason.*" (Cited in Raju and Ghosh 2004).

The volatility on the Indian stock exchanges may be thought of as having two components: The volatility arising due to information based price changes and Volatility arising due to noise trading/ speculative trading, i.e., destabilizing volatility. As a concept, volatility is simple and intuitive.

APPLICATIONS OF FINANCIAL DERIVATIVES

Some of the applications of financial derivatives can be enumerated as follows:

1. *Management of risk:* This is most important function of derivatives. Risk management is not about the elimination of risk rather it is about the management of risk. Financial derivatives provide a powerful tool for limiting risks that individuals and organizations face in the ordinary conduct of their businesses. It requires a thorough understanding of the basic principles that regulate the pricing of financial derivatives. Effective use of derivatives can save cost, and it can increase returns for the organisations.

2. *Efficiency in trading*: Financial derivatives allow for free trading of risk components and that leads to improving market efficiency. Traders can use a position in one or more financial derivatives as a substitute for a position in the underlying instruments. In many instances, traders find financial derivatives to be a more attractive instrument than the underlying security. This is mainly because of the greater amount of liquidity in the market offered by derivatives as well as the lower transaction costs associated with trading a financial derivative as compared to the costs of trading the underlying instrument in cash market.

3. *Speculation:* This is not the only use, and probably not the most important use, of financial derivatives. Financial derivatives are considered to be risky. If not used properly, these can leads to financial destruction in an organisation like what happened in Barings Plc. However, these instruments act as a powerful instrument for knowledgeable traders to expose themselves to calculated and well understood risks in search of a reward, that is, profit.

4. *Price discover:* Another important application of derivatives is the price discovery which means revealing information about future cash market prices through the futures market. Derivatives markets provide a mechanism by which diverse and scattered opinions of future are collected into one readily discernible number which provides a consensus of knowledgeable thinking.

5. *Price stabilization function:* Derivative market helps to keep a stabilising influence on spot prices by reducing the short-term fluctuations. In other words, derivative reduces both peak and depths and leads to price stabilisation effect in the cash market for underlying asset.

TYPES OF FINANCIAL DERIVATIVES

A. Forwards: A forward contract is a customized contract between two entities, where settlement takes place on a specific date in the future at today's pre-agreed price.

B. Futures: A futures contract is an agreement between two parties to buy or sell an asset at a certain time in the future at a certain price. Futures contracts are special types of forward contracts in the sense that the former are standardized exchange-traded contracts.

C. Options: Options are of two types - calls and puts. Calls give the buyer the right but not the obligation to buy a given quantity of the underlying asset, at a given price on or before a given future date. Puts give the buyer the right, but not the obligation to sell a given quantity of the underlying asset at a given price on or before a given date.

D. Warrants: Options generally have lives of upto one year, the majority of options traded on 　 options exchanges having a maximum maturity of nine months. Longer-dated options are called warrants and are generally traded over-the-counter.

E. LEAPS: The acronym LEAPS means Long-Term Equity Anticipation Securities. These are options having a maturity of upto three years.

F. Baskets: Basket options are options on portfolios of underlying assets. The underlying asset is usually a moving average or a basket of assets. Equity index options are a form of basket options.

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I. Swaps: Swaps are private agreements between two parties to exchange cash flows in the future according to a prearranged formula. They can be regarded as portfolios of forward contracts. The two commonly used swaps are:

• Interest rate swaps: These entail swapping only the interest related cash flows between the parties in the same currency.

• Currency swaps: These entail swapping both principal and interest between the parties, with the cash flows in one direction being in a different currency than those in the opposite direction.

J. Swaptions: Swaptions are options to buy or sell a swap that will become operative at the expiry of the options. Thus a swaption is an option on a forward swap. Rather than have calls and puts, the swaptions market has receiver swaptions and payer swaptions. A receiver swaption is an option to receive fixed and pay floating. A payer swaption is an option to pay fixed and receive floating.

DEVELOPMENT PATTERN OF FINANCIAL DERIVATIVES
HISTORY OF DERIVATIVES MARKET IN INDIA

The history of derivatives may be new for developing countries but it is old for the developed countries. The history of derivatives is surprisingly longer than what most people think. The derivatives contracts were done not formally in the old times in the informal sectors. The advent of modern day derivative contracts is attributed to the need for farmers to protect themselves from any decline in the price of their crops due to delayed monsoon, or overproduction.

The first derivative as 'futures' contracts were introduced in the Yodoya rice market in Osaka, Japan around 1650. The contracts were evidently standardised contracts, like today's futures. The commodity derivative market has been functioning in India since the nineteenth century with organized trading in cotton through the establishment of Cotton Trade Association in 1875. In 1952, the Government of India banned cash settlement and options trading. Derivatives trading shifted to informal forwards markets. In recent years, government policy has shifted in favour of an increased role of market-based pricing and less suspicious derivatives trading. The first step towards introduction of financial derivatives trading in India was the promulgation of the Securities Laws (Amendment) Ordinance, 1995. It provided for withdrawal of prohibition on options in securities. The last decade, beginning the year 2000, saw lifting of ban on futures trading in many commodities. Around the same period, national electronic commodity exchanges were also set up.

Derivatives trading commenced in India in June 2000 after SEBI granted the final approval to this effect in May 2001 on the recommendation of L. C Gupta committee. Securities and Exchange Board of India (SEBI) permitted the derivative segments of two stock exchanges, NSE3 and BSE, and their clearing house/corporation to commence trading and settlement in approved derivatives contracts.

Initially, SEBI approved trading in index futures contracts based on various stock market indices such as, S&P CNX, Nifty and Sensex. Subsequently, index-based trading was permitted in options as well as individual securities.

The trading in BSE Sensex options commenced on June 4, 2001 and the trading in options on individual securities commenced in July 2001. Futures contracts on individual stocks were launched in November 2001. The derivatives trading on NSE commenced with S&P CNX Nifty Index futures on June 12, 2000. The trading in index options commenced on June 4, 2001 and trading in options on individual securities commenced on July 2, 2001. Single stock futures were launched on November 9, 2001. The index futures and options contract on NSE are based on S&P CNX. In June 2003, NSE introduced Interest Rate Futures which were subsequently banned due to pricing issue. Table 1 gives chronology of introduction of derivatives in India.

TABLE 1: DERIVATIVES IN INDIA: A CHRONOLOGY

Date	Progress
14 December 1995	NSE asked SEBI for permission to trade index futures
18 November 1996	SEBI setup L. C. Gupta Committee to draft a policy framework for index futures.
11 May 1998	L. C. Gupta Committee submitted report.
7 July 1999	RBI gave permission for OTC forward rate agreements (FRAs) and interest rate swaps
24 May 2000	SIMEX chose Nifty for trading futures and options on an Indian index.
25 May 2000	SEBI gave permission to NSE and BSE to do index futures trading.
9 June 2000	Trading of BSE Sensex futures commenced at BSE.
12 June 2000	Trading of Nifty futures commenced at NSE.
31 August 2000	Trading of futures and options on Nifty to commence at SIMEX.
June 2001	Trading of Equity Index Options at NSE
July 2001	Trading of Stock Options at NSE
November 9, 2002	Trading of Single Stock futures at BSE
June 2003	Trading of Interest Rate Futures at NSE
September 13, 2004	Weekly Options at BSE
January 1, 2008	Trading of Chhota (Mini) Sensex at BSE
January 1, 2008	Trading of Mini Index Futures & Options at NSE
August 29,2008	Trading of Currency Futures at NSE
October 2,2008	Trading of Currency Futures at BSE

Source: Complied from BSE and NSE

GROWTH OF DERIVATIVES MARKET IN INDIA

Equity derivatives market in India has registered an "explosive growth" and is expected to continue the same in the years to come. Introduced in 2000, financial derivatives market in India has shown a remarkable growth both in terms of volumes and numbers of traded contracts. NSE alone accounts for 99 percent of the derivatives trading in Indian markets. The introduction of derivatives has been well received by stock market players. Trading in derivatives gained popularity soon after its introduction. In due course, the turnover of the NSE derivatives market exceeded the turnover of the NSE cash market. For example, in 2010-11, the value of the NSE derivatives markets was Rs. 29248221.09 Cr. whereas the value of the NSE cash markets was only Rs. 35,77,412Cr. (See Table 2 through Table 5).

Among all the products traded on NSE in F& O segment, single stock futures also known as equity futures, are most popular in terms of volumes and number of contract traded, followed by index futures with turnover shares of 52 percent and 31 percent, respectively. In case of BSE, index futures outperform stock futures. An important feature of the derivative segment of NSE which may be observed from Table 4 and Table 5 is the huge gap between average daily transactions of its derivatives segment and cash segment. The following are some observations based on the trading statistics provided in the NSE report on the futures and options (F&O):

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TABLE 2: NSE DERIVATIVES SEGMENT TURNOVER (Rs. in Cr.)

Year	Index Futures	Stock Futures	Index Options	Stock Options	Interest Rate Futures	Total	Average Daily Turnover
2010-11	4356754.53	5495756.70	18365365.76	1030344.21	0.00	29248221.09	121352.32
2009-10	3934388.67	5195246.64	8027964.20	506065.18	0.00	17663664.57	72392.07
2008-09	3570111.40	3479642.12	3731501.84	229226.81	0.00	11010482.20	45310.63
2007-08	3820667.27	7548563.23	1362110.88	359136.55	0.00	13090477.75	52153.30
2006-07	2539574	3830967	791906	193795	0	7356242	29543
2005-06	1513755	2791697	338469	180253	0	4824174	19220
2004-05	772147	1484056	121943	168836	0	2546982	10107
2003-04	554446	1305939	52816	217207	202	2130610	8388
2002-03	43952	286533	9246	100131	-	439862	1752
2001-02	21483	51515	3765	25163	-	101926	410
2000-01	2365	-	-	-	-	2365	11

Source: Complied from NSE website

TABLE 3: NSE CASH & DERIVATIVES SEGMENT TURNOVER (Rs. in Cr.)

Year	Cash Segment	Derivatives Segment
2010-11	35,77,412	29248221.09
2009-10	4,138,024	17663664.57
2008-09	2,752,023	11010482.20
2007-08	3,551,038	13090477.75
2006-07	1,945,285	7356242
2005-06	1,569,556	4824174
2004-05	1,140,071	2546982
2003-04	1,099,535	2130610
2002-03	617,989	439862
2001-02	513,167	101926
2000-01	1,339,510	2365

Source: Complied from NSE website

TABLE 4: NUMBER OF CONTRACT TRADED AT NSE DERIVATIVES SEGMENT (Rs. in Cr.)

Year	Index Futures	Stock Futures	Index Options	Stock Options	Interest Rate Futures	Total
2010-11	165023653	186041459	650638557	32508393	0	1034212062
2009-10	178306889	145591240	341379523	14016270	0	679292922
2008-09	210428103	221577980	212088444	13295970	0	657390497
2007-08	156598579	203587952	55366038	9460631	0	425013200
2006-07	81487424	104955401	25157438	5283310	0	216883573
2005-06	58537886	80905493	12935116	5240776	0	157619271
2004-05	21635449	47043066	3293558	5045112	0	77017185
2003-04	17191668	32368842	1732414	5583071	10781	56886776
2002-03	2126763	10676843	442241	3523062	-	16768909
2001-02	1025588	1957856	175900	1037529	-	4196873
2000-01	90580	-	-	-	-	90580

Source: complied from NSE website

TABLE 5: AVERAGE DAILY TRANSACTION AT NSE IN DERIVATIVES AND CASH SEGMENT (Rs. in Cr.)

Year	Derivatives Segment	Cash Segment
2010-11	115150.48	14,048
2009-10	72392.07	16,959
2008-09	45310.63	11,325
2007-08	52153.30	14,148
2006-07	29543	7,812
2005-06	19220	6,253
2004-05	10107	4,506
2003-04	8388	4,328
2002-03	1752	2,462
2001-02	410	2,078
2000-01	11	5,337

Source: Complied from NSE website and NSE fact book 2008

DERIVATIVES TRADING AND ITS IMPACT ON VOLATILITY OF NSE

Introduced in 2000, financial derivatives market in India has shown a remarkable growth both in terms of volumes and numbers of contracts traded. National Stock Exchange (NSE) alone accounts for 99 percent of the derivatives trading in Indian markets. The introduction of derivatives has been well received by stock market players. Trading in derivatives gained popularity soon after its introduction. In due course, the turnover of the NSE derivatives market exceeded the turnover of the NSE cash market. For example, in 2010-11, the value of the NSE derivatives markets was Rs. 2, 92, 48,221.09 Cr. whereas the value of the NSE cash markets was only Rs. 35, 77,412 Cr. Among all the products traded on NSE in F& O segment, single stock futures also known as equity futures, are most popular in terms of volumes and number of contract traded, followed by index futures with turnover shares of 52 percent and 31 percent, respectively. Despite the encouraging growth and developments, financial analysts feel that the derivatives market in India has not yet realized its full potential in terms of growth and trading. The reason might be the relatively high level of volatility.

Thus, it is important to examine the dynamics of volatility of India's stock index futures market. Volatility is often described as the rate and magnitude of changes in prices and in finance often referred to as risk. In the finance literature there exist voluminous research studies addressing to the issue of capital market volatility (For example, Danthine, 1978; Harris, 1989; Min and Najand, 1999; Gulen and Mayhew, 2000; Thenmozhi, 2002; Nath, 2003; Kanas, 2009;

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Gannon, 2010; Mishra, 2010). However, the literature is scrawny regarding the studies addressing the volatility of index futures market in emerging market economies like India.

METHODOLOGY, ANALYSIS AND DISCUSSION

The very objective of this paper is to investigate the dynamics of the time varying volatility of India's index futures market over the sample period spanning from June 2000 to May 2011. The data of daily returns based on daily closing values of near month index futures contract (FUTIDX) has been used in the study. The required data are collected for the sample period from the NSE, India database. As capital market volatility is effectively depicted with the help of GARCH class model, the estimations of the GARCH model have been performed so as to produce the evidence of time varying volatility which shows clustering, high persistence and predictability and responds symmetrically for positive and negative shocks.

In the finance literature, GARCH class models are popular in capturing the dynamics of capital market volatility. For initial volatility estimation, the GARCH (1, 1) model is used (Bollerslev, 1986). The model for return series is specified as under:

Mean Equation: $R_t = \chi + \varepsilon_\tau$

Variance Equation: $\sigma_\tau^2 = \omega + \alpha_1 \varepsilon_{\tau-1}^2 + \beta_1 \sigma_{\tau-1}^2$

TABLE-6: RESULTS OF GARCH MODEL

	Coefficient	Std Error	z-Statistic	Prob.
Variance Equation				
ω	7.84E-06	7.93E-07	9.891693	0.0000
α_1	0.140525	0.008813	15.94476	0.0000
β_1	0.838001	0.009292	90.18246	0.0000

The GARCH model assumes that the effect of a return shock on current volatility declines geometrically over time. This model is consistent with the volatility clustering where large changes in stock returns are likely to be followed by further large changes. The results of estimation of the GARCH model is reported in Table-6. It is clear that the bulk of the information comes from the previous days forecast, i.e., around 83% in case of Index Futures Market. The new information changes this a little and the long run average variance has a very small effect.

It can be assessed that the amplitude of the daily stock returns is changing in the Index futures market. The magnitude of this change is sometimes large and sometimes small. This is the effect that GARCH is designed to measure and that we call volatility clustering. There is another interesting feature is that the volatility is higher when prices are falling than when prices are rising. It means that the negative returns are more likely to be associated with greater volatility than positive returns. This is called asymmetric volatility effect. The change in the pattern of volatility and the recent irregular behaviour of the futures market came as a result of the global economic events, particularly the recent sub-prime crisis and news of probable recession.

SUMMARY AND CONCLUSION

The global liberalization and integration of financial markets has created new investment opportunities, which in turn require the development of new instruments that are more efficient to deal with the increased risks. Institutional investors who are actively engaged in industrial and emerging markets need to hedge their risks from these internal as well as cross-border transactions. Agents in liberalised market economies who are exposed to volatile commodity price and interest rate changes require appropriate hedging products to deal with them. And the economic expansion in emerging economies demands that corporations find better ways to manage financial and commodity risks.

Increased financial risk causes losses to an otherwise profitable organisation. This underlines the importance of risk management to hedge against uncertainty. Derivatives provide an effective solution to the problem of risk caused by uncertainty and volatility in underlying asset. Derivatives are risk management tools that help an organisation to effectively transfer risk. Derivatives are instruments which have no independent value. Their value depends upon the underlying asset. The underlying asset may be financial or non-financial.

This paper, therefore studied the volatility of India's stock index futures market taking into account the National Stock Exchange as the role model. The study by employing GARCH, model, provides the evidence of high persistence of time varying volatility, and its asymmetric effects. This volatility behaviour of Indian capital market may be due to recent global financial slowdown that originated from US sub-prime crisis. The results indicate that the trading volume growth of nearby-month index futures is the most influential factor for volatility in the futures market in India. Therefore, the investors are advised to predict volatility in the cash market by observing the futures volume growth as well as volatility in the index futures since volatility in the cash market is a measure of market risk.

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CHANGING FACE OF CAR MARKET: A REVIEW OF MARKET GROWTH AND CHANGING SALES TRENDS IN INDIAN PASSENGER CAR MARKET

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ABSTRACT

Indian car market has undergone drastic change during last one decade in terms of volume of sales and variety of options available to the consumers. This paper examines the growth of the Indian passenger car market in relation to the factors facilitated the growth and analyses the sales trends in the recent past. Authors viewed that the change in economic vibrancy due to the change in Government policy after 1991, increase in purchasing power, changes in lifestyle and availability of car finance had encouraged the change and growth of Indian car market. The sale of the passenger car increased to 1,48,681 units in December 2010 from 1,15,337 units in the same month in 2009[i]. Based on the length SIAM has classified the passenger cars into six categories and all segments have been showing increase in sales. Increase in sale of compact car segment is comparatively large when compared to other segments. Maruthi is maintaining the market leadership and far ahead from other competitors in terms of market share. Other important brands such as Hyundai Motors, Tata Motors, etc., are showing a fluctuating trend in their sales. It is sure that the Indian car market is going to be highly competitive and promising to both sellers and buyers as many foreign players are putting a lot of capital investment to grab the growing potential of Indian Car market.

KEYWORDS
Car, car market, passenger car.

INTRODUCTION

Transport sector is the backbone of country's economic growth and development. It satisfies one of the most basic needs of the human being i.e. the mobility. Automobile industry is a major constituent of surface transport. Automobiles as a commodity include passenger cars, commercial vehicles, three wheelers and two wheelers. The automobile industry is one of the largest sectors and plays a vital role in the economic growth of any region. The famous Management Thinker Peter F Drucker called the automobile industry as "The Industry of Industries"[ii]. It is the auto industry which paves the way for reforms in foreign trade; gets in foreign investment and facilitates exposure of the country on a very broad international stage. It is the backbone of petroleum, steel and various manufacturing sectors. It employs everyone from Engineers to Managers; from Shop floor work men to Advertising experts. Indian Automobile Industry is also playing the same role in the Indian economy. Today, Indian Automobile Industry is one of the most modern, growing and vibrant industry in the world. India is the second largest manufacturer of two-wheelers in the world[iii]. The four-wheeler market is also one of the fastest growing and most promising industries in India. The industry currently contributes about 5 percent of the GDP and it is targeted to grow five fold by 2016 and account for over 10 percent of India's GDP[iv].

STATUS OF INDIAN AUTOMOBILE INDUSTRY

ORIGIN AND GROWTH

The Indian automobile industry is now almost more than 60 years old. Its growth can be broadly viewed in three phases namely Autarkic Phase, Mass Car Phase and Globalization Phase[v]. The automobile era in India began in 1898 when the Bombay Cycle and motor agency imported four cars into the country. It all started in 1940s for the first embryonic automotive industry to emerge in the pre-independent India. In 1947, the indigenous Birla group set up the first factory in Kolkata to assemble cars and commercial vehicles from imported components.

Similarly Tata Group in collaboration with Daimluer Benz of Germany namely TELCO, Ashok Leyland, Mahindra & Mahindra, Hindustan Motors, Premier Automobiles, and Bajaj Auto started production. In 1970s, the world has faced a dramatic change in the oil economy and in the prices of petrol. The 1970s was an era of fuel price increases, rising insurance rates, safety concerns, and emissions controls. The 1973 oil crisis caused a move towards smaller, fuel-efficient vehicles. Attempts were made to produce electric cars, but they were largely unsuccessful. However, the growing demand for more cars since 1980s has changed the whole growth scenario.

During 1980-1985 the first major change was sighted as Japanese manufacturers began to build car and commercial vehicle factories in India in partnership with Indian firms. The advent of foreign technology collaboration came with the inception of Maruti Udyog in collaboration with Suzuki of Japan in the passenger car segment. Indian roads saw the launch of Maruti 800. With the advent of liberalization some more Japanese manufacturers entered the two-wheeler and the commercial vehicle segment in a collaborative arrangement. This period characterized joint ventures in India and the market started opening up. Automobile Industry was delicensed in July 1991 with the announcement of the New Industrial Policy. The passenger car industry was delicensed in 1993. The abolition of the controls led to an overwhelming of demand. The era of controls and protection came to an end. Curbs on capacity were done away with; decrease in customs and excise duties led to situation that vehicles started getting affordable.

The entry of foreign banks with attractive auto finance schemes helped garner a huge base of middle class population. Early 2000 however saw globalization of Indian auto industry. Several policy changes were introduced with focus on boosting the auto exports. Foreign manufacturers started looking at India for sourcing auto components. The buyers started ruling the market due to the availability of choices in the form of models, price points and brands. For the commercial vehicles, the steady growth in Indian economy led to demand for trucks, tempos, buses etc. The IT and BPO culture boosted exports and employment also pushed the sales of vehicles. The retail boom in India saw malls, supermarket chains mushrooming all over the urban areas, pushed the demand for efficient logistics and that in turn increased the number of commercial vehicles.

CURRENT SCENARIO OF AUTOMOBILE INDUSTRY IN INDIA

The Indian Automobile industries have good potential in the existing and future scenario. All the leading automobile manufacturers have become major players and are manufacturing a wide range of automobiles in various categories in India. Moreover the globalization and liberalization impact on automobile industry is

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huge and significantly contributes to increase the levels of the usage of automobile at grassroots levels. The companies operating in automobile industry in India are classified into four categories:

- Commercial Vehicles
- Passenger Vehicles (Passenger Cars & Multi Utility Vehicles)
- Two-Wheelers
- Three Wheelers
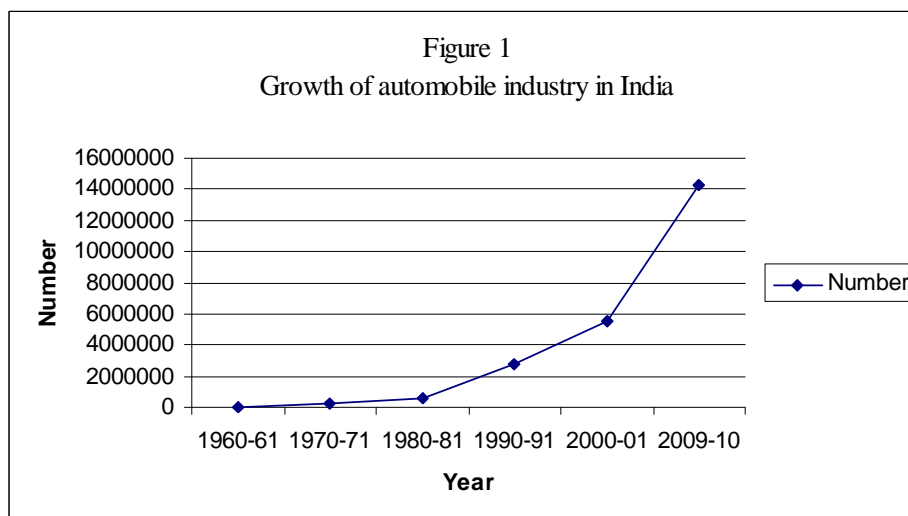
Source: Data Compiled from SIAM

Figure-1 shows growth of Indian Automobile Industry during the last seven decades. Chart shows that in 1960 the production of automobile stood at 41535. Between 1970 to the economic liberalization of 1991, the automobile industry continued to grow. A number of Indian manufactures appeared during1970-1980. The year 1991 is the most important in the history of India, as well as auto mobile industries and other segments. In 1991 India accepted the global polices and FDI (Foreign Direct Investment) to improve the National and per capita income of the country. The growth of the Indian automobile industry during last two decades has been significantly influenced by the growth of the passenger car market. This paper is focused on the changing face of the Indian passenger car market and the detailed discussions are given below.

INDIAN CAR MARKET

Before 1991 India had very less number of cars and car makers, people used to import luxury cars from international car makers. In 1991 there was a sudden shift, international automobile manufactures entered Indian market and dominated Indian brands like Ambassador and Premium Padmini. The international car makers changed the taste of Indian customers by manufacturing with superb quality cars. They have made Indian car market highly competitive and lead to give better car models day by day. Power, interior, safety, exterior of the cars got modern designs and changed the scenario of car models in India.

Actually the transformation of Indian car market from a stagnant stage to a real competitive one started with the introduction of Maruthi cars in 1983. Around 1970, Sanjay Gandhi, the then Prime Minister of India Indira Gandhi's younger son, envisioned the manufacture of an indigenous, cost-effective, low maintenance compact car for the Indian middle-class. Indira Gandhi's cabinet passed a unanimous resolution for the development and production of a "People's Car". Sanjay Gandhi's company was christened Maruti Limited. The name of the car was chosen as "Maruti", after a Hindu deity named Maruti.

At that time Hindustan Motors' Ambassador was the chief car, and the company had come out with a new entrant, the Premier Padmini which was slowly gaining a part of the market share dominated by the Ambassador. For the next ten years, the Indian car market had stagnated at a volume of 30,000 to 40,000 cars for the decade ending 1983.Till the end of 1970s, Maruti had not started the production and a prototype test model was welcomed with criticism and skepticism. The company went into liquidation in 1977. Unfortunately, Maruti started to fly only after the death of Sanjay Gandhi, when Suzuki Motors joined the Government of India as a joint venture partner with 50% share. After his death, Indira Gandhi decided that the project should not be allowed to die. Maruti entered into this collaboration with Suzuki Motors, The collaboration heralded a revolution in the Indian car industry by producing the Maruti 800.

The introduction of the Maruti 800 in 1983 marked the beginning of a revolution in the Indian car industry. Maruti Udyog brought in the latest technology then available, more fuel-efficient cars, and brought down the prices of cars in India. This led to the creation of a huge market for all car segments as the Indian middle class grew in size. This in-turn brought in more players to this segment. A number of auxiliary car parts making units were setup as most car manufacturers realised it was more cost effective to make their car parts in India rather than import them. Maruti's most major influence was in helping the component industry in the country because of its emphasis on localization and indigenization. It also brought in better methods of financing that allowed more people, who could not afford to buy a car on their own, to buy cars[vi].

CHARACTERISTICS OF INDIAN PASSENGER CAR MARKET

PRODUCT PENETRATION

The penetration of passenger cars in India stood at five per thousand persons as against 27 for two-wheelers. Significantly, the Indian figures are lower than even those for economies like Indonesia (14 and 62). The relatively high penetration of two-wheelers in India reflects the population's need for mobility and their limited affordability[vii].

TABLE-1: AUTOMOTIVE PENETRATION (VEHICLES IN USE PER THOUSAND PERSONS)*

Country	Passenger Cars	Two wheelers
USA	478	14
United Kingdom	373	12
Japan	395	115
Germany	508	36
China	3	8
Indonesia	14	62
South Korea	167	59
India	5	27

* Source: World Bank

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PASSENGER CAR PRODUCTION DURING PAST TEN YEARS

Table-2 depicts the percentage change in passenger car production from 2001 to 2010 for a period of 10 years. In 2001 the production increased by 26.37 percent over 2000. Even though the percentage change is showing a fluctuating trend through out the ten years the production is showing an increasing trend. The buoyancy in the sector is derived primarily from economic vibrancy, changes in Government policies, increase in purchasing power (especially of the upper middle class), improvement in life styles, and availability of car finance. Although there was a slowdown in 2008, the recent high growth in 2010 has been on the strength of an increase in the disposable income of middle-income salaried people, release of pent-up demand, and easy availability of credit[viii].

TABLE-2: PASSENGER CAR PRODUCTION DURING 2001 TO 2010

Year	Production	% Change
2001	654,557	26.37
2002	703,948	7.55
2003	907,968	28.98
2004	1,178,354	29.78
2005	1,264,000	7.27
2006	1,473,000	16.53
2007	1,713,479	16.33
2008	1,846,051	7.74
2009	2,175,220	17.83
2010	2,814,584	29.39

Source: en.wikipedia.org

SALE OF PASSENGER CARS IN INDIA

Figure-2 below exhibits the sale of passenger cars in India from 2004 to 2009. In 2004 the sale of passenger car was 0.80 million. Sales totaled 1.43 million units in 2009, 18.7 percent more than 2008. So the growth trend in the passenger car sales is highly obvious and giving a clear idea about the market potential. There was a slight decline in the growth rate during 2008 period but the rate came back strongly in 2009. The growth rate came down in 2008 may be largely due to the impact of economic recession happened during that period.

Figure 2
Sales of Passenger Cars in India
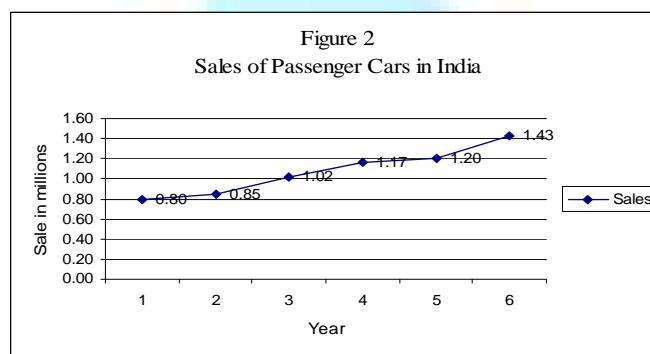
Source: SIAM

PROJECTION OF FUTURE SALES OF PASSENGER CARS

To understand whether the growth trend in the passenger car sales will continue in the same phase or better manner, authors have attempted for a trend projection of future sales for the period from 2010 to 2015 based on the data provided in table-3. A time series method of forecasting was used with sales data for the past six years for projecting the future sales. The data was plotted and using the curve estimation method in the regression model and a linear trend line was fitted. The fitted model was found significant with close fit (R square = 0.957). From the table-4 it is clear that the model developed is highly significant. The Linear regression model developed is Predicted yearly sales = 0.643+ 0.124*time (year in numbers 1, 2, 3,..) . Annual sales predicted for another six years using the Linear regression model is given in table-5.

TABLE-3: ANNUAL PASSENGER-CAR SALES IN INDIA FROM 2004-2009

Year	Sales in millions
2004	0.8
2005	0.85
2006	1.02
2007	1.17
2008	1.2
2009	1.43

Source: SIAM

TABLE-4: REGRESSION MODEL FOR TREND ANALYSIS FOR PREDICTING FUTURE SALES

MODEL SUMMARY			
R	R Square	Adjusted R Square	Std. Error of the Estimate
.983	.966	.957	.049

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Regression	.270	1	.270	113.083	.000
Residual	.010	4	.002		
Total	.280	5			

COEFFICIENTS					
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	B	Std. Error
year	.124	.012	.983	10.634	.000
(Constant)	.643	.046		14.134	.000

The independent variable is year.
Predicted yearly sales = 0.643+ 0.124*time (year in numbers 1,2,3,....)

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TABLE-5- SALES PREDICTED USING LINEAR REGRESSION MODEL FOR SIX YEARS FROM 2010

Year	Sales in Millions
1 (2010)	1.511
2 (2011)	1.635
3 (2012)	1.759
4 (2013)	1.883
5 (2014)	2.007
6 (2015)	2.131

FIGURE-3: PROJECTED SALES OF PASSENGER CARS
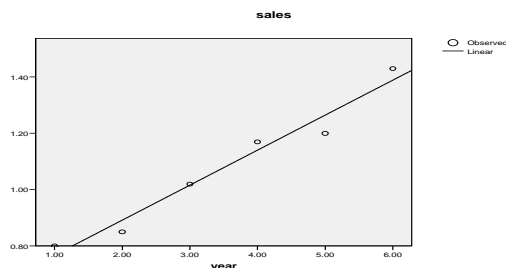
Results of annual sales prediction using linear regression model clearly shows a continued upward trend in the sales growth of passenger cars in India. The result for six years starting from 2010 to 2015 predicts a consistent growth of sales of cars from 1.511 million to 2.131 million. These results clearly indicate the prospects of Indian passenger car industry in the coming years. The predictions are also graphically plotted in the Figure-3.

SEGMENT-WISE CLASSIFICATION OF THE INDIAN CAR MARKET

Affordability is the most important demand driver in India; the domestic car market has been segmented on the basis of vehicle price till SIAM introduced the length-based classification of passenger cars. SIAM classification of motor cars is discussed in detail in following section. Based on length cars can be classified into six categories. The models in the car market can be fitted to different segments as given below:

TABLE NO- 6: MODELS IN THE CAR MARKET ACCORDING TO DIFFERENT SEGMENTS

Category	Length (in mm)
Mini	Up to 3400
Compact	3400-4000
Mid-size	4001-4500
Executive	4501-4700
Premium	4701-5000
Luxury	>5001

SEGMENT WISE SALE OF PASSENGER CARS IN INDIA

Figure- 4 depicts the segment wise sale of passenger cars in India from 2002 to 2008.The chart indicates that all segments are showing an increase in sales. Mini car segment exhibited an increase in sale in the beginning but sales declined in the last three years. Compact segment is showing an increase in all the seven years. The increase in sale of this segment is comparatively large when compared to other segments.

FIGURE -4
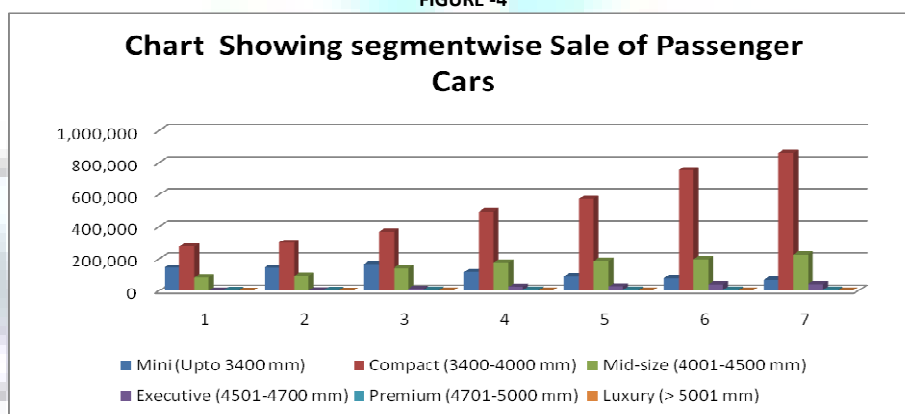
Compiled by INGRES

MARKET SHARE OF MAJOR PLAYERS IN CAR MARKET IN INDIA

Table- 7 indicates the market share of major companies in the car market. Table indicates that Maruti Suzuki India Ltd is the player with the major share of market as they have secured almost half of the market share, followed by Hyundai and Tata Motors. Market share of these players is showing a fluctuating trend[ix] and they are having nearly one-third or less market share of Maruti. That is, Maruti is still the market leader and no other car marketer has grown up to challenge that position, even though some are showing potential for the same.

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TABLE-7: MARKET SHARE OF MAJOR PLAYERS IN CAR MARKET IN INDIA

Manufacturer	2003	2004	2005	2006	2007	2008	2009	2010
Ford India Pvt Ltd	4.43	4.39	4.56	5.81	4.46	3.37	2.25	4.81
General Motors India Pvt Ltd	3.56	2.72	1.82	1.76	3.5	3.01	4.62	4.40
Honda Siel Cars India Ltd	6.11	8.12	8.66	11.21	9.86	7.58	4.01	2.97
Hyundai Motor India Ltd	22.12	22.28	23.28	22.46	22.8	29.56	20.61	18.10
Maruti Suzuki India Ltd.	41.71	39.89	40.63	38.8	39.88	38.34	50.09	48.74
Tata Motors Ltd	13.95	15	15.24	14.76	12.43	12.85	13.18	12.92
Toyota Kirloskar Motor Pvt Ltd	2.93	2.34	2.34	1.58	1.31	1.46	2.43	3.3

Source: CMIE April2010

CONCLUSION

From the above analysis it is evident that passenger car market is exhibiting a growth and there is untapped potential. India has been one of the few markets globally to resist the recessionary trend and record a strong 25.6 percent volume growth in financial year 2010. The growth momentum continues to be on track with first eleven months of financial year 11 registering a growth of 29.8 percent over the corresponding period in the previous year.Though the growth rate has been reduced it is still among the world's fastest growing auto market. India's passenger vehicle market ranks as world's seventh largest; larger than markets like United Kingdom, France and Spain by volume.   Moving from "Roti, kapda aur makaan to "Roti kapda, makkan aur gaadi" evidently says the Indian passenger car story. From being a product owned by a selected few 25 years back it is now a necessity. The passenger car has always been an aspirational and emotional product for Indians which is evident from the data above. The percentage change in passenger car production is showing a fluctuating trend through out the ten years but the production is showing an increasing trend. Similarly the sale of passenger car is also showing an upward trend. Segment wise sale of passenger car indicates that sales in compact car segment are comparatively larger than any other segments. Today's Indian consumer is different from the one a decade ago. The vibrancy in the market and many brands vying with each other to grab consumer's attention inculcate the feeling that future of passenger car market in India is extremely promising[x].

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PERFORMANCE APPRAISAL: ALIGNING PERSONAL ASPIRATIONS TO ORGANIZATIONAL GOALS (A SPECIAL REFERENCE TO DAIRY SECTOR IN RAJASTHAN)

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ABSTRACT

The role of Individual feedback in human resource management practice has encouraged a strong debate about the need for performance appraisal in any organization. ." Performance Appraisal is used as a tool to identify, observe, measure and develop human resources within the organization (Gillen 2007). According to (Jaekson & Schuler 2003) Performance Appraisal (PA) usually involves evaluating performance based on the judgments and opinions of subordinates, peers, supervisors, other managers and even workers themselves.The study explores the effectiveness of Performance Appraisal as one of the extremely important factor in achieving organizational objectives. The paper is based on a survey of 55 employees and management staff of Udaipur Dugdh Utpadak Sahakari Sangh (UDUSS) which is a cooperative organization registered under Rajasthan Cooperative Act on August 26, 1972. The analysis revealed evidences that suggest a positive statistical significant relationship between Performance Appraisal and Organizational Goals. The paper concludes that Performance Appraisal unquestionably plays a very constructive role in aligning personal aspirations to organizational goals.

KEYWORDS

Development, Job Satisfaction, Organizational Goals, Performance Appraisal.

INTRODUCTION

Managing employee performance has become one of the major functions of human resource management that can contribute directly to organizational performance and efficiency. According to a study made by Ahn (2001), the regular and proper use of performance management gives better results for an organization. The performance management process provides an opportunity for the employee and the employer to discuss development goals and mutually create a plan for achieving those goals. Development plans should contribute to organizational goals and the professional growth of the employee and Performance Appraisal plays a very important role in measurement for management.

Generally, Performance Appraisal is used as a tool to identify, observe, measure and develop human resources within the organization (Gillen 2007). The process of performance appraisal includes identifying, observing, measuring the potential of human resources in any organization and then creating a system for learning i.e. development and improvement.

The performance appraisal is a vital element of the human resource management system. Aside from the distribution of rewards, developmental guidance given to the employees (based usually on the performance appraisal) employees can express their perceptions and standpoint regarding their respective jobs, departments, managers and supervisors and of their organization in general (Erdogan 2002).

Erdogan has identified performance appraisal as an essential tool for human resource management as it is a two way communication through which both the organization and the employees can put across their view points for betterment.

Gates elaborated the utility of performance appraisal as a proper process of employee and supervisor (or multiple rater) review can help employees agree on areas for development and how the organization can help (Gates, 1991).This process is helpful for both the parties as both the employees and the organization can use the performance appraisal result for corrective actions. An effective performance appraisal system is a major element of an organization that allows every employee to feel that his/her input has contributed to the success of the organization and aspire to add to that success.

LITERATURE REVIEW

Bemardin and Beatty (1984), highlighted several objectives of PA, like "to improve the use of resources and serve as a basis for personnel actions". PA is a system by which an individual's performance is compared to a set of performance standards based on the most efficient use of organizational resources.

Brown, 1988; Longenecker & Fink, 1999, concluded that "Performance appraisal is an unavoidable element of organizational life". As proper feedback plays a very important role in individual's development and help him strive to do better. Performance appraisal is an inevitable aspect for organizational life as it encourages employees to think about their strength and weaknesses and help them in identifying performance improvement areas.

Performance appraisal (PA) usually involves 'evaluating performance based on the judgments and opinions of subordinates, peers, supervisors, other managers and even workers themselves' **(Jaekson & Schüler 2003)**.This evaluate the employees performance from different perspective in multiple roles and provide them the feedback which is more appropriate for development purpose rather than for evaluative purpose.

According to some studies (**DeCarlo & Leigh 1996; Jaworksi & Kohli 1991**), "PA helps in improving performance and building both job satisfaction and organizational commitment". These studies broaden the concept that performance appraisal develop employees by directly aligning individual goals with organizational goals which enhance their performance and result in job satisfaction and organizational commitment as an outcome.

As **Poon (2004)**, reported findings indicating that "dissatisfaction with PA influenced employees' intention to quit through reduced job satisfaction". Organizations should take utmost care whilst preparing Performance appraisal system and try to link it with employee Job satisfaction which is defined as the "worker's appraisal of the degree to which the work environment fulfills the individual's need". **(Locke, 1976).**

As **Bach (2005: 289)** reported, 'performance appraisals have become far more than just an annual ritual and are viewed as a key lever to enhance organizational performance'. Bach suggested that PA is now not only a formal procedure but actually it is viewed as a powerful source of performance management system.

Ferris et al., 2008: 146, found that "Performance evaluation is one of the most central human resources practices," Ferris concluded performance evaluation data as potentially viable for almost every HRM activity. Fair performance appraisal suggests a helpful approach on the basis of which HR managers may decide appropriate strategy for more successful outcome.

Barbara Bowes (2009) concluded that performance management system does not aim to control employees but instead aims to focus on the improvement of overall performance. PA as an important part of performance management system is one of the range of tools to extend and advance overall employee performance.

RESEARCH METHODOLOGY

The information for the present study has been generated from two types of data i.e. Primary Data and Secondary Data. The nature of this research is descriptive. A structured questionnaire was prepared for all the employees. The questionnaire was initially drafted with the research objectives in mind. The primary data generated an insight into the thought process. The sample was drawn from all the employees of UDUSS both the genders i.e. males and females irrespective of their education level. The total sample size consisted of about 55 employees. Random sampling method was followed to draw the sample respondents. During the survey, some informal interviews and discussions were also conducted to collect the primary information regarding the existing performance appraisal system. The objectives of the study have been formulated as under:

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- To identify the nature and pattern of performance appraisal at UDUSS.
- To study various factors of performance appraisal which affect the employees.
- To identify the role of Performance Appraisal in Aligning Personal Aspirations to Organizational Goals.

ANALYSIS AND INTERPRETATION

Analysis and Interpretation is the most vital part of a research. For this research, analysis of the data is done with the help of tabular representation of the data. Comparative study of the data is done by comparison tables.

PERFORMANCE OBJECTIVES ARE CLEARLY COMMUNICATED TO EMPLOYEES AT THE BEGINNING OF EACH APPRAISAL PERIOD

Performance objectives are standards established keeping in mind organizational goals and individual potential. Performance means the degree or extent to which an employee applies his skill, knowledge and efforts to a job assigned to him and the result of that application. Performance appraisal system compares the individuals output with the standards set. Performance appraisal means analysis, review or evaluation of performance of an employee against set standards.

TABLE 1: PERFORMANCE OBJECTIVES ARE CLEARLY COMMUNICATED

Response	Number of respondents	%
Yes	54	98.18
No	1	1.82
Total	**55**	**100.00**

Performance objectives are clearly communicated

It is clear from the above table and graph that 98.18% employees are saying that company communicates the performance objectives to the employees at the beginning of the appraisal period. This means that the employees are in favor of this statement. Like any other management function, performance appraisal is also an important management activity at UDUSS, and the management is setting and communicating standards well before in advance before appraisal.

TIME DURATION FOR PERFORMANCE APPRAISAL

The purpose of Performance Appraisal is to review the individual's performance at regular intervals so that obstacles can be identified. Review should also take a positive coaching approach rather than critical approach. PA identifies long term manpower policies and to decide upon the organizational development programmes it is very important for the organization to identify training and development needs, ensures placements, promotion, motivation etc. timely.

TABLE 2: TIME DURATION FOR PERFORMANCE APPRAISAL

Response	Number of respondents	%
Too less	0	0.00
Less	0	0.00
Just right	49	89.10
Much	3	5.45
Too much	3	5.45
Total	**55**	**100.00**

Table no. two shows that 89.10 % employees are in favor that time duration by the company for employees performance appraisal is just right, Rest of the respondents found the time of appraisal more or less. As the majority of respondents are in favor of this statement so we can conclude that company is appraising performance timely.

PERFORMANCE APPRAISAL IS FAIR

The objective of performance appraisal is to increase the performance level of employees and to develop him/ her in such a manner that he / she can rise to the position of higher responsibility. For this, it is very much essential for the organization to conduct it fairly as it is constantly developing manpower to meet the current as well as future needs.

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TABLE 3: PA REPORT IS BASED ON ACTUAL FACTS AND NOT OF FAVORITISM

Response	Number of respondents	%
Strongly agree	23	41.82
Agree	27	49.09
Disagree	3	5.45
Strongly disagree	2	3.64
Total	**55**	**100.00**

PA report is based on actual facts and not of favoritism
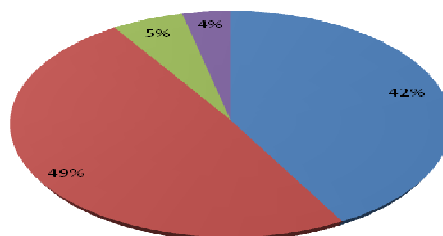
It is clear from above table and graph that 41.82% employees are strongly in favor of the statement that Performance appraisal reports are objective based & not on favoritism, 49.09% employees are agree with this statement, 5.45 % employees are disagree with this statement and 3.64% employees are strongly disagree with this statement. By this we can conclude that approx 90 % employees are in favor that performance appraisal at UDUSS is fair based on objectives rather than favoritism.

GOOD PERFORMANCE APPRAISAL RESULTS LEADS TO CAREER DEVELOPMENT OF EMPLOYEE

A career development process ensures promotion of employees from one career stage to another. The organization is equally responsible for employee's career plans adopting an integrated career development process, which accommodates both individual and organizational needs. It is clear that career development process cannot be undertaken in isolation and organization has to play role in this through performance appraisal.

TABLE 4: GOOD PA RESULTS LEADS TO CAREER DEVELOPMENT OF EMPLOYEE?

Response	Number of respondents	%
Strongly agree	24	43.64
Agree	27	49.09
Disagree	1	1.82
Strongly disagree	3	5.45
Total	**55**	**100.00**

Good PA results leads to career development of employee

Table no. four shows that 49.09% employees are agree with the statement that good PA result leads to career development of employees, 43.64% employees are strongly agree with this statement, 5.45% employees are strongly disagree with this statement and 1.82% employees are disagree with the above mentioned statement. So majority of employees are agreeing that Fair result of performance appraisal leads to their career development.

COMPENSATION AND BENEFIT VERSUS JOB SATISFACTION

Compensation and benefit plays a major role in employee's job satisfaction, and Performance appraisal is an important technique for reward management. In any organization if the reward techniques and procedure is fair and well defined more chances are there to develop satisfaction among the employees.

TABLE 5: COMPENSATION BENEFIT V/S OVERALL JOB SATISFACTION

Response	Compensation benefit		Overall satisfaction with job		Chi Sqr	df	Result
	Number of respondents	%	Number of respondents	%			
Yes	50	90.91	54	98.18	**2.821**	**1**	**NS**
No	5	9.09	1	1.82			
Total	**55**	**100.00**	**55**	**100.00**			

In this study the relation between compensation and benefit policy and overall job satisfaction is tried to analyze and as for analyzing chi square test is applied and the result is non significant which means that there is no significant difference between the proportion of employees satisfied with company's Compensation benefits and the proportion of employees which are overall satisfied with their jobs. Through this study we can conclude that company's compensation and benefit policy play significant role in overall satisfaction of employees.

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RESULTS

- The study depicts that the time duration taken by the organization for performance appraisal is just right. This also indicates that the organization is providing timely feedback to the employees about their performance, which is very much necessary for performance management and improvement.
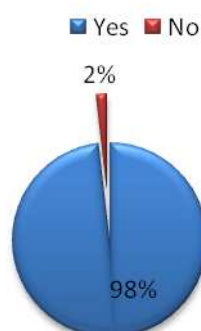- Performance objectives are clearly communicated to employees at the beginning of each appraisal period. Clear communication of objectives is essential for effective achievement of the targets. Clearly defined objectives make it easier for the management to appraise employee performance fairly.
- PA results leads to career development of employee. Career development is now one of the primary responsibilities of every organization. According to Frederick Stowell (2004) feedback to employees certainly improves efficiency to both the organization and employee while allowing both to prosper. It is also helpful in aligning personal aspirations to organizational goals.
- The survey also depicts that the Performance appraisal reports of the organization are objective based & not on favoritism. The objective of performance appraisal is to achieve competitive advantage to a firm by improving performance, helping making correct decisions, ensuring legal compliance, minimizing job dissatisfaction and employee turnover. So organization is trying to achieve all these through fair performance appraisal.
- The data and information received after evaluating performance appraisal result is useful in HR decisions and includes remuneration administration. It is very essential for the organization to link its compensation policy with the appraisal results for better outcome. The study depicts that that company's compensation and benefit policy play significant role in overall satisfaction of employees.

CONCLUSION

The cooperative has been successful in strengthening the Measurement based Management. Analysis of the study revealed that, Performance Appraisal is an objective assessment of an individual's performance against well-defined benchmarks. The survey reveals that performance appraisal is very well implemented at UDUSS and organization is appraising employee's performances and organizations performance appraisal leads to career development of employees through feedback process.

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INDIA'S BANKING SECTOR REFORMS FROM THE PERSPECTIVE OF BANKING SYSTEM

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ABSTRACT

On the back of the improved the GDP forecast for the economy by the IMF at 9.4%, and a cautious 8.5% projection by the government, the Indian banking sector is expected to play pivotal role in supporting and being a part of the growth of the emerging Indian economy. The RBI in its policy statement has projected the M3 and non-food credit growth for the Indian bank in 2010- 11 to be 17% and 20% respectively. The money supply (M3) growth on a y-o-y basis stood at 15.3%, in July 2010, reflecting a slight slowdown in the growth in bank deposits. Time deposits decelerated mainly because of withdrawal of deposits by public sector undertakings and mutual funds. On the other hand, y-o-y non-food credit growth accelerated from 17.1% in March 2010 to 22.3 % as on July 2, 2010, (higher than the indicative trajectory of 20% set out in the April 2010 by RBI in their Monetary Policy Statement). This was a reflection of the combined impact of a pick-up in industrial activity and financing of the 3G and broadband wireless access (BWA) spectrum auctions. In order to finance higher credit growth in the face of declining deposit growth, banks unwound their investments in mutual funds and accessed the repo window of the Reserve Bank. Continued efforts in the direction of maintaining the strong asset quality, transparency, capital adequacy and strong corporate governance will however be the key for the sector to emerge as one of the leading domestic banking systems in the world.

KEYWORDS
Banking Sector, Banking reforms.

INTRODUCTION

Strengthening financial systems has been one of the central issues facing emerging markets and developing economies. Measured by share of deposits, 83 percent of the banking business in India is in the hands of state or nationalized banks, which are banks that are owned by the government, in some, increasingly less clear-cut way. Moreover, even the non-nationalized banks are subject to extensive regulations on who they can lend to, in addition to the more standard prudential regulations. The Indian government, when nationalizing all the larger Indian banks in 1969, argued that banking was "inspired by a larger social purpose" and must serve national priorities and objectives such as rapid growth in agriculture, small industry and exports.

BANKING SECTOR IN INDIA

India has a long history of both public and private banking. Modern banking in India began in the 18th century, with the founding of the English Agency House in Calcutta and Bombay. In the first half of the 19th century, three Presidency banks were founded. After the 1860 introduction of limited liability, private banks began to appear, and foreign banks entered the market. The beginning of the 20th century saw the introduction of joint stock banks. In 1935, the presidency banks were merged together to form the Imperial Bank of India, which was subsequently renamed the State Bank of India. Also that year, India's central bank, the Reserve Bank of India (RBI), began operation. Following independence, the RBI was given broad regulatory authority over commercial banks in India. In 1959, the State Bank of India acquired the state-owned banks of eight former princely states. Thus, by July 1969, approximately 31 percent of scheduled bank branches throughout India were government controlled, as part of the State Bank of India. The post-war development strategy was in many ways a socialist one, and the Indian government felt that banks in private hands did not lend enough to those who needed it most. In July 1969, the government nationalized all banks whose nationwide deposits were greater than Rs. 500 million, resulting in the nationalization of 54 percent more of the branches in India, and bringing the total number of branches under government control to 84 percent.

After nationalization, the breadth and scope of the Indian banking sector expanded at a rate perhaps unmatched by any other country. Indian banking has been remarkably successful at achieving mass participation. Between the time of the 1969 nationalizations and the present, over 58,000 bank branches were opened in India; these new branches, as of March 2003, had mobilized over 9 trillion Rupees in deposits, which represent the overwhelming majority of deposits in Indian banks. Since 1980, has been no further nationalization, and indeed the trend appears to be reversing itself, as nationalized banks are issuing shares to the public, in what amounts to a step towards privatization. The considerable accomplishments of the Indian banking sector notwithstanding, advocates for privatization argue that privatization will lead to several substantial improvements.

Since 1991, India has been engaged in banking sector reforms aimed at increasing the profitability and efficiency of the then 27 public-sector banks that controlled about 90 per cent of all deposits, assets and credit. The reforms were initiated in the middle of a "current account" crisis that occurred in early 1991. The crisis was caused by poor macroeconomic performance, characterized by a public deficit of 10 per cent of GDP, a current account deficit of 3 per cent of GDP, an inflation rate of 10 per cent, and growing domestic and foreign debt, and was triggered by a temporary oil price boom following the Iraqi invasion of Kuwait in 1990.

Prior to the reforms, India's financial sector had long been characterized as highly regulated and financially repressed. The prevalence of reserve requirements, interest rate controls, and allocation of financial resources to priority sectors increased the degree of financial repression and adversely affected the country's financial resource mobilization and allocation. After Independence in 1947, the government took the view that loans extended by colonial banks were biased toward working capital for trade and large firms (Joshi and Little 1996). Moreover, it was perceived that banks should be utilized to assist India's planned development strategy by mobilizing financial resources to strategically important sectors. Recently, the Indian banking sector has witnessed the introduction of several "new private banks," either newly founded, or created by previously extant financial institutions. The new private banks have grown quickly in the past few years, and one has grown to be the second largest bank in India. India has also seen the entry of over two dozen foreign banks since the commencement of financial reforms. While we believe both of these types of banks deserve study, our focus here is on the older private sector, and nationalized banks, since they represent the overwhelming majority of banking activity in India.

Following the 1991 report of the Narasimham Committee, more comprehensive reforms took place that same year. The reforms consisted of (a) a shift of banking sector supervision from intrusive micro-level intervention over credit decisions toward prudential regulations and supervision; (b) a reduction of the CRR

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and SLR; (c) interest rate and entry deregulation; and (d) adoption of prudential norms.[3] Further, in 1992, the Reserve Bank of India issued guidelines for income recognition, asset classification and provisioning, and also adopted the Basle Accord capital adequacy standards. The government also established the Board of Financial Supervision in the Reserve Bank of India and recapitalized public-sector banks in order to give banks sufficient financial strength and to enable them to gain access to capital markets. In 1993, the Reserve Bank of India permitted private entry into the banking sector, provided that new banks were well capitalized and technologically advanced, and at the same time prohibited cross-holding practices with industrial groups. The Reserve Bank of India also imposed some restrictions on new banks with respect to opening branches, with a view to maintaining the franchise value of existing banks.

APPRAISAL OF THE REFORMS OF THE INDIAN BANKING SECTOR
India's financial market has been gradually developing, but still remains bank-dominated in the reform period. The extent of financial deepening measured by total deposits in GDP has risen only modestly from 30 per cent in 1991 to 38 per cent in 1999. Capital market development has also been quite sluggish. Outstanding government and corporate bonds as a share of GDP rose from 14 per cent in 1991 to 18 per cent in 1999 and from only 0.7 per cent in 1996 to 2 per cent in 1998, respectively, while equity market capitalization dropped from 37 per cent in 1995 to 28 per cent in 1999.

GLOBAL BANKING TRENDS
The current global macro-economic situation is characterised by an unbalanced economic recovery across advanced and emerging economies, moderation in economic prospects in 2011, high levels of unemployment and inflationary pressures, and elevated levels of government debt.

MACRO-ECONOMIC RISKS HAVE INCREASED SUBSTANTIALLY
In September 2011, World Economic Outlook, the International Monetary Fund (IMF) has estimated a growth of 4.0 per cent for the world economy as a whole during 2011, with emerging and developing economies growing at 6.4 per cent and advanced economies growing only at 1.6 per cent. The estimate for advanced economies of 1.6 per cent provided in September 2011 was lower than the estimate of 2.2 per cent provided in June 2011 in light of the lower quarterly GDP growth of leading advanced economies. The rate of unemployment in advanced economies has been little over 8 per cent in 2010 albeit with some moderation expected in 2011 as per the IMF estimates. Inflationary pressures, which had become stubborn in 2010, more so for emerging economies as a fallout of rising oil, food and commodity prices, are expected to aggravate further in 2011.

RETURN ON ASSETS SHOWED A MODERATE INCREASE
Apart from the pickup in credit growth, Return on Assets (RoA), an indicator of banking system's profitability and soundness, also showed a moderate increase in the US and France in 2010 (Table II.1). The RoA of US banks turned positive by 2010 after staying in the negative zone in 2008 and 2009; it showed a further increase in 2011 (March). In Russia, China and Malaysia, RoA of the banking system, which had dipped between 2008 and 2009, recovered between 2009 and 2010. In Russia and Malaysia, the trend of increase in RoA continued even in 2011 (March). The RoA of Indian banks too showed a modest rise between 2008 and 2010.

TABLE 1: RETURN ON ASSETS OF BANKS FOR SELECT ECONOMIES

Country	2007	2008	2009	2010	2011
Advanced economies					
France	0.4	0.0	0.4	0.6	...
Germany	0.3	-0.1	0.2	...	...
Greece	1.0	0.2	-0.1	-0.6	-0.3
Italy	0.7	0.3	0.2	...	...
Japan	0.3	-0.3	0.2	0.4	...
Portugal	1.2	0.4	0.4	0.5	0.5
Spain	1.1	0.8	0.6	0.5	...
United Kingdom	0.4	-0.4	0.1	0.2	...
United States	1.2	-0.1	-0.1	0.9	1.2
Emerging and developing economies					
Russia	3.0	1.8	0.7	1.9	2.3
China	0.9	1.0	0.9	1.0	...
India	0.9	1.0	1.1	1.1	...
Malaysia	1.5	1.5	1.2	1.5	1.8
Brazil	3.4	1.5	2.4	3.2	3.3
Mexico	2.3	1.4	1.5	1.8	1.6

DISAPPOINTING PERFORMANCE OF BANK STOCKS
Changes in bank stock indices, which are generally associated with changes in balance sheet and profitability growth of banks, were globally on a path of slow recovery since the beginning of 2009. In the US, there was an upward movement in the prices of bank stocks but this was within a narrow range, reflecting weak confidence of investors in these stocks (Chart II.3). Moreover, there was a striking downtrend in bank stocks in the US since the beginning of 2011. A similar downtrend could also be seen in bank stocks of the fiscally strained economies. In EMEs as a whole, and in China, bank stock indices moved upwards very slowly since the beginning of 2009. Among EMEs, the upward movement in bank stocks since the beginning of 2009 was significant for India, resulting in the index overshooting its pre-crisis mark by the end of 2010.

REVIVAL IN INTERNATIONAL BANKING BUSINESS
In 2010-11 (March), there was considerable revival in international banking business (by location of reporting banks) continuing with the trend in 2009-10. During 2008-09, international assets and liabilities of banks had contracted significantly in the aftermath of the financial crisis.

REFORMS IN CAPITAL AND LIQUIDITY STANDARDS
The most significant development during the year was the announcement by the Basel Committee on Banking Supervision (BCBS) in December 2010 (followed by minor modifications with regard to capital treatment for counterparty credit risk in bilateral trades in June 2011) of the reform framework to strengthen the capital and liquidity standards. The framework provides details of the regulatory standards agreed to by the Governors and Heads of Supervision (GHOS) in September 2010, and endorsed by the G-20 Leaders in November 2010. This framework incorporates both micro-prudential and macro-prudential approaches to regulation and supervision. It is much more comprehensive and counter-cyclical in approach as compared to Basel II[7]. It provides a set of *collective minimum* requirements, and is expected to be implemented in totality and not in parts.

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Bank group-wise share – by number (FY09)
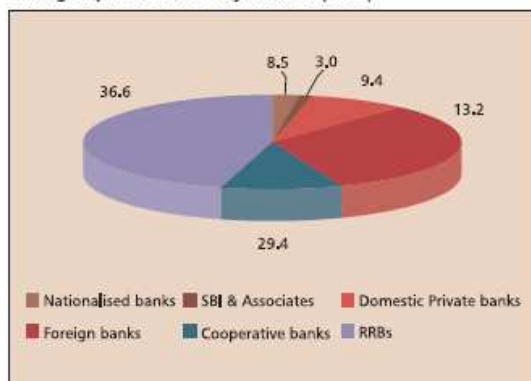
Bank group-wise share – by business (FY09)

Source: RBI, D&B research
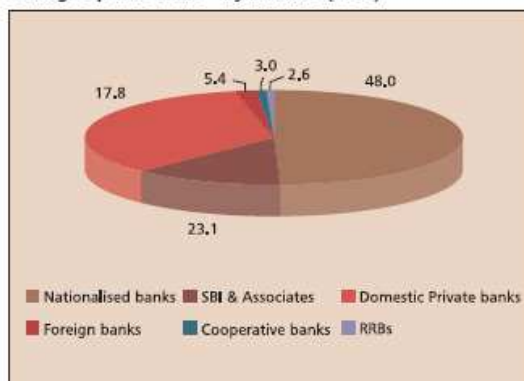
CONSOLIDATION IN THE SECTOR

The Indian banking sector has seen significant transformation through deregulation, technological advances and globalization. The economic reforms, introduced in the early 1990s, brought about a comprehensive change in the business strategy of the industry, leading to mergers and amalgamations, which enhanced the size, efficiencies, and competitive strength. The domestic banking industry has increasingly looked at consolidation to derive greater benefits such as: enhanced synergy; cost take-outs from economies of scale; organizational efficiency; cost of funding; and risk diversification. The need for consolidation in the present context is amply highlighted by the heightening competition, pressure on margins, and the need for scale efficiencies.

No of Commercial Banks [FY01 – FY09]
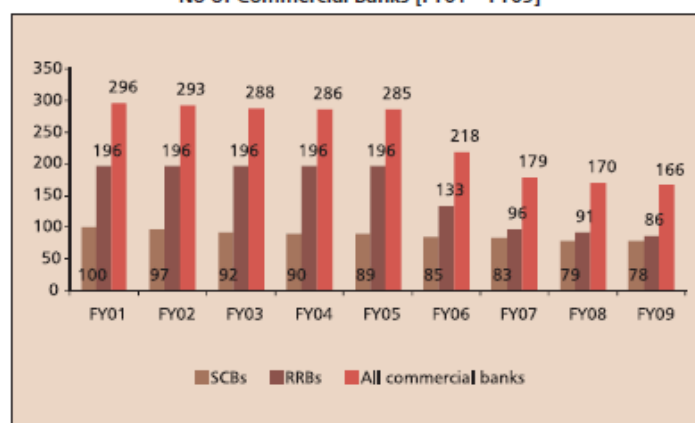
Source: RBI and D&B Research

Deposits and savings as a % of GNP

Growth in deposits and savings
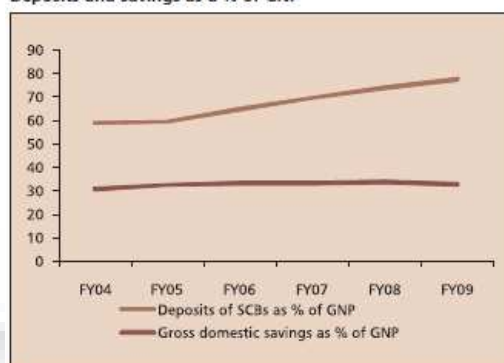
Source: Economic survey 2009-10 and D&B Research
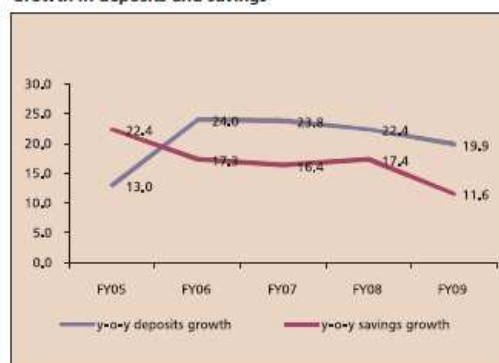
Analyzing the above chart versus the composition of incremental household assets (savings) indicates the reason for growth in the share of deposits despite an almost constant savings rate. Bank deposits always formed the largest share of incremental household assets (savings); it increased further from 36.4% in FY05 to 54.9% in FY09. Other asset classes, such as life insurance and shares and debentures, too gained prominence replacing the earlier-dominant provident and pension funds. However, in FY09, following the global financial crisis and increased risk aversion, shares and debentures as asset classes saw a sharp decline, leading to further increase in the share of bank deposits.

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Share of various financial assets as % of incremental household assets (savings)
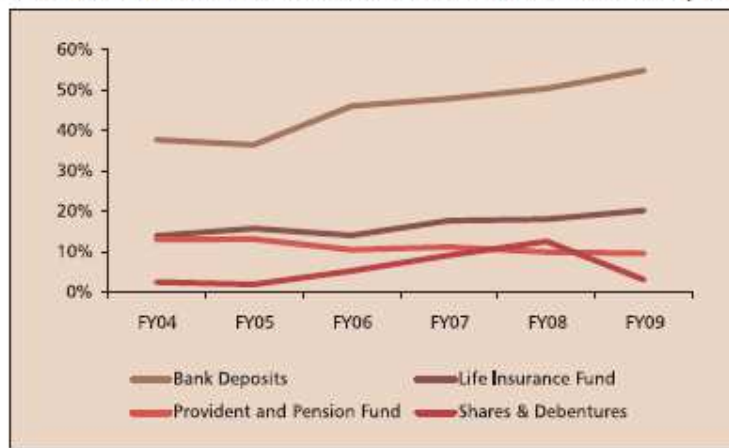
Source: RBI and D&B Research

PERFORMANCE OF SCBs

Total bank credit attributable to SCBs stood at ` 27,755.51 billion in FY09, as against ` 23,619.14 billion in the previous year, a growth of 17.5% y-o-y; 72.7% of this was held by the public sector banks (PSBs), 49.8% by nationalized banks, and 22.9% by SBI and associates. Although RRBs formed 51.8% by number, credit disbursement stood at only 2.3% of the total by SCBs. SLR Investments of banks grew from ` 9,586.63 billion in FY08 to 11,557.87 billion in FY09, a growth of 20.6%; PSBs formed the largest share (72.4%) in FY09, while private and foreign banks accounted for 17.7% and 7.5% respectively.

Business of scheduled banks in India

FY09 (in ₹ Billion)	SBI and Associates	Nationalised Banks	RRBs	Private Banks	Foreign Banks	All Banks
I. Liabilities to the banking system	149	430.9	9.1	133.5	278.7	1001.1
II. Liabilities to others in India	10436.1	20490.2	1167.3	7748.8	2713.3	42555.7
III. Assets with the banking system	202.1	217.7	320.4	123	362.5	1225.7
IV. Cash in hand	46.4	75	12.3	63	6.2	202.8
V. Investment in India	3047.4	5323.8	271.2	2043.7	871.9	11557.9
VI. Bank Credit	6355.8	13831.3	640.1	5234.9	1693.3	27755.5

FY08 (in ₹ Billion)	SBI and Associates	Nationalised Banks	RRBs	Private Banks	Foreign Banks	All Banks
I. Liabilities to the banking system	212.3	387.4	5.8	163.3	212.8	981.5
II. Liabilities to others in India	8296.8	17046.6	967.6	7243.6	2463.5	36018
III. Assets with the banking system	146.2	218	206	109	229.5	908.8
IV. Cash in hand	33.6	69.5	11	60.6	5.7	180.4
V. Investment in India	2155.1	4377.7	234.1	1939	880.8	9586.6
VI. Bank Credit	5340.6	11360.9	574.2	4714.8	1628.7	23619.1

Source: RBI and D&B Research

RRBs (%)	CASA ratio	SLR Ratio	Credit/ Deposit	Cash/ Deposit
FY04	20.10	32.80	46.90	1.00
FY07	24.50	27.50	59.30	1.40
FY08	22.30	26.90	60.80	1.20
FY09	21.40	25.80	56.20	1.10

SCBs (%)	CASA ratio	SLR Ratio	Credit/ Deposit	Cash/ Deposit
FY04	15.00	43.50	55.90	5.10
FY07	16.50	29.70	73.90	7.50
FY08	16.40	30.00	73.90	8.60
FY09	13.60	30.10	72.40	6.70

SCBs	Credit	Total Investments	Investments in Government Securities	Aggregate Deposits
FY09				
As (%) Aggregate Deposits	72.4	30.4	30.1	NA
As (%) of GDP	52.2	21.9	21.7	72
FY08				
As (%) Aggregate Deposits	73.9	30.4	30	NA
As (%) of GDP	50	20.6	20.3	67.7
FY04				
As (%) Aggregate Deposits	55.9	45	43.5	NA
As (%) of GDP	30.5	24.6	23.8	54.6

Source: RBI and D&B Research

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INTERNATIONAL TRADE

The number of foreign banks operating in India stood at 31, with 293 branches, as of FY09, almost double the number of Indian banks operating abroad (14 banks with 138 branches); nevertheless, the total business of foreign banks was only 19% higher at ` 3,794.9 billion than that of the Indian banks operating abroad at ` 3,187.7 billion.

Business of foreign banks in India

	Customer Deposit	Customer Credit	Investments	Total assets
FY07	1507	1263	715	2744
FY08	1912	1611	989	3641
FY09	2141	1654	1304	4471
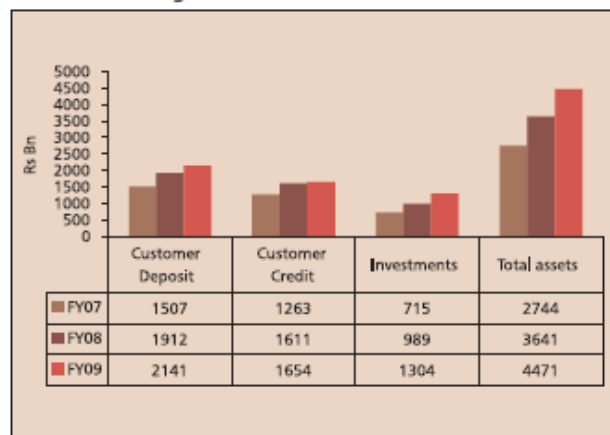
Business of Indian banks abroad

	Customer Deposit	Customer Credit	Investments	Total assets
FY07	696	1108	197	2003
FY08	816	1652	219	2437
FY09	1027	2160	259	3082
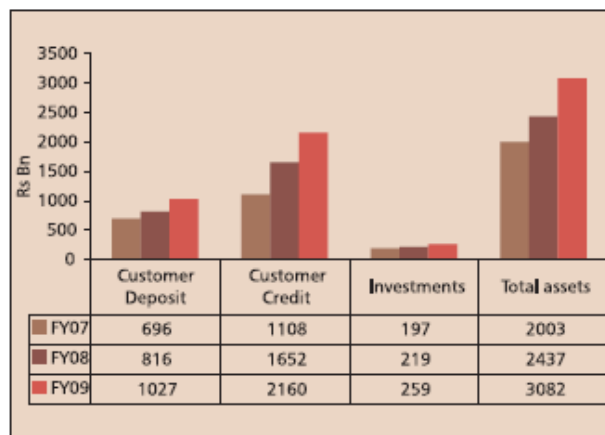
Source: RBI and D&B Research

CONCLUSION

On the back of the improved the GDP forecast for the economy by the IMF at 9.4%, and a cautious 8.5% projection by the government, the Indian banking sector is expected to play pivotal role in supporting and being a part of the growth of the emerging Indian economy. The RBI in its policy statement has projected the M3 and non-food credit growth for the Indian bank in 2010- 11 to be 17% and 20% respectively. The money supply (M3) growth on a y-o-y basis stood at 15.3%, in July 2010, reflecting a slight slowdown in the growth in bank deposits. Time deposits decelerated mainly because of withdrawal of deposits by public sector undertakings and mutual funds. On the other hand, y-o-y non-food credit growth accelerated from 17.1% in March 2010 to 22.3 % as on July 2, 2010, (higher than the indicative trajectory of 20% set out in the April 2010 by RBI in their Monetary Policy Statement). This was a reflection of the combined impact of a pick-up in industrial activity and financing of the 3G and broadband wireless access (BWA) spectrum auctions. In order to finance higher credit growth in the face of declining deposit growth, banks unwound their investments in mutual funds and accessed the repo window of the Reserve Bank.

Continued efforts in the direction of maintaining the strong asset quality, transparency, capital adequacy and strong corporate governance will however be the key for the sector to emerge as one of the leading domestic banking systems in the world.

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INFORMATION TECHNOLOGY AND COMMUNICATION IN BUSINESS

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ABSTRACT

It is widely acknowledged today that new technologies, in particular access to the Internet, tend to modify communication between the different players in the professional world, notably: relationships between the enterprise and its clients, the internal functioning of the enterprise, including enterprise-employee relationships, the relationship of the enterprise with its different partners and suppliers. The term "e-Business" therefore refers to the integration, within the company, of tools based on information and communication technologies (generally referred to as business software) to improve their functioning in order to create value for the enterprise, its clients, and its partners. E-Business no longer only applies to virtual companies (called click and mortar) all of whose activities are based on the Net, but also to traditional companies (called brick and mortar). The term e-Commerce (also called Electronic commerce), which is frequently mixed up with the term e-Business, as a matter of fact, only covers one aspect of e-Business, i.e. the use of an electronic support for the commercial relationship between a company and individuals. The purpose of this document is to present the different underlying "technologies" (in reality, organizational modes based on information and communication technologies) and their associated acronyms. Some common security concerns for e-Businesses include keeping business and customer information private and confidential, authenticity of data, and data integrity. Some of the methods of protecting e-business security and keeping information secure include physical security measures as well as data storage, data transmission, anti-virus software, firewalls, and encryption to list a few. While some use e-commerce and e-business interchangeably, they are distinct concepts. In e-commerce, information and communications technology (ICT) is used in nter-business or inter-organizational transactions (transactions between and among firms/organizations) and in business-to-consumer transactions (transactions between firms/organizations and individuals).In IT business world, ICT is used to enhance one's business. It includes any process that a business organization (either a for-profit, governmental or non-profit entity) conducts over a computer-mediated network. A more comprehensive definition of e-business is: "The transformation of an organization's processes to deliver additional customer value through the application of technologies, philosophies and computing paradigm of the new economy."

KEYWORDS

Internet, Communication technologies, Information, Information communication technologies, e-Commerce.

INTRODUCTION

Information And Communication Technologies business commonly referred to as "eBusiness" or "e-business", or an internet business, may be defined as the application of information and communication technologies (ICT) in support of all the activities of business. Commerce constitutes the exchange of products and services between businesses, groups and individuals and can be seen as one of the essential activities of any business. Electronic commerce focuses on the use of ICT to enable the external activities and relationships of the business with individuals, groups and other businesses. Louis Gerstner, the former CEO of IBM, in his book, Who Says Elephants Can't Dance? Attributes the term "e-Business" to IBM's marketing and Internet teams in 1996. Electronic business methods enable companies to link their internal and external data processing systems more efficiently and flexibly, to work more closely with suppliers and partners, and to better satisfy the needs and expectations of their customers.

In practice, e-business is more than just e-commerce. While e-business refers to more strategic focus with an emphasis on the functions that occur using electronic capabilities, e-commerce is a subset of an overall e-business strategy. E-commerce seeks to add revenue streams using the World Wide Web or the Internet to build and enhance relationships with clients and partners and to improve efficiency using the Empty Vessel strategy. Often, e-commerce involves the application of knowledge management systems.

E-business involves business processes spanning the entire value chain: electronic purchasing and supply chain management, processing orders electronically, handling customer service, and cooperating with business partners. Special technical standards for e-business facilitate the exchange of data between companies. E-business software solutions allow the integration of intra and inter firm business processes. E-business can be conducted using the Web, the Internet, intranets, extranets, or some combination of these.

Basically, electronic commerce (EC) is the process of buying, transferring, or exchanging products, services, and/or information via computer networks, including the internet. EC can also be benefited from many perspective including business process, service, learning, collaborative, community. EC is often confused with e-business.

FOCUS OF INFORMATION TECHNOLOGY

Three primary processes are enhanced in IT:

1. Production processes, which include procurement, ordering and replenishment of stocks; processing of payments; electronic links with suppliers; and production control processes, among others;

2. Customer-focused processes, which include promotional and marketing efforts, selling over the Internet, processing of customers' purchase orders and Payments, and customer support, among others; and

3. Internal management processes, which include employee services, training, internal information-sharing, video-conferencing, and recruiting. Electronic Applications enhance information flow between production and sales forces To improve sales force productivity. Workgroup communications and electronic publishing of internal business information are likewise made more efficient.

THE ROLE OF IT IN BUSINESS-LED DATA GOVERNANCE

Despite companies now recognizing the importance of their enterprise data, they still have a difficult time effectively managing it as an asset. Some of those challenges arise from a lack of business involvement and sponsorship, an inability to identify data owners and encourage accountability, or a reluctance to share data. Although it is imperative for business to lead and sponsor data governance, it is equally important to align business and IT for organizations to fully benefit in a significant and persistent way from data management.

The importance of aligning business and IT is compounded by the trend to centralize information systems, resources and integration points. Many organizations are moving to centralize IT and with that recognize that data can also be managed centrally to achieve economies of scale, improve productivity, and effectively manage information. Consequently, the IT organization sees issues that span lines of business and geography, including enterprise data issues. As such, IT may be the first to recognize and often are the initial advocates of the need for data governance before the business. For example, IT can identify where data issues start in a source system and the changes that are made as data flows through different systems. However, the impact of the changes to the data is not always obvious to IT, nor is IT in a position to recommend changes to business processes to improve data quality either at the source or over its lifecycle. Challenges

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arise when it is time to assign resources to be accountable for data quality and fix data issues, which is precisely when IT needs to transfer ownership of data governance to the business while continuing with oversight and the essential role IT plays in data governance success.

FIG 1.1: ROLE OF IT IN BUSINESS
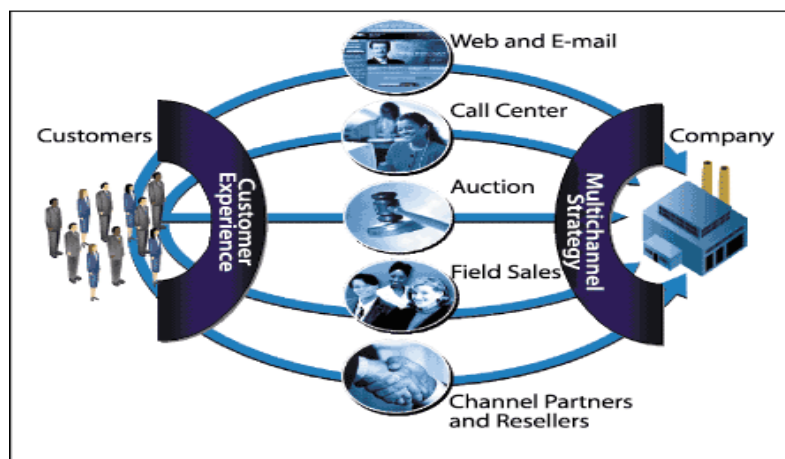
This places these questions into context: What is the role of IT in business-led data governance? How can the IT organization work with the business to ensure their needs are being met and the data governance initiative is a success? In order to understand the role of the IT organization in data governance, let's first look at the goals and objectives of the data governance organization.

DATA GOVERNANCE ORGANIZATION GOALS

The overarching goals of a data governance organization are to provide direction on the capture, collection, security, transfer, quality and management of data within the organization to:

1. Ensure the integrity of information
2. Ensure information is secure while facilitating access
3. Support decision-making
4. Enhance services provided to customers and partners
5. Assist in information collaboration
6. Eliminate business and technical obstacles to achieving business goals
7. Standardize corporate data definitions, policies and processes so the data can be more readily shared, interpreted and used
8. Manage data as a corporate asset
9. Reduce costs and increase effectiveness through coordination of efforts

ENSURE TRANSPARENCY

Organizations go about achieving these goals and measuring and reporting results in different ways based on their unique approach to data governance. What is evident is that the business cannot achieve these goals without relying on and involving IT to deploy and manage the enabling technology and tools. At the same time, business needs to own the data governance program and the decisions concerning managing data as a corporate asset. IT and business must both play their requisite roles in data governance to avoid antagonistic or competitive impediments. Operating principles should be developed that define how the business and IT should work together in order to support collaboration. Moreover, the written guidelines should be agreed upon and communicated across and made available throughout the organization. While there are many ways to implement a data governance organization, some common roles include the Steering Committee, Data Governance Lead and the Data Governance Working Group – each comprised of representatives from both business and IT. For example, as a cross-functional business and IT team, the Data Governance Working Group are the subject matter experts who drive data management and data quality strategy, and execution for their respective subject and line of business areas.

THE ROLE OF IT IN DATA GOVERNANCE

The IT organization's mandate is to ensure that the future state of information and application architectures meet the needs of the data governance organization and are aligned to business goals and objectives. It ensures that the organization's information technologies sustain and extend the data governance organization's strategies and objectives while providing a consistent view of the end-to-end business processes. To meet its mandate, the IT organization must provide leadership, technical infrastructure and resources that collaborate with the business to identify data issues, provide alternatives and implement solutions. At a minimum, the IT organization should provide the following resources to the data governance organization in order to meet business stakeholder needs:

1. IT leadership at the Steering Committee level to provide leadership, vision and oversight
2. An IT Partner who is a peer to the data governance lead and is responsible for development and ownership of the data governance technical roadmap
3. A Data Quality Lead who works collaboratively with data stewards from the business to gain an understanding of business needs related to the quality of information and ensures that best practices regarding data quality incidents are being followed
4. A Metadata Lead who creates and maintains the metadata repository and defines the content of the business
5. An Enterprise Architect who works with the data governance lead to provide architecture and data integration oversight
6. A Data Architect who is responsible and accountable for the creation and maintenance of the Enterprise Data Model

Data Custodians who work closely with the data stewards and data owners to implement data governance policies and data owner requirements, and who carry out the data delivery function The IT organization is also responsible and accountable for providing technology and technical infrastructure for the management, storage, access, security, navigation, movement and transformation of data. In this way, it implements the necessary systems to support and measure data governance requirements and data business processes. It also ensures that the data governance strategy aligns with the IT design methodology, development process methodology and best practices. By working together with business data stewards, the IT organization plays an important role in root cause analysis on data issues and building remediation plans. It is the role of the IT organization to measure, monitor and report on data quality and deliver stakeholder service based on service level agreements.

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In order to successfully provision these services and support, the IT organization needs to understand why data governance is important to each business stakeholder, what the benefits are and how best to work together with the business. When the IT organization can clearly articulate the benefits for each business function, sponsorship and ownership is more easily achieved.The trend to centralize IT compounds the importance of articulating the role of IT in business-led data governance. Although IT may be the first to recognize and advocate for data governance, challenges arise when ownership transfers to the business. A comprehensive data governance strategy not only aligns business and IT to address data issues but also defines data ownership and policies, data quality processes, decision rights and escalation procedures. The IT organization plays a critical role in enabling data governance and contributes key resources to the data governance organization. The proper combination and collaboration of business and IT resources, skill sets and leadership is required to effectively carry out the data governance agenda.

IT SUBSETS AND MODELS

SUBSETS
Applications can be divided into three categories
Internal business systems
1. Customer relationship management
2. Enterprise resource planning
3. Document management systems
4. Human resources management

Enterprise communication and collaboration
1. Content management system
2. E-mail
3. Voice mail
4. Web conferencing
5. Digital work flows (or business process management)
6. VoIP

Electronic Commerce - business-to-business electronic commerce (B2B) or business-to-consumer electronic commerce (b2c)
1. Internet shop
2. Supply chain management
3. Online marketing
4. Offline marketing

MODELS
When organizations go online, they have to decide which e-business models best suit their goals.[2] A business model is defined as the organization of product, service and information flows, and the source of revenues and benefits for suppliers and customers. The concept of e-business model is the same but used in the online presence. The following is a list of the currently most adopted e-business models such as:
1. E-shops
2. E-commerce
3. E-procurement
4. E-malls
5. E-auctions
6. Virtual Communities
7. Collaboration Platforms
8. Third-party Marketplaces
9. Value-chain Integrators
10. Value-chain Service Providers
11. Information Brokerage
12. Telecommunication
13. Customer relationship

FIG 1.2: EBUSINESS DEVELOPMENT OPTIONS

KEY SECURITY CONCERNS WITHIN E-BUSINESS
1. Privacy and confidentiality
2. Authenticity
3. Data integrity
4. Non-repudiation
5. Access control
6. Availability

COMMON SECURITY MEASURES FOR E-BUSINESS SYSTEMS
1. Physical security
2. Data storage

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3. Data transmission and application development
4. System administration

CONCLUSION

The most common implementation of e business is as an additional, or in some cases primary, storefront. By selling products and services online, an e business is able to reach a much wider consumer base than any traditional brick-and-mortar store could ever hope for. This function of e business is referred to as ecommerce, and the terms are occasionally used interchangeably. An e business may also use the Internet to acquire wholesale products or supplies for in-house production. This facet of e business is sometimes referred to as eprocurement, and may offer businesses the opportunity to cut their costs dramatically. Even many ebusinesses which operate without an electronic storefront now use eprocurement as a way to better track and manage their purchasing.E-business modeling is a concept that has several components and can be designed based on different combinations of them. Furthermore, it is a concept that is vulnerable to changes as it is associated with technology, which is developing rapidly day by day. By con-ducting this research on 1) how the companies are managing changes in a competitive environments by means of adjusting their e-business models, and 2) if there are any compo-nent(s) of e-business model(s) that has more importance than the others for the competi-tiveness of the company, the thesis intends to define the change management procedures that the organizations involved in e-business are using, and to compare the components of the e-business models in order to find out if there is any component that is more important than the others for the competitiveness of the organization.

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IMPACT OF ORGANIZED RETAIL ON UNORGANIZED SECTOR: A STUDY IN JAMMU REGION

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ABSTRACT

India with 15 million outlets is rightly referred to as a nation of shopkeepers. Retailing is the second largest employer after agriculture in the country. Indian organized retail sector is clocking impressive growth; currently valued at $450 billion and is expected to reach $640 billions by 2015. Currently, the organized retail constitutes around 9% of the total retail sector and may touch 16% by 2011-12. Government of India study besides many others on the effect of organized retailing on traditional retailers (pop-n-mom / Kiranas / Nukkad stores) have revealed that pop-n-mom/Kirana stores experienced a decline in business volume and profits especially in the vicinity of organized retailing outlets though the impact may weaken over time. ASSOCHAM study has also suggested that mall culture has not been able to penetrate as per the expectations. At present, limited research on retailing has been reported in India. Keeping in view the increasing importance of organized retail and its penetration in select product category (food, grocery, FMCG & apparels) a preliminary study examine demographic profile of customers and impact of organized retail on Kiranas establishments was carried out in Jammu. While Jammu has yet to feel the impact of organized retail yet some tremors felt in this study are reported and discussed in this paper.

KEYWORDS
Organized retail, Traditional Kiranas, Retail penetration.

INTRODUCTION

India is sometimes referred to as a nation of shopkeepers. Traditionally, retailing in India can be traced back to barter system since Indus valley civilization, Indian grocers were perhaps among the earliest in the world to acquire professional retailing skills which lead towards various retail formats like mandis, melas and haats and presently in the form of Kirana stores. In the fifties there were only about 0.25 million retail outlets in India which had grown to about 5.13 million in 1997; equivalent to 5.55 shops per 1000 consumers.

Indian retailing is divided into two major segments: organized and unorganized retailing with former sharing 0.7% in 1999 to hardly 9% (2010) of the total trade volume. Though still in single digit figures the organized retail sector is estimated to be clocking impressive growth; currently valued at $450 billion is expected to reach $535 billion by 2013 and $640 billions by 2015. It is likely to grow at a much faster pace of 45-50% per annum and may quadruple its share in total retail to 16% by 2011-12.The present scenario of share of organized retailing in the total retail volume in India is far below other countries as it is 20% in China, 25% in Indonesia, 35% in Philippines, 40% in Thailand ,50% in Malaysia and around 80%, in U.S.A.70 %,in Europe and on the whole around 20% in Asia.

A research report by Research and Markets indicates that Indian retail sector accounts for 22 per cent of the country's gross domestic product (GDP) and contributes to 8 per cent of the total employment. It was as early as the year 2000 that AT Kearney from the global management consultancy had put a figure of Rs. 400,000 crore worth retailing which was estimated to grow with an annual increase of 20 per cent to touch the level of Rs. 800,000 crore by the year 2005 including Rs.20,000 crore as organized segment. IMAGES F&R Research had also estimates organized retail market in India touched a volume of Rs1, 200,000 crores in the year 2006 which increased to Rs 1,330,000 crores during 2007(at prevailing market prices). Indian retailing is expanding and is expected to reach at US$637 billions by 2015. According to Booz and Co (India) Pvt. Ltd., the retail market in India is worth Rs 18,673 billion (US$ 401 billion) as of 2010. Global consultancy firm Price water house Coopers (PwC) expects Indian retail sector to be worth US$ 900 by 2014 in its report 'Strong and Steady 2011'. Food and grocery (F&G) a basic need segment comprises 62 per cent of the $ 270 billion (Rs 1,200,000 crore) Indian retail market (India Retail Report, 2007) with only 0.8 per cent of it in the organized sector.

While local Kirana stores continue to retain their existence and dominate the retail trade the organized retailing in the form of modern shopping malls, departmental stores, one stop shopping centers and hypermarkets have entered the scene. These modern forms of outlets sell essential commodities along with luxury items and branded products of both domestic and international manufacturers for each and every section of the society under one roof. The traditional retailers (pop-n-mom,/ Kiranas and/ nukkad stores) in the vicinity of organized retailers have been reported to experience a decline in business volume and profits to varying degrees which may persist for different durations of time.

Jammu, the historical town and winter capital of the Jammu & Kashmir state has also starting recording ripples of the organized trade entry in the city. Jammu district having a population of 15.72 lakh with its density of 508 per sq. km as per the 2001 census has about 484989(2010) shopping outlets of all shades and hue with over 26000 persons employed in these outlets. The city has a shopping mall called "City Square" exposing Jammuites to all the latest brands and accessories under one roof besides being a major hang out spot for youngsters in its food joint. The city has two (2) Vishal outlets; one located in Bahu Plaza complex, Gandhi Nagar and the other in Bakshi Nagar area. Recently Bharti Walmart has opened its first cash-and-carry store in Jammu.

NEED OF THE STUDY

Keeping in view the increasing importance of organized retail and its penetration in select product category (food, grocery, FMCG & apparels) a study was conducted to examine impact of organized retail on Kiranas establishments in Jammu. In the study under report City Mall and both the Vishal outlets have been concentrated upon.

OBJECTIVE

The main objective of this study was to examine impact of organized retail on business volume, employment generation and sustainability of Kiranas establishments.

REVIEW OF LITERATURE

Review of existing literature and different reports which are published from time to time are flashing that to-date there is very little understanding of what the impact of organized retail will be on so called unorganized retail sector particularly small father and son stores.

According to panelists at the recent Wharton India Economic Forum, the propensity and capacity for Indian consumers to spend depends on a unique blend of price and value, and retailers that understand this complexity stand to reap enormous benefits of scale.

Graham Jones (2008) has opinion that India has one of the largest unorganized retail markets in the world. More than 96% retailers function in less than 500 Sq.Ft of area. India's per capita retailing space is thus the lowest in the world. Given the size, and the geographical, cultural and socio-economic diversity of India, there is no role model for Indian suppliers and retailers to adapt or expand in the Indian context.

Singh & Tripathi (2008) have reported a survey of 245 small retailers in Delhi and NCR area pointing out a substantial decline in the sales performance of small shops and ultimately resulting into the closure of these unorganized retail. However, small shops in the posh areas and in the inner streets were comparatively less affected by malls. For daily requirements and groceries, customers were still relying on small shops only. Maximum retailers in south Delhi and Central Delhi

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reported no change in their sales performance. Research also revealed that retailers having small capital base i.e., up to 2 Lakhs and 2-6 Lakhs were highly affected by malls.

Results of a survey on 'Impact of malls on small shops and hawkers in Mumbai' reported by Kalhan Anuradha (2007) pointed out a decline in sales of groceries, fruits and vegetables, processed foods, garments, shoes, electrical and electronic goods in small stores . Only a few (14 %) were able to upgrade their services or were able to respond to changed circumstances. The sample in this study was restricted to Bhandup- Mulund and Lower Parel in Mumbai.

Trivedi et.al., (2007) have reported that due to overcrowded agricultural and manufacturing sectors, millions of Indians are forced to join the services sector. Given the lack of opportunities there it is almost a natural decision for an individual to set up a small shop or store, depending upon his/her means of capital, and thus a retailer is borne seemingly out of circumstances rather than choice.

A Centre for Policy Alternatives report entitled FDI in India's retail sector: indicates that India has 35 towns each with a population of over one million. If Wal-Mart were to open an average Wal-Mart store in each of these cities and these reached the average Wal-Mart performance per store; a turn over of over Rs 80,330 million ($1.82 billion) is achieved with only 10,195 employees. Extrapolating this with the average trend in India, it would mean displacing about 4, 32,000 persons. As per the report if large retailers were to obtain 20 percent of the retail trade, 'this would mean a turnover of Rs 800 billion ($18 billion) on today's basis and an employment of just 43,540 persons displacing nearly 8 million persons employed in unorganized retail sector.

Kumar and Vishwas (2010) have observed that despite the rapid growth of large modern retail sector, the bulk of retailing in India continues to happen via the small and traditional general stores called Kirana stores in India. These stores take various locally adapted forma and names such as Tiendas in Latin America, sari stores in Southeast Asia and Kirana stores in India. Such stores continue to compete successfully even as modern retailing advances rapidly (Humphrey 2007, Trail 2006)

Chattopadhya, Dholakia and Roy (2010) have stated that India is a home of (STS) Small traditional stores. Their research conducted on four cities Mumbai, Kolkatta, Aligarh and Vizag indicates that even as modern retailing makes rapid inroads in India, most STS outlets are resilient in terms of their service mix and remain competitive. Shoppers, even in large metro cities, are still loyal to neighborhood STS outlets.

A study by AT Kearney (2011) has found that people are rarely willing to travel more than 15 to 20 minutes from home to shop."Proximity, therefore, will always be a major differentiator and large hypermarkets cannot penetrate every urban area profitably,

Mukherjee & Patel (2005) have indicated a study sponsored by Indian Council for Research on International Economic Relations that highlighted a case for introduction of FDI in organized retail over a period of five to six years to boost the pace at which it is growing. An organized retail sector, they suggested, will ensure better quality, prices and service quality to the consumer. It will encourage investment in the supply chain, link local suppliers to large global markets and improve the quality of employment. Their sample of 301 respondents was spread over 14 types of participants in the retail sector, from domestic organized retailers, real estate developers, foreign players and manufacturers to unorganized retailers spread over eight cities. The sample, however, had only 64 domestic unorganized retailers, 50 workers in the unorganized retail and no hawkers. Since this sector generates 6 to 7 percent of the total employment in the economy, there is a need to focus some research on impact of organized retail on this segment alone.

METHODOLOGY

A sample of 120 small shops identified in terms of (size, inventory and employment) within one kilometer radius of a mall and Vishal retail outlets were chosen for pilot study. 40 of these shops were located in the catchment area of City Square Shopping mall near Jewel Chowk, 40 near Vishal Mega Mart in Bakshi Nagar area near to Medical College Jammu and 40 in Bahu Plaza Trikuta Nager –Gandhi Nagar. The City Square mall and Vishal Mega mart were selected on the basis of time they have been in operation. All these outlets are 3-5 years old.

A questionnaire was administered to the shop owners and administers in absence of the owners. The first half of questionnaire sought basic information on floor size, value of inventory and employment both family and non family. The second part of questionnaire sought data on impact on profits and sales, employment, working hours and high value customer lost, if any. This part of questionnaire asked the respondents to provide information after the shopping mall and Vishal Mega mart were opened in their vicinity. The third part asked the respondents to list causes for decline in sales especially during the time when certain sales promotion offers are being made by these organized retail outlets. The survey was completed in 25 days during June-July 2011.

RESULTS AND DISCUSSION

The floor area, inventory and employment wise details of the selected outlets are given in the Table-1(a,b&c) The results indicate that 68% of the sample establishments had area less than 300 sq.ft ; 80% of the shops have inventory less than Rs10 lakhs whereas 60% of the sample shops included family owned small business ventures without hired help.

TABLE 1-a DISTRIBUTION OF SAMPLE SHOPS BY FLOOR SPACES

Floor area (Sq.Ft)	Number	Percent of total (approx)
< 100 sq.ft	29	24
100-200 sq.ft	27	23
201-300 sq.ft	25	21
301-400 sq.ft	22	18
400-550 sq.ft	11	9
More than 550 sq.ft	7	5
Total	120	100

TABLE 1-b DISTRIBUTION OF SAMPLE SHOPS BY SALE INVENTORY

Sale inventory (Rs Lakh)	No of Shops	Percent of total(approx)
<1	12	10
1-5	45	37.5
6-10	39	32.5
11-20	17	15
21-50	7	5
Total	120	100

TABLE 1-c: DISTRIBUTION OF SAMPLE SHOPS BY EMPLOYMENT STATUS

Employment status (Nos)	Number of shops and stalls	Percent of total
Self employed	72	60
Family members and employees	48	40
Total	120	100

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Study of sale performance indicator revealed that 67 % of the respondents reported decline in sales. Only 21 % of the shops offering stationery, photocopying and mobile phone in addition to grocery items /brands not available in the Mall and Vishal outlets witnessed an increase in sales. Some eateries close to the malls reported an increase in sales due to benefaction of mall employees (Table-2).

TABLE - 2: SALES PERFORMANCE SINCE THE START OF MALL

Sales Level	No of Shops	Percent of total(approx)
Increased	25	21
Declined	80	67
Remained the same	15	12
Total	120	100

Similarly, extent of Decline in sales of sample shops since the start of City Mall / Vishal Mega mart Operations indicated that about 51% of the outlets reported loss of sales varying from less than 5.0 Lakh to 10.0 Lakh annually (Table-3).The decline was much prominent in unbranded garments and shoes which shows that there is a shift in the consumption pattern of Jammuites towards branded apparels and shoes.

TABLE – 3: EXTENT OF DECLINE IN SALES OF SAMPLE SHOPS SINCE THE START OF MALL / VISHAL MEGAMART OPERATIONS

Sales Decline(Lakh Rs)	No of Shops	Percent of total(approx)
<5	42	35
06 -10	19	16
11-15	11	09
16-20	8	07
>20	--	--
Total	80	

The data in Table -4 below indicate that in case of unorganized retailers the maximum decline of about 76% was reported in the sale of branded apparels followed by shoes and grocery and others.

TABLE – 4: SALES DECLINE IN SHOPS BY BUSINESS TYPE DUE TO MALL CULTURE

Business Type	Total no of shops	No of Shops showing sales decline	Sales decline(Percent)
Grocery	35	23	66
Processing food	32	18	56
Garments	25	19	76
Shoes	20	15	75
Electrical & Electronics	8	5	62
Total	120	80	

The sample shopkeepers were also questioned about threat perceived by them due to functioning of the Malls and Vishal mega mart stores and 33% of the sample population did not feel any threat as they were hopeful to bounce back to their earlier levels of trade in due course of time. Only 11% of small shopkeepers confirmed in affirmatic for shifting of kind of merchandise in case they are not able to retain a good turn over/profit margin.

There has however, been no case of closure of small retail outlet reported in all the three areas under study (Table-5). However, despite sales downturn there has been no significant refusal to employment except stray cases of job loss in some shops and establishments on other reasons.

TABLE – 5: EXTENT OF THREAT PERCEIVED BY SAMPLE SHOPS

Perception of threat	Yes	No	Percent of total responding Yes
Feel Threatened	85	35	70
Feel closure of retail outlet/shifting of kind of merchandise	15		13(approx)
No response	20		17(approx)
Total	120		

The study of area wise effects as given in Table-6 below indicates that the decline in the sale of small retailers has been reported at 60% in Gandhi Nagar area to 72.5% in area around Vishal outlet in Bakshi Nagar. While 7.5 % to 17.5% retailers in all the areas reported no change in the sale volume there has been increase in the sale figures of 10% in Bakshi Nagar area to 32.5% in areas around Gandhi Nagar Trikuta Nagar.

TABLE -6 AREA WISE SALE POSITIONS OF SAMPLE SHOPS IN VICINITY OF CITY MALL AND VISHAL OUTLETS (NOS/%)

Particulars of sale position in Area	Decline in sales	No Change in Sales	Increase in Sales	Total
Bakshi Nagar area(near Vishal outlet)	29 / 72.5%	7 / 17.5%	4 / 10%	40 / 100%
Jewel Chowk area(near City Mall)	27 / 67.5%	5 / 12.5%	8 / 20%	40/ 100%
Gandhi Nagar ,Trikuta Nagar area (near Vishal outlet)	24 / 60.0%	3 / 07.5%	13 / 32.5%	40/ 100%

In the present study the focus had been entirely on unorganized sector and the results are astounding. Even though mall culture is new in Jammu yet a shift in the shopping habits of Jammuites is quite visible. People have become more conscious about brands and are lured at the time of sales promotion offers made by these retail outlets. Most of the customers visiting these retail outlets are in favour of discounts or promotion schemes. These attractive price discounts attract the price conscious Indian customers to shop around. There was noticeable additional decline of around 5-15% in sales during the time of sales promotion offers made by these retail outlets This was found the major cause of worry among Kiranas and small shopkeepers.

Faced with tough competition from organized sale outlets the small retailers/Kirana and Mom and Pop stores owners have resorted to corrective measures and different strategy to boost their sale. It was found that 14 % of small retailers reportedly adopted new sales promotion initiatives like tele orders, home delivery and sales on credit besides adding new product lines and brands, better display, renovation of store, introducing self service etc. Few retailers also increased their working hours and opening seven days a week.

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The Under mentioned table-7 gives an overview of the same:

TABLE-7 RESPONSE TO COMPETITION FROM ORGANIZED RETAIL OUTLETS (%AGE OF SAMPLED RETAILERS)

Reduced Prices	23
Reduced expenses	18
Reduced staff	8
Adding new product lines	35
Increased number of brands	54
Better display	55
Introduced self service	11
Modernized store	45
Improved home delivery	45
Increased store space	25
Giving cash credit for more amount	10
Giving cash credit for longer durations	15
Added Computerized billing	40
Credit card machine	25
Electronic weight machine	67
Air conditioning	10

It is too premature to draw any inference to the outcome of these corrective measures but the small retailers were very optimistic to bounce back to their earlier levels of business despite several deterrents.

CONCLUDING REMARKS

The preceding discussion discloses that modern retail chains do have a significant impact on the mom and pop stores, particularly on business outcomes such as sales and profit margins. Also the findings of this primary survey highlight the fact that the attractive price discounts at organized retail outlets are a major concern for small retailers and a hindrance to their successfully competing with modern retail chains. As the supply chains of organized retailers develop, they gain economies of scale leading to cost advantage which in turn allows them to attract price conscious Indian consumer by offering products at economical prices. A small fraction of Kiranas have modified their service module with extended credit facilities to retain their clientele. The base level retailers may feel the threat of shifting of merchandise to maintain a sustained margin of profit. Moreover, the employment opportunities generated by organized retail may be laudable in terms of better working conditions and better wages in coming years but a significant majority of people engaged in unorganized retail may not fit into employment basket in this emerging segment.

The study needs to be extended to other regions of the state including Srinagar and Ladhakh, with control group of retailers as yet unaffected by organized retail to understand the impact on income and employment. The significant inferences drawn from this study may not be an enthusiastic situation for the country as far as survival of Kiranas vs organized retail is concerned.

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ISLAMIC BANKING IN INDIA: RELIGIOUS AND SOCIO-ECONOMIC PERSPECTIVES AFFECTING MUSLIM INVESTORS OF AHMEDABAD DISTRICT IN GUJARAT

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ABSTRACT

Banking institutions have emerged as very necessary for everyone, poor as well as rich. It is needed to deposit and protect the saving however meagre it may be. Such institutions have built a bond with the people with a handful of services. Even every country's financial security is vested in the hands of the central bank of that country. The banking sector has made a trust in the common people by giving out services starting from lending loans for different activities to being as a security locker of money. With around 15% of the Islamic population living in India, there is a large scope of Islamic banking in India too. This system would provide opportunities to the labourers and the working class belonging to the community. This paper introduces briefly to Islamic banking, where an attempt is made by the researchers to explore the feasibility of Shari'ah banking in India. Islamic banking is still in its stage of infancy in India. The existing legal framework does not permit Islamic Banking. Only selective activities like equity investment is possible, while trade finance aspects like taking title to goods is not possible. Researchers have focused on the some of the religious and socio-economic perspectives which affect the investment of Muslims. Primary studies suggests that Gujarati Muslims are not much inclined towards following the principles of Shari'ah while making investment decision. Yet, they have shown interest in Islamic financial products if made available to them.

KEYWORDS

Islamic Banking, Muslim Investor, Ahmedabad.

INTRODUCTION

Islamic banking practice started on a modest scale in 1963 in Mit Ghamr, Egypt, and has shown tremendous progress during the last four decades.[1] A large number of Islamic banks were established during this period in different regions under different economic and social milieu. Today, there are more than 430 Islamic banks and financial institutions spread across 75-plus countries and about 191 conventional banks have Islamic windows. Islamic banking, which is currently concentrated in the Middle East, North Africa, and South-East Asia, is spreading its wings to sub-Saharan Africa, Central Asia, and Western Europe. More than 70 percent of the Islamic banks are in the Middle East, 14 percent in South-East Asia, and 15 percent in sub-Saharan Africa. Assets held by Islamic banks or through Islamic banking windows of conventional banks rose by 28.6 percent to $822 billion in 2009 from $639 billion in 2008, according to a survey of Top 500 Islamic Financial Institutions by The Banker in July 2010.

As per the world wide religious aspect Islam occupies second place and second faster growing religious world wide.[2] And as per holy book Quran, Muslims should follow the Islamic principles to fulfill their religious duties. This incurred a new thought, in financial system as ISLAMIC BANKING. The Quran and Hadith are specifying the guidelines for a human being, for society, for an organization, for government. So as Islamic system provides knowledge relating to all fields, banking and financial system is being no exception to that.

General Secretariat of the **Organization of the Islamic Conference** (OIC) defines an Islamic bank as: "A financial institution whose status, rules and procedures expressly state its commitment to the principles of Shari' ah and the banning of the receipt and payment of interest on any of its operations.[3]

Certain businesses are incompatible with Shari`ah Law. Thus, stocks of companies in these businesses are not considered suitable for Islamic investing. Incompatible lines of business include Alcohol, Pork-related products, Conventional financial services (banking, insurance, etc.), Entertainment (hotels, casinos/gambling, cinema, pornography, music, etc.). Moreover, Shari`ah scholars also do not advise investments in tobacco manufacturers or defense and weapons companies.

OVERVIEW OF THE BANKING SYSTEM

Islamic banks have proved to be a viable and efficient way of financial intermediation in the Middle East. According to a one study conducted by IMF study, the probability for Islamic banking to develop in a given country rises with the share of Muslim population, per capita income, and the country's net export of oil.[4]

The distance to the two main Islamic financial centres, Bahrain and Malaysia, does matter for the diffusion of Islamic banks across countries. Islamic banks diffuse faster when a country is closer to one of the above two centres. If the importance of Islamic banks in the economy by assets is measured, in almost all countries having Islamic banks, except Iran, the ratio of credit of conventional banks to GDP is substantially higher than the investment to GDP ratio of Islamic banks, which accounts for less than 20 percent of GDP in most countries

Looking to the current scenario, Islamic population is world's second large population. Muslims originates from Saudi Arabia. Generally Muslims are mainly spread over Middle East, North Africa and south East Asia. The ratio of Saudi Arabic Muslim to non Arabic Muslim, by a ratio of 3:1. but the most interesting situation is that the top four nations counting the largest number of Muslims are located outside the middle east namely : Indonesia- 166 million, Pakistan-111 million, Bangladesh- 97 million and India -93 million.

Islamic Banking has different modes of financing and in most of these kinds, the bank involves itself in the trading or business activities of the borrower or will be based on equity participation of the bank, which is very much unlike the conventional banking. In Bai'-Mu'ajjal, the bank resorts to purchase and resale of properties, which is not permissible as per the provisions of Sections 8 and 9 of Banking Regulation Act, 1949.[5]

The need and necessity of interest-free Islamic finance and banking has to be spread among the Muslims, common people, religious scholars, businessmen, bankers, politicians, and other stakeholders is yet unclear among Indian muslims. This level is even less when we talk about Gujarat.

Among Muslims, criticism has been raised against the banking approach itself. Some allege that it is nothing but the changes of nomenclature only. Some other question its capability to meet all the financial requirements of modern day economy. Some go further to say that the whole exercise is futile, with the macro level money creation process remaining the same, what is attempted through so-called innovative products is nothing but a cosmetic touch and even in international arena, Islamic banks have to price their investments on Global standards like London Inter-bank Offered Rate (LIBOR) which are essentially interest-based. These issues are the current topics for debate among Islamic scholars, finance experts and those who campaign for Islamic Finance and Banking.

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"Living under constraints, the Islamic banks are mostly relying on the second set of rules; therefore, their activities could not bring a visible change even in the limited circle of their operations. However, if the whole financing system is based on the ideal Islamic principles, it will certainly bring a discernible impact on the economy".

All these bring out to the fore that the concept of Islamic banking should be dealt with as an absolutely different sector with separate norms to address the specific structure and contents of the financial instruments in Islamic banking.

In view of the above, if the banks in India are to be allowed to do Islamic banking, appropriate amendments are required in Banking Regulation Act, 1949 and separate rules and regulations may have to be framed to permit them to do the business in view of the special characteristics of financing they adopt.

Thus, in the current statutory and regulatory framework, it would not be feasible for banks in India to undertake Islamic banking activities in India or for branches of Indian banks abroad to undertake Islamic banking activities there." (Page No. 47, 48 & 48A).

LITERATURE REVIEW

There have been an increasing numbers of empirical studies of Islamic banking. Khan (1983) initiated the work systematically to explore the dimension of Islamic banking. Islamic banks operating in Sudan, United Arab Emirates, Kuwait, Bahrain, Jordan, and Egypt were the part of his research where it was conclude that Islamic banks of these countries faced little difficulty in devising practices of Shari'ah. He broadly categorized two types of investment accounts: one where the depositor authorized the banks to invest the money in any project and the other where the depositor had a say in the choice of project to be financed. On the asset side, the banks under investigation had been resorting to mudaraba, musharaka and murabaha modes.

The study also revealed a strong preference for quick returns, which is understandable in view of the fact that these newly established institutions were anxious to report positive results even in the early years of operation.

Apart from these there are also some small case studies of Islamic banks operating in Bangladesh (Huq 1986), Malaysia (Halim 1988b), Pakistan (Khan 1986), and Sudan (Salama 1988b). These studies reveal interesting similarities and differences. The current accounts in all cases are operated on the principles of alwadiah. Savings deposits, too, are accepted on the basis of alwadiah, but 'gifts' to depositors are given entirely at the discretion of the Islamic banks on the minimum balance, so that the depositors also share in profits. These case studies also show that the profit-sharing ratios and the modes of payment vary from place to place and from time to time. Thus, for example, profits are provisionally declared on a monthly basis in Malaysia, on a quarterly basis in Egypt, on a half-yearly basis in Bangladesh and Pakistan, and on an annual basis in Sudan. A striking common feature of all these banks is that even their investment deposits are mostly short-term, reflecting the depositors' preference for assets in as liquid a form as possible. Even in Malaysia, where investment deposits have accounted for a much larger proportion of the total, the bulk of them were made for a period of less than two years. By contrast, in Sudan most of the deposits have consisted of current and savings deposits, apparently because of the ceiling imposed by the Sudanese monetary authorities on investment deposits which in turn was influenced by limited investment opportunities in the domestic economy.

Research conducted on Islamic banking to examine customer satisfaction & perception among Jordanian people was referred for this study The analysis revealed a certain degree of satisfaction of many of the Islamic banks' facilities and products. The respondents expressed their dissatisfaction with some of the Islamic banks' services. Although the respondents indicated that they are aware of a number of specific Islamic financial products like Murabaha, Musharaka and Mudaraba, they show that they do not deal with them. This study indicates that it is important for Islamic banks to put cultural differences at the front when adopting SQ and suggests a new model to measure SQ called CARTER, which is based on 34 items.

A study found that religion did not play significant role to select an Islamic bank but profit motivated criteria was an important factor to choose a bank opening new branches is also not a significant factor. However, other major findings are that peer group influence plays an important role in selecting Islamic banks as depository institution. The study explored that the demographic factors such as religion & knowledge are playing a significant role to select a bank. Researchers found that customers do not have so much knowledge about the Islamic banking products such as Muderaba, Mushaaraka, Murabaha etc., but they buy these products for the reason of religion. Study also revealed that bank's name and reputation also strongly effect on selecting a bank. In this study, they explored that reputation and image factor are evidenced as one of the important criteria in the banking selection decision.

CONCEPTUAL FRAMEWORK OF THE STUDY

This study tries to identify the consumer perception about the Islamic banking among Gujarati Muslim community. Based on the discussion in literature review, it was identified that quality social and religious perspective and availability of services are the main factors affecting the investors' decisions. Therefore, based on these factors theoretical framework of this study has been developed

REASON TO SELECT GUJARAT STATE

Gujarat economic growth rate is about 12% in the year 2009-10. In Gujarat, People mainly follow Hinduism and about 89.1% of the population is formed by the Hindus. Besides Hindus, Gujarat is also home to a considerable number of Muslims and Jains. Muslims constitute about 9.1% of the population, while Jains form nearly 1.0%. Sikhs are quite small in number and just constitute 0.1% of the population. This confirms the reason for cultural diversity of Gujarat.6 The following table depicts the number of Muslims in different districts of Gujarat State.

POPULATION OF MUSLIM COMMUNITY IN GUJARAT STATE:[7]

No.	State wise Districts	Total Population	Muslim Population	Muslim%	Urban Population	Muslims in urban areas	Muslims %
1	Ahmadabad	5,816,519	662,799	11.40	4,663,533	606,628	13.01
2	Surat	4,995,174	447,951	8.97	2,995,817	349,915	11.68
3	Vadodara	3,641,802	317,194	8.71	1,646,222	195,411	11.87
4	Jamnagar	1,904,278	270,223	14.19	836,256	183,602	21.96
5	Rajkot	3,169,881	292,676	9.23	1,625,862	177,916	10.94
6	Junagadh	2,448,173	274,481	11.21	711,528	155,892	21.91
7	Bhavnagar	2,469,630	172,740	6.99	935,038	132,802	14.20
8	Anand *	1,856,872	199,263	10.73	507,971	96,575	19.01
9	Bharuch	1,370,656	293,459	21.41	352,560	90,536	25.68
10	Kachchh	1,583,225	329,254	20.80	474,892	87,217	18.37
11	Panch Mahals	2,025,277	120,676	5.96	253,362	86,838	34.27
12	Kheda	2,024,216	218,660	10.80	406,450	84,574	20.81
13	Sabar Kantha	2,082,531	117,806	5.66	225,129	53,237	23.65
14	Surendranagar	1,515,148	97,846	6.46	402,448	49,830	12.38
15	Amreli	1,393,918	83,077	5.96	312,958	47,483	15.17
16	Banas Kantha	2,504,244	170,142	6.79	275,501	45,053	16.35
17	Valsad	1,410,553	66,440	4.71	381,161	44,802	11.75
18	Dohad	1,636,433	52,632	3.22	156,323	42,016	26.88
	Total Population	**40,801,544**	**4,068,247**		**16,625,527**	**2,443,509**	

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[6] www.bharatonline.com/gujarat/culture/religion.html
[7] Census of India Report 2001.

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Amongst these disticts, the following districts in Gujarat has the highest numbers of people from Muslim community.

Rank	Name of District	Total Population	Muslim Population	Muslim %	Urban Population	Urban Muslim Population	Urban Muslims %
I	Bharuch	1,370,656	293,459	21.41	352,560	90,536	25.68
II	Kachahh	1,583,225	329,254	20.80	474,892	87,217	18.37
III	Jamnagar	1,904,278	270,223	14.19	836,256	183,602	21.96
IV	**Ahmedabad**	**5,816,519**	**662,799**	**11.40**	**4,663,533**	**606,628**	**13.01**
V	Junagadh	2,448,173	274,481	11.21	711,528	155,892	21.91

Researchers decided to carry out their study in Ahmedabad district based on convenience and for adequate sampling.

OBJECTIVES OF THE STUDY

- To examine the awareness level of Muslims residing in Gujarat related to religious values and principles of Shariah's.
- To examine strong religious values of Shariah's principles and its actual reflection on financial decisions made by Muslims

UNIVERSE

The universe for sample survey is Ahmedabad district of Gujarat state.

RESEARCH DESIGN

The study was an exploratory type .This design's main purpose is to know awareness level of the respondent relating to Shariah's and how to deal with it in routine life while taking financial decision.

RESEARCH INSTRUMENT

Survey was done via structured questionnaire consisting of both open ended and close ended questions .A five point rating scale has been used at many places so as to get the ratings of satisfaction / dissatisfaction about a particular question.

SAMPLING UNIT

A respondent residing in Ahmedabad district of Gujarat irrespective of age, economic status, Educational background etc.

SAMPLE SIZE

Non probability convenient sampling method was used. Here a sample size of 100 respondents was interviewed.

SECONDARY SOURCES

Researcher collected secondary information from the internet, magazines, articles etc

DATA PREPARATION AND ANALYSIS

Data preparation includes editing, coding, transcription and verification. This had been done and data were feed with the help of SPSS software. Data analysis parts include deriving information related to the component of the marketing research problem and thus provide input to the financial managers in decision problem.

PROFILE OF THE RESPONDENTS

A) AGE

AGE	Percentage
20-30 years	5.0
31-40 years	10.0
41-50 years	34.0
51-60 years	42.0
more than 60	9.0
Total	100.0

B) EDUCATIONAL QUALIFICAIONS

As the education level is lies between H.S.C and gradation, Muslims are inclined more towards business rather than occupying themselves in services. Along with that higher education is also missing among members of this community.

Educational Qualifications	Percentage
Upto SSC	16.0
HSC	37.0
Graduate	39.0
Post Graduate	8.0
Total	100.0

C) OCCUPATION

Occupation	Percentage
business	43.0
job/ service	37.0
profession	12.0
agr.	8.0
Total	100.0

D) MONTHLY FAMILY INCOME

Monthly Income	Percentage
Rs. 5000	11.0
Rs. 5001- Rs.10000	47.0
Rs.10001- Rs15000	35.0
more than Rs. 15000	7.0
Total	100.0

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MAJOR FINDINGS AND INTERPRETATIONS

1) INVESTMENT OPTION USED BY MUSLIM COMMUNITY OF AHMEDABAD DISTRICT

The respondents were not seen to strongly following the principles of Shari'ah while making investment.
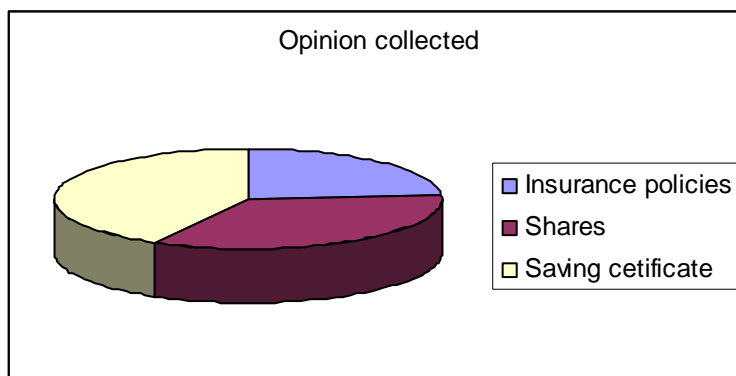
The above figure indicates that Muslims invest their amount in the insurance policies, share market and National Savings Certificates.

2) FREQUENCY BETWEEN TWO MAJOR INVESTMENTS

Time duration	Frequency
3 months	18
6 months	16
One year	21
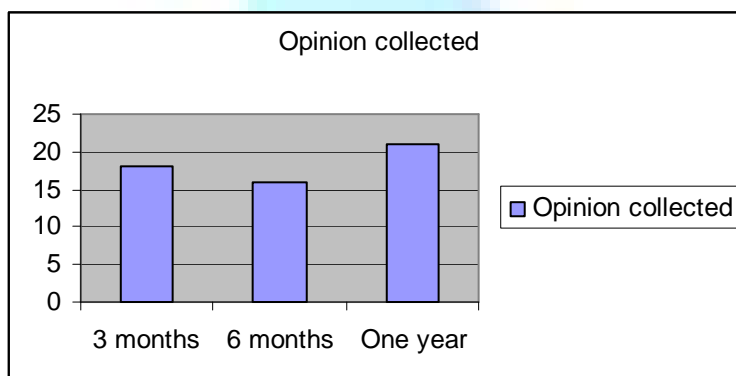
The above date indicates that the respondents invested on yearly basis. This is more of tax-saving investment inclined to insurance and mutual funds.

3) OPINIONS REGARDING INVESTMENT IN STOCK MARKET

Company's main business will be halal, if it does not indulge in any haram business, like financial dealing based on interest, gambling, liquor, pork / entertainment, media, casino and conventional and any other impermissible activity.

If a share of company bought at face value of Rs10 (for e.g), a person can't sell this share in more than the par value unless the companies have some fixed assets like raw material, machinery, land. If a company has no fixed assets then buyer can sell only at its face value price and can't sell at above par value extra money will be pure interest.

Normally every company takes some interest bearing loan from banks or other institutions and some time when they have excess money they lend money on interest. In both cases there is a group of Islamic scholars who do not permit to buy or sell the stocks of such companies. Other Ulema and scholars of Sub Continent and also some other Islamic Scholars do permit it with following conditions.

The debt should not exceed 33% of total average of market cap of the company in full financial year. Dow Jones Islamic index which is decided by famous Islamic scholars follows the same principle.

So when we combine these conditions then the outcome is that Muslim can purchase the stocks of company whose debt is not more then 33% of Market Cap and for that he may take objection to make company free from debt.

Company's impure income should not exceed more then 10% of the total Gross Income. Its aggregate of account receivables should remain below 45% of total assets. That impure income which is less then 10% after checking balance sheet of company should make charity to poor Muslims without intention of (Sawab) reward.[8]

After checking the above discussed principles Muslim can buy and sell the selected stocks which we call as Shari'ah complaint stocks and above conditions are the best bench marks for every Muslim to follow the same.

Researcher objective was to find out how strongly did the muslim investors believed that it is against Islamic principles to invest in Stock market (Haram). Here, one-sample T-test was adopted to test the hypothesis.

H0: Respondents agreement ratings do not equally state that it is *Haram* to invest in Stock Market

H1. : Respondents agreement rating equally state that it is *Haram* to invest in Stock Market

ONE-SAMPLE STATISTICS

	N	Mean	Std. Deviation	Std. Error Mean
stock	100	2.94	1.205	.120

The mean observed in this test is 2.94 while the standard deviation is 1.205.

---

[8] *"Is Investment, (buying and selling shares) in stock market is Halal as per Sharia Principles?"* available on < http://www.islamicequity.co.in/Default.aspx ?LeftId=8 > accessed on November 1,2010

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ONE-SAMPLE TEST

|	Test Value = 4.85					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
stock	-15.857	99	.000	-1.910	-2.15	-1.67

Form the one sample t statistics the mean of the observed sample is 2.94 and the expected mean set by the researchers was 4.85. From the result the significance value is less than 0.5 which indicates that there is a significant difference between the test value and the observed mean. Also the confidence interval for the mean difference does not contain zero this also indicates that the difference is significant. Hence, H_0 cannot be accepted.

Thought this signifies that Muslims are not in favour of stock market, many respondents agreed they still invested for better returns.

This means that thought they want to follow Islamic principles lack of availability of Islamic financial products, they still have to invest in non-Shari'ah investment options.

4) FACTORS/ MEDIA AFFECTING INVESTMENT

Factor affecting	Opinion collected
News paper	13
T.V.	9
Magazine	5
Friends	18
Investor advisor	10
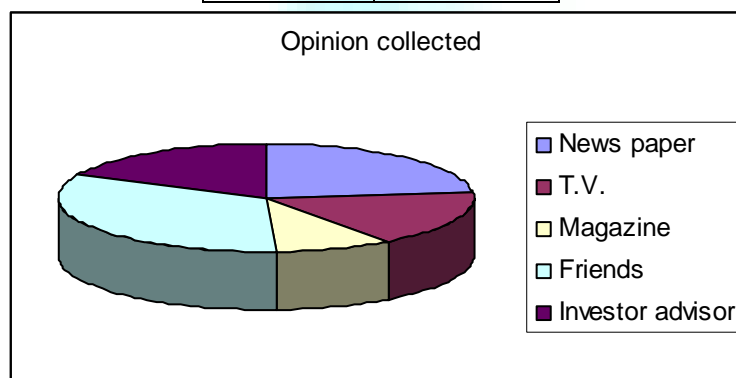
In the above graph it shows that to invest in particular scheme people consider their friends opinion at the most along with their investor advisor suggestion. In this some people take independent decision by reading newspaper also.

General tendency of the people, to hold investment for more than a year. Very less people believe to hold their investment only for one year in their life.

Moreover, majority of the respondents opined that they believe in holding their investment for a long term (five years and more).

OTHER FINDINGS

1. Researher found that almost all respondents were aware about Halal and Haram norms in investment.
2. Researcher wanted to know whether Muslim residing in Ahmedabad strictly follow Shari'ah in their day to day life. A majority of them stated that they try their best to follow these principles depending on the situations (82%)

INVESTMENT IN ISLAMIC FINANCIAL PRODUCTS IF MADE AVAILABLE

The respondents has shown their interest in Islamic financial products if they are made available to them

Investment decision	Percentage
Invest immediately	36
Think before investment	48
Will consult the company	16

CONCLUDING REMARKS FROM THE STUDY

The study reveals that the conventional financial products currently offered to Muslims in the India are incompatible with Islamic principles; hence, there is a recognized demand for other better options within this niche community.

While carrying out the survey in Ahmedabad district it was observed that Muslims are currently forced to opt out of the conventional financial system or compromise their beliefs. Muslims aspire to invest in accordance with Islamic principles but investment products and services in India are invariably incompatible with Shari'ah principles.

Of course Shari'ah compliant equities are available in India but there is no much awareness about such indices.

In India, Investment in equities through the various Stock Exchanges is still in its infancy stage among Muslims. Even though the Indian Muslims are aware of the investment opportunities in Equities through the Stock Exchanges, most of them prefer to stay away from it as they visualize that either it is risky and unsafe to invest in the Stock or they think it against Islam. Thus it a necessity to educate them about the Indian Equities Market.

Hence there is a great potential in India itself. Even if a small percentage of this population can be persuaded to invest in the equities, the amount of money that can be brought into the system could be enormous. The Securities Exchange Board of India (SEBI) is gearing up the Indian Capital Market towards Globalization through international standards and norms being implemented by it. Today the Indian Markets are comparable to any leading markets of the World.

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ICT DEVELOPMENT IN INDIA: A CASE STUDY OF INFOSYS LTD.

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ABSTRACT

The Indian IT sector plays an important role in global market. Now a day's competition has increased with china, Latin America, Eastern Europe and Egypt. Major global firms like Accenture, HP services, IBM global services have established delivery centres in India. This IT sectors have certain limitations also such as constraint of manpower supply, dominancy by small number of large firms etc. and for our country to have sustainability and full capitalization growth of IT sector, certain areas must be improved like Human capital quality, infrastructure, communication and so on.

KEYWORDS

Computer, ICT, IT revolution, NASSCOM, R&D.

INTRODUCTION

The Indian economy is growing at the rate of 7.5 to 8% per annum in the recent years and it is expected to grow by 8% in 2012. From many decades, the growth of information & communication technology has placed our country on the global stage. The IT sector has grown by 12% in 2008-09 to reach $71.7 billion (including hardware). From this software & services accounted for $59.6 billion. In 2008-09the revenue of IT sector was 5.8% of GDP and it was 1.2% in 1997-98. This compares with the 8% contribution of ICT sector to business in OECD countries. In spite of slow down in the global economy, IT sector has recovered by reorienting into new products and emerging country markets.

RESEARCH METHODOLOGY

The research design will be descriptive in nature. The method of data collection will be mainly based on secondary data. However, an effort will be made to collect primary data by taking information from competent persons off and on.

COMPETITIVENESS OF THE INDIAN ECONOMY
THE GROWTH PATH

Figure3. Industry performance 1998-2007

Source: NASSCOM (2007c), IT Industry Fact Sheet, August.
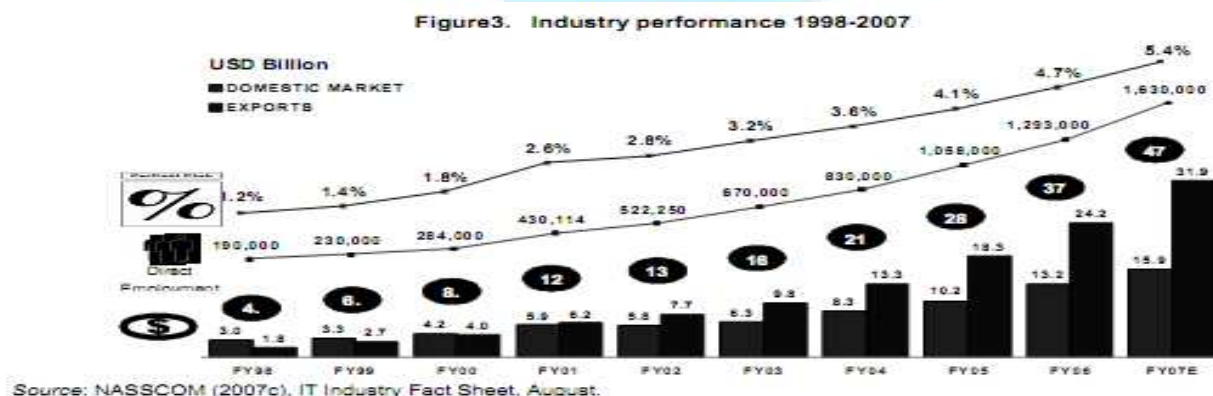
EXPORTS OF HARDWARE AND CONSUMER ELECTRONICS

Figure 4. Sector contribution in exports of electronic hardware, computer software and services: 2005-06
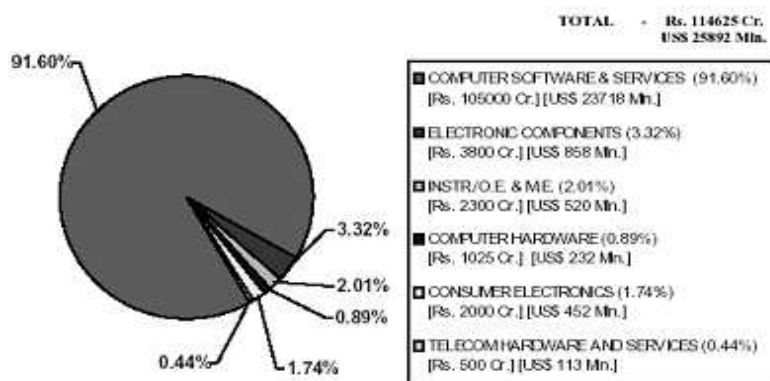
Source: Statistical Year Book 2005-06, Electronics and Computer Software Export Promotion Council, Government of India.

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Table 2. Electronics and computer software production and exports: 2000-01 to 2005-06 (USD million)

SECTOR	2000-01	2001-02	2002-03	2003-04		2004-05	2005-06
CONSUMER ELECTRONICS							
PRODUCTION	2597.83	2862.47	2851.24	3304.35		3741.85	4176.90
EXPORT	134.78	146.75	154.98	179.35		256.12	451.77
COMM. & BROADCASTING EQUIP.							
PRODUCTION	978.28	943.40	991.74	1163.04		1024.50	1219.79
EXPORT	128.09	31.45	103.31	35.87		77.95	112.94
INSTRUMENTATION & STRATEGIC EC.							
PRODUCTION	1250.00	1320.75	1883.22	1923.91		2394.21	2823.58
EXPORT	121.74	199.16	289.28	329.35		334.08	519.54
ELECTRONIC COMPONENTS							
PRODUCTION	1195.65	1194.97	1363.64	1652.17		1959.91	2055.57
EXPORT	397.39	461.22	495.87	816.30		848.33	858.37
COMPUTER HARDWARE							
PRODUCTION	739.13	744.23	878.10	1478.28		1959.91	2371.81
EXPORT	260.87	377.38	113.64	313.04		267.26	231.53
TOTAL (A)							
PRODUCTION	6760.87	6865.83	7747.93	9521.74	43800.00	11080.18	12649.85
EXPORT	1040.87	1215.93	1157.02	1673.91	7700.00	1781.74	2174.16
EXPORT Vs PRODUCTION	15.40	17.71	14.93	16.08	17.19		
B. COMPUTER SOFTWARE							
PRODUCTION	8021.74	9931.68	12376.03	16141.30	74250.00	21587.97	29695.05
EXPORT	5978.26	7651.99	9607.44	12808.70	58000.00	17216.04	23718.09
EXPORT Vs PRODUCTION	74.53	77.05	77.63	79.75	79.87		
TOTAL (A+B)							
PRODUCTION	14782.61	16797.48	20123.97	25663.04		32668.15	42344.70
EXPORT	7019.13	8867.92	10764.46	14282.61		18997.77	25892.25
EXPORT Vs PRODUCTION	47.48	52.79	53.49	58.15	61.15		
Average Exchange Rate 1USD =	46.00	47.70	48.40	44.90	44.27		

NOTE: Production figures of Electronic Hardware Panels Source: Published figures of MIT in their annual report.

Source: Statistical Year Book 2005-06, Electronics and Computer Software Export Promotion Council, Government of India.

EXPORTS

Table 8. Top export items (software/services and hardware related) and destinations: 2004-05 to 2005-06

Rank	Items	Export 2005-06 = m USD.	Export 2004-05 = m USD	Growth (in %) in 2005-06 compared to 2004-05	Major destinations during 2005-06 with approximate share (%) of total export value
1	Computer Software / Services	16941.50	12026.73	40.87	US (60.05), UK (18.83), Netherlands (2.33), Japan (2.24), Singapore (1.45), UAE (1.73), Germany (1.45), Canada (2.04), Others (9.68)
2	ITES/BPO	6776.60	5189.31	30.59	US (70.00), UK (5.00), Germany (5.00), Japan (5.00), Singapore (5.00), Australia (5.00), Canada (5.00)
3	Un-interrupted Power (UPS)	284.51	128.49	121.43	US (98.31), Netherlands (1.47), UAE (0.04), Sri Lanka (0.02), Nepal (0.02), Kenya (0.01), Uganda (0.01), Lebanon (0.01), Others (0.07)
4	Color TVs	190.00	93.25	103.76	Italy (46.65), UAE (27.54), Turkmenistan (6.10), Kazakhstan (3.74), Sri Lanka (3.55), Belgium (2.76), Bangladesh (1.98), Russia (1.47), Nepal (0.92), Others (6.30)
5	C.D Recordable	188.53	155.92	20.91	Germany (29.63), Us (27.17), Netherlands (21.36), Luxembourg (7.01), UAE (3.60), Argentina (1.93), Lithuania (1.67), Uruguay (1.08), Russia (0.74), Brazil (0.82), South Africa (0.81), Saudi Arabia (0.50), Ecuador (0.49), Australia (0.40), Japan (0.32), Chile (0.27)
6	Memory Card	153.13	83.01	84.46	US (85.00), UK (5.76), Singapore (3.55), UAE (2.05), Hong Kong (1.12), Sri Lanka (1.09), Belgium (0.52), Switzerland (0.22), France (0.20), South Africa (0.16), Australia (0.13), Germany (0.07), Canada (0.04), China (0.04), Brazil (0.03), Chinese Taipei (0.02)
7	Picture Tubes	135.68	108.78	24.71	USA (13.99), Singapore (13.11), China (12.38), Japan (12.38), France (12.34), Turkey (8.43), Russia (7.68), Bangladesh (7.26), Spain (7.20), Egypt (1.55), UK (1.11), Germany (0.93), Netherlands (0.45), Italy (0.34), Romania (0.22), Croatia (0.15), Thailand (0.15), Belarus

Source: Statistical Year Book 2005-06, Electronics and Computer Software Export Promotion Council, Government of India.

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TRADE DEVELOPMENTS: COMPARISON WITH OTHER COUNTRIES

Table 7.   Emerging economies' trade in ICT goods, 1997-2007

(USD millions, current prices)

	1997	1999	2001	2003	2005	2007
BRAZIL						
Exports						
Communication equipment	214	402	1 337	1 349	2 844	2 332
Computer equipment	257	330	290	227	373	229
Electronic components	174	218	416	352	358	245
Audio & video equipment	400	334	375	240	176	178
Other ICT goods	131	194	222	164	287	397
Total ICT exports	1 176	1 479	2 640	2 332	4 038	3 380
Imports						
Communication equipment	2027	1588	2193	599	1150	3187
Computer equipment	1516	1424	1639	1188	1854	2457
Electronic components	2748	2876	3273	3077	5446	5404
Audio & video equipment	987	376	348	333	803	1146
Other ICT goods	1217	993	1247	976	1380	2122
Total ICT imports	8495	7257	8701	6173	10634	14315
RUSSIAN FEDERATION						
Exports						
Communication equipment	98	131	105	166	271	476
Computer equipment	53	74	31	50	66	115
Electronic components	153	260	191	189	266	385
Audio & video equipment	267	30	39	28	28	38
Other ICT goods	346	260	643	463	526	666
Total ICT exports	917	755	1009	896	1157	1680
Imports						
Communication equipment	1492	690	1090	1376	3804	7035
Computer equipment	373	230	478	716	1609	3971
Electronic components	238	124	250	552	934	1359
Audio & video equipment	321	73	317	421	1352	4051
Other ICT goods	907	664	827	958	1166	2887
Total ICT imports	3332	1782	2963	4024	8865	19303
INDIA						
Exports						
Communication equipment	63	49	84	101	161	355
Computer equipment	249	118	346	390	409	347
Electronic components	112	133	202	327	424	692
Audio & video equipment	77	59	122	262	161	140
Other ICT goods	44	85	127	182	268	344
Total ICT exports	545	444	880	1262	1424	1877
Imports						
Communication equipment	280	352	753	2674	5402	8320
Computer equipment	637	1012	1237	1899	3469	4075
Electronic components	598	671	867	1286	1641	2291
Audio & video equipment	103	140	176	313	694	1436
Other ICT goods	378	441	530	695	1309	1968
Total ICT imports	1997	2617	3564	6868	12516	18091

Table 7. (cont'd)   Emerging economies' trade in ICT goods, 1997-2007

(USD millions, current prices)

	1997	1999	2001	2003	2005	2007
CHINA						
Exports						
Communication equipment	2685	3738	8759	14558	36303	82035
Computer equipment	7513	11697	21076	59245	104651	144514
Electronic components	4922	7766	11371	22879	46890	60841
Audio & video equipment	7168	8453	12616	24289	43265	59570
Other ICT goods	906	1009	1483	2332	4057	8608
Total ICT exports	23194	32663	55305	123303	235167	355568
Imports						
Communication equipment	2453	4904	7416	7812	6544	19618
Computer equipment	3864	6968	11607	22890	33705	38068
Electronic components	9664	18386	31333	67442	124455	173473
Audio & video equipment	1989	2345	2796	5438	8557	12148
Other ICT goods	1618	2169	4117	6949	9766	11891
Total ICT imports	19588	34771	57269	110530	183025	255195
SOUTH AFRICA						
Exports						
Communication equipment	119	182	219	186	193	274
Computer equipment	133	182	125	106	137	193
Electronic components	33	33	64	96	167	191
Audio & video equipment	32	42	55	79	99	212
Other ICT goods	77	86	81	148	201	271
Total ICT exports	394	525	545	615	798	1142
Imports						
Communication equipment	1211	1322	1165	1216	2342	2785
Computer equipment	1075	1104	991	1424	2303	2221
Electronic components	440	392	387	374	555	790
Audio & video equipment	358	336	328	441	798	939
Other ICT goods	433	370	383	483	742	972
Total ICT imports	3516	3524	3255	3939	6741	7707

Note: South Africa includes the South African Customs Union for 1996 through 1999.

Source: OECD, 2008, based on data from the joint OECD-UNSD ITCS database.

REVENUE FROM THE IT SECTOR

Table 9.   Revenue from different segments in the Indian IT sector: 2004-07

USD billion	2004	2005	2006	2007
IT Services	10.4	13.5	17.8	23.6
Exports	7.3	10.0	13.3	18.
Domestic	3.1	3.5	4.5	5.6
ITeS-BPO	3.4	5.2	7.2	9.5
Exports	3.1	4.6	6.3	8.4
Domestic	0.3	0.6	0.9	1.1
Engineering services and R&D, software products	2.9	3.9	5.3	6.5
Exports	2.5	3.1	4.0	4.9
Domestic	0.4	0.8	1.3	1.6
Total software and services revenues	16.7	22.6	30.3	39.6
Of which, exports:	12.9	17.7	23.6	31.4
Hardware	5.0	5.9	7.0	8.2
Total IT industry (including Hardware)	21.6	28.4	37.4	47.8

Note: Totals may not match due to rounding off. E is estimate; Hardware does not include export component.

*NASSCOM estimates have been reclassified to provide greater granularity. Historical values for a few segments have changed due to availability of updated information.

Source: NASSCOM (2008a and b), Indian IT Industry Fact Sheet.

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EMPLOYMENT TRENDS

Table 10. Employment-Software and Services Sector

Sector	2004	2005	2006	2007
Export sector IT Services	215 000	297 000	398 000	562 000
ITeS-BPO	216 000	316 000	415 000	545 000
Engineering services and R&D and software products	81 000	93 000	115 000	144 000
Domestic market (including user organisations)	318 000	352 000	365 000	378 000
TOTAL*	830 000	1 058 000	1 293 000	1 630 000

*Figures do not include employees in the hardware sector.

Source: NASSCOM (2007a), Indian IT industry Fact sheet, February.

ICT SPENDING

Figure 9. Fastest ICT spending growth, 2000-07
Annual average growth, %
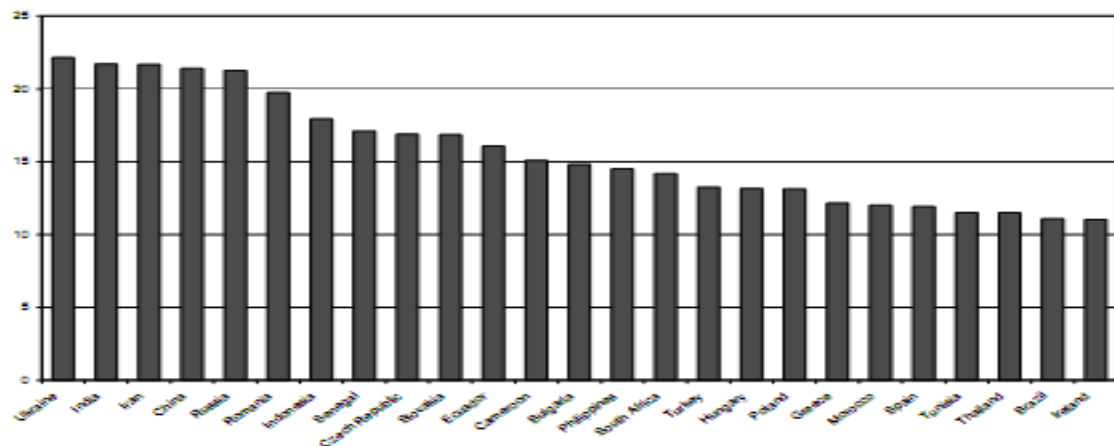
Note: Includes the 25 fastest growing markets.

Source: OECD, 2008, from data published by WITSA, based on research by Global Insight, Inc.

Table 12. Emerging economy ICT spending by segment, 2000-07
Million US Dollars in current prices

	2000	2003	2004	2005	2006	2007	Growth (percentage point)
IT HARDWARE							
China	12 507	27 027	39 057	47 927	57 813	66 303	4.46
Hong Kong, China	1961	1 921	1 980	2 028	2 015	2 001	0.02
Chinese Taipei	2787	3 805	4 149	4 391	4 550	4 871	0.76
India	2257	5 013	7 204	10 264	13 630	17 910	6.94
Russia	1816	2 881	3 900	4 852	5 574	6 078	2.35
Brazil	6263	9 905	12 407	15 948	17 316	17 454	1.79
South Africa	1861	2 503	3 457	4 024	4 412	4 648	1.8
SOFTWARE							
China	1085	3 344	5 295	7 940	11 376	16 328	14.05
Hong Kong, China	276	373	432	492	556	649	1.33
Chinese Taipei	519	860	1 048	1 228	1 408	1 690	2.26
India	356	948	1 350	1 908	2 519	3 336	8.32
Russia	343	570	742	923	1 056	1 182	2.45
Brazil	1602	2 469	2 877	3 568	3 828	3 803	1.37
South Africa	627	1 326	1 965	2 389	2 761	3 159	4.04
IT SERVICES							
China	851	3 591	6 203	10 008	15 539	24 061	27.3
Hong Kong, China	540	747	903	1 071	1 266	1 532	1.84
Chinese Taipei	786	1 228	1 478	1 731	1 973	2 358	1.99
India	1120	2 859	3 876	5 243	6 607	8 356	6.46
Russia	891	1 537	2 099	2 747	3 299	3 861	3.36
Brazil	4937	7 353	9 040	11 911	13 530	14 238	1.68
South Africa	1293	2 440	3 632	4 408	5 208	5 951	3.6
COMMUNICATIONS							
China	29917	41 437	47 102	51 759	57 588	63 668	1.13
Hong Kong, China	9098	9 595	11 662	12 240	12 807	13 851	0.52
Chinese Taipei	14200	12 570	13 247	14 367	14 949	16 305	0.15
India	12841	16 873	23 734	29 023	32 549	35 978	1.8
Russia	6084	11 568	14 798	18 808	21 695	24 017	2.96
Brazil	20 609	21 491	24 006	30 842	33 998	34 240	0.66
South Africa	6696	8 947	11 709	12 825	13 073	12 792	0.85
TOTAL ICT							
China	44359	75 400	97 658	117 632	142 313	172 380	2.69
Hong Kong, China	11876	12 637	14 977	15 829	16 646	18 033	0.52
Chinese Taipei	18274	18 262	19 920	21 718	22 879	25 223	0.38
India	16575	26 692	36 164	46 438	55 304	65 580	2.96
Russia	9114	16 554	21 539	27 327	31 624	35 158	2.86
Brazil	33410	41 217	48 330	62 065	68 670	69 734	1.09
South Africa	10477	15 217	20 763	23 625	25 471	26 549	1.53

Source: OECD, 2008, from data published by WITSA, based on research by Global Insight, Inc.

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DRIVING FACTORS
HUMAN CAPITAL

Table 13. Indian IT labour supply: IT software and services

	2003-04	2004-05	2005-06	2006-07	2007-08
Degree (four years)	139 000	170 000	222 000	270 000	290 000
Diploma & MCA (three years)	177 000	195 000	219 000	231 000	248 000
No. of engineering graduates	316 000	365 000	441 000	501 000	536 000
Of which:					
Engineering IT graduates (degree)	84 000	102 000	133 000	162 000	180 000
Engineering IT graduates (diploma)	95 000	99 000	113 000	116 000	123 000
**No of IT professionals	179 000	201 000	246 000	280 000	303 000

Note: ** IT professionals include Computer Science, Electronic and Telecom professionals. Figures do not include employees in the hardware sector.

Source: NASSCOM (2006c), Knowledge Professionals Fact Sheet.

POLICY CHANGES
HUMAN CAPITAL
NCERT introduced national curriculum framework school education in the year 2000. The objective of this curriculum was use of computers in the curriculum, enhancing learning objectives by using ICT in curriculum, curriculum designing with inter disciplinary and cross disciplinary areas.
EXPORT PROMOTION
For promotion of exports, Indian government initiated several schemes like free trade zones to have access to domestic market. In free trade zone, it provides competitive infrastructure facilities, zero duty of imports of capital goods, raw materials, other inputs, tax holiday for exports. Export oriented units with in export processing zones, electronic hardware technology parks and software technology parks are included in free trade zones.
SPECIAL ECONOMIC ZONES (SEZs)

Figure 11. Distribution of exports from DTA, SEZ and STP of electronics and computer software/services: 2000-01 to 2005-06
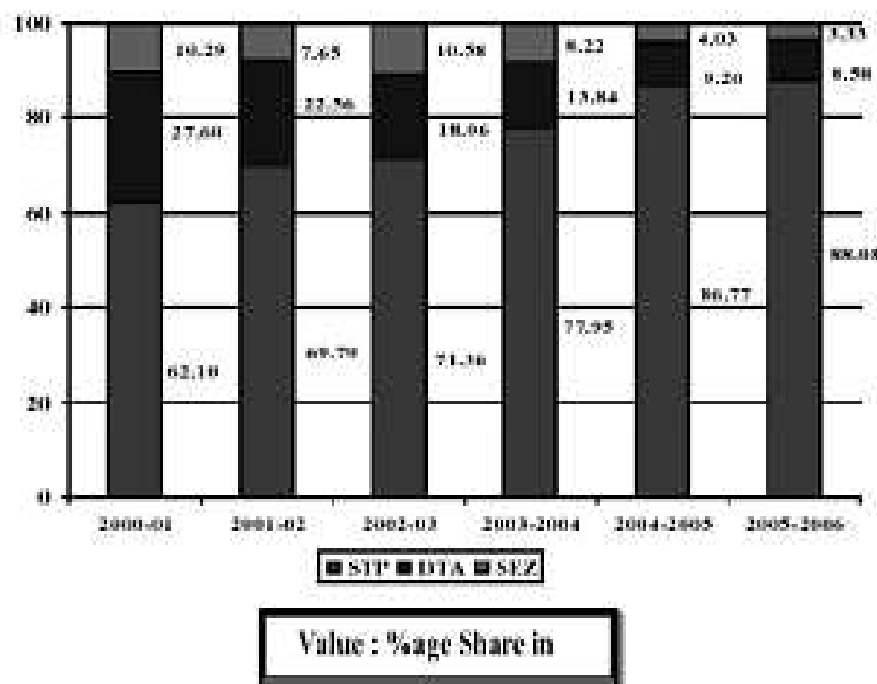
Source: Statistical Year Book 2005-06, Electronics and Computer Software Export.

THE SPECIAL ROLE OF NASSCOM
1. Special Economic Zones for education
2. Technical Education
3. Industry-University Partnerships
4. Certification Program for Frontline Management
5. National Assessment of Competence (NAC)
6. National Skills Registry (NSR)

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A CASE OF INFOSYS LIMITED
FINANCIAL DATA

In Millions of USD (except for per share items)	12 months ending 2011-03-31	12 months ending 2010-03-31	12 months ending 2009-03-31	12 months ending 2008-03-31
Revenue	6,041.00	4,804.00	4,663.00	4,176.00
Other Revenue, Total	-	-	-	-
Total Revenue	**6,041.00**	**4,804.00**	**4,663.00**	**4,176.00**
Cost of Revenue, Total	3,497.00	2,749.00	2,699.00	2,453.00
Gross Profit	**2,544.00**	**2,055.00**	**1,964.00**	**1,723.00**
Selling/General/Admin. Expenses, Total	765.00	595.00	590.00	564.00
Research & Development	-	-	-	-
Depreciation/Amortization	-	-	-	-
Interest Expense(Income) - Net Operating	-	-	-	-
Unusual Expense (Income)	-	-	-	-
Other Operating Expenses, Total	-	-	-	-
Total Operating Expense	**4,262.00**	**3,344.00**	**3,289.00**	**3,017.00**
Operating Income	**1,779.00**	**1,460.00**	**1,374.00**	**1,159.00**
Interest Income(Expense), Net Non-Operating	-	-	-	-
Gain (Loss) on Sale of Assets	-	-	-	-
Other, Net	3.00	5.00	8.00	2.00
Income Before Tax	**2,046.00**	**1,669.00**	**1,475.00**	**1,334.00**
Income After Tax	**1,499.00**	**1,313.00**	**1,281.00**	**1,163.00**
In Millions of USD (except for per share items)	12 months ending 2011-03-31	12 months ending 2010-03-31	12 months ending 2009-03-31	12 months ending 2008-03-31
Net Income/Starting Line	1,499.00	1,313.00	1,281.00	1,163.00
Depreciation/Depletion	189.00	199.00	165.00	149.00
Amortization	-	-	-	-
Deferred Taxes	-	-	-	-
Non-Cash Items	526.00	321.00	192.00	172.00
Changes in Working Capital	-916.00	-371.00	-227.00	-327.00
Cash from Operating Activities	**1,298.00**	**1,462.00**	**1,411.00**	**1,157.00**
Capital Expenditures	-285.00	-138.00	-287.00	-373.00
Other Investing Cash Flow Items, Total	775.00	-787.00	-5.00	-47.00
Cash from Investing Activities	**490.00**	**-925.00**	**-292.00**	**-420.00**
Financing Cash Flow Items	-	-	-	-
Total Cash Dividends Paid	-816.00	-330.00	-559.00	-209.00
Issuance (Retirement) of Stock, Net	5.00	20.00	14.00	15.00
Issuance (Retirement) of Debt, Net	-	-	-	-
Cash from Financing Activities	**-811.00**	**-310.00**	**-545.00**	**-194.00**
Foreign Exchange Effects	62.00	304.00	-465.00	121.00
Net Change in Cash	**1,039.00**	**531.00**	**109.00**	**664.00**
Cash Interest Paid, Supplemental	-	-	-	-
Cash Taxes Paid, Supplemental	627.00	370.00	194.00	137.00

Source: NASDAQ

INTRODUCTION

Infosys technology provides software maintenance, re-engineering of software applications in the market segments. Company markets two packages DMAP for distribution industry and one for retail banking. Infosys has joint venture in USA with KSA (kurt salmon associates). Company has software development centre for General Electric USA. Yantra Corporation is subsidiary of Infosys technology. The company had entered into an agreement with Analog Devices Inc. USA and under this ADI is selling GAMANA vector tutorial software package (GVT), GAMANA motion control development system boards (GMCDS), GAMANA chip sets. Company has expanded its activities by setting up software Technology Park on 100% EOU. In the year 1996 Infosys recorded six new installations of BANCS 2000 in Africa & Asia. A new SBU-5 was opened to concentrate internet & internet consultancy.

AWARDS

1. For continuously two years, company got silver shield from Institute of chartered accountants of India for the best presented accounts for the year 1995-96.
2. Asia money magazine has voted Infosys the best in strategy & Management from the list of companies in Asia in 1996-97.
3. BANCS 2000 received CSI-WIPRO award for best packaged application in Dec 1997.
4. Ministry of commerce, govt. of India gave certificate of merit for meritorious performance in exports in 1995-96.
5. Electronics and computer software Export promotion council gave special award for innovation of new product in computer software in 1996-97.
6. The world economic forum had selected Infosys technology as most growing entrepreneurial company.
7. According to Bangalore stock exchange, Infosys is best regional company for all round quality management and it gives top priority to shareholders interest.
8. Economic Times Award was given to Infosys technology in year 1996-97.
9. NR Narayana Murthy was presented Electronics man of the year award by ELCINA.
10. Hewitt associates & Business today adjudged best Indian employer.
11. According to Finance Asia, Infosys is best managed company.
12. Asia money magazine has voted Infosys as best managed company for year 1996.
13. NR Narayana Murthy & Nandan Nilekani was named as Asia's businessmen of the year 2003 by Fortune.
14. NR Narayana Murthy got prestigious Ernst & Young world entrepreneur of the year award in 2003.
15. Infosys got ICAI award for 2003 year and Nandan Nilekani was ranked 35th world business leaders.
16. Indian merchant chambers (IMC) gave NR Narayana Murthy Diamond Jubliee Award for "Eminent businessmen of the year" in 2004.
17. American society for training and development (ASTD) rated Infosys world best in employee training and development.
18. NR Narayanan Murthy is among Time magazine's 10 global leaders in shaping the future of communications. He is listed 9th among the 10 global tech Influentials.

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19. N R Narayana Murthy was awarded sir M Visvesvaraya memorial award Sir M Visvesvaraya Memorial Award, by federation of Karnataka chambers of commerce and industry.
20. Goldman Sash has rated Infosys as outperformers and Best Company.
21. Infosys got Corporate University Xchange Excellence Award in 2002.

AGREEMENTS WITH COMPANIES

Infosys signed with Copeland Company, a US based to set up client services workstation (CSW) for providing retirement planning products & services to nonprofit organizations. Infosys had agreement with USA based cyber shop which is a leading online retailer and has more than 40,000 products from 400 manufacturers. Development centre at Philippines, China, Europe and USA are planned by Infosys. In 1999 Alpha data company Got support from Infosys for banking software in UAE. Infosys is the first company to be registered on NASDAQ. Infosys announced strategic alliance with cyber source corporation USA for providing e-commerce transaction processing services for tax calculation, risk management which includes fraud screening, fulfillment management and distribution control. An export unit was established in Chandigarh(Mohali) in the year 2000. During these years new port applications from operating system/2 to Windows NT was developed. Infosys is providing ERP software solutions for Japan's Toshiba business corporation. J&K banking is getting internet banking services from Infosys Technology.

Infosys introduced Websetu, a product for enabling internet based electronic commerce by using traditional online transaction processing(OLTP) application engine. Infosys has agreement with Quintessent Communications Inc, for developing software applications that automate data exchange between telecom carriers. The company is having agreement with German e-commerce firm Preis24.com to develop B2B e-commerce. The company has launched BankAway which offers mobile banking service to all customer segments. The company tied up with Franklin Templeton Investment (FTI) for interactive information structure. Infosys has agreement with California based Onscan Inc. The company also entered in an e-commerce agreement with Abu Dhabi's National Bank to provide internet banking services and e-commerce services to banks retail and corporate customers. Infosys has launched Finacle which is an integrated, multi language, centralized, multi-currency and rich banking solution to provide solution of retail and corporate banking requirements.

STRATEGIC ALLIANCE

Infosys has a strategic alliance partnership with Delphis bank Ltd which one of the leading commercial bank in Mauritius, to modernize existing information technology infrastructure and solution. Infosys has strategic alliance with Evolving systems, a software & consulting firm. The company is having strategic partnership with first Atlantic Bank which is comet merchant bank in Nigeria. After HLL, Infosys is the most valuable company. The company has double capacity of 60 crore in software technology park in Hinjewadi, Pune. The company has entered into the market of Hong Kong for tapping the e-commerce business. Infosys has also signed MOU with Sharjah Airport International Free Zone Authority. The company is having alliance with Microsoft Corporation. Infosys is having strategic alliance with USA based Yada Yada Inc to launch personalized mobile web portal. Delphi Automotive Systems has tie up with Infosys, TCS and CG Smith for embedded software development for worldwide operations. Nortel Networks is having tie up with Infosys for wireless centre in Bangalore. Infosys is having strategic partnership with standard trust bank, Nigeria to deploy Finacle core banking e-platform along with BankAway e-commerce platform.

The company has development centre at Hyderabad by signing MOU with Government of Andhra Pradesh in 2011. An Infosys technology Ltd has entered Toronto for its global development centre. The company set up four fellowship schemes in association with Institute of chartered Accountants of India, Accounting research firm to encourage research in accounting, audit, finance, fiscal and corporate law, capital market and IT. Infosys is export of worth Rs. 2,870.26 crore. Infosys and Burlington Northem and Santa Fe Railway Company announced strategic partnership for improving operations & customer service. Company partners with Citadon, the leading provider of online solutions for collaboration on the design, construction, and operation of large scale capital projects.

GROWTH

Airbus Industries has hired Infosys services for the wing design in the company. Infosys acquired 12 stakes in Onmobile Company of USA which is software service provider. Infosys signs joint venture agreement with Punjab national Bank for centralized banking services. Infosys tied up with north western Mutual for online fund transfer. The company also ties with Nordstrom to install and launch an Oracle financial system. The company also ties up with Citigroup to form new company Progeon for business process management. Eastman chemical company also ties up with Infosys for IT consultation and service provider for global delivery. Till March 2002 value of the company reached to Rs. 7,257 crore. Infosys is having agreement with National Commercial Bank, Jamaica for technology partnership. Aeronautical development agency signed contract with Infosys for transfer of Autolay software. Infosys acquired trade IQ Product division of IQ financial system Inc. USA. Infosys become the first company to get CMMI level 5 for offshore & onsite operations.

Infosys has ties up with Avaya Inc which is a leading provider of voice & data networks to businesses for CRM solutions. Infosys develops a process engine to demonstrate Business process Modeling Language(BPML) technology. Infosys implemented "Balanced score card" which establishes strategic objectives for financial & non financial measures. Infosys is having alliance with Kakawa Discount House, Nigeria. Infosys has developed intraday comparison system for American stock exchange. Bank of Bahrain & Kuwait got Finacle core banking. Infosys signs an agreement with Expert information services Pty Ltd, Australia by acquiring 100% equity for A$31.0 million.

Infosys deployed Finacle in Karnataka Bank. Infosys is having pact with British Telecom. Mauritius past & Cooperative Bank signed an agreement Infosys for Finacle to get universal banking solution. EXIM bank of Thailand and Yip In Tsoi & Co Ltd, Thailand signed agreement for Finacle. Infosys becomes first listed software company to acquire Rs. 1000 crore. Infosys has announced the availability of item data integrity (IDI), a solution for retail companies to reduce time to market associated with the introduction of new products and promotions. Oriental bank of commerce ties up with Infosys and Wipro for its nationwide IT upgradation project. In 2005 Aspis Bank Greece which one of the leading retail & commercial bank signs up agreement for Finacle universal banking solution to develop its core banking services in 66 branches across Greece. Infosys has developed shop floor control system along with global provider of electronic components, Arrow Electronics, has won 2004 InfoWorld 100 award for being on the top 100 best projects.

CONCLUSION

The Indian IT sector plays an important role in global market. Now a day's competition has increased with china, Latin America, Eastern Europe and Egypt. Major global firms like Accenture, HP services, IBM global services have established delivery centres in India. This IT sectors have certain limitations also such as:

- Constraint of manpower supply.
- Dominancy by small number of large firms.
- High tariff & import duties.
- Lack of commercialization of domestic Research & Development.
- Lack of adoption in key areas like Agriculture, education and healthcare.

For our country to have sustainability and full capitalization growth of IT sector, certain areas must be improved:

- Human capital quality should be improved
- Infrastructure should be world class and bridge the digital division.
- Improve the Telecommunication infrastructure & regulatory challenges.
- Promotion of Hardware and electronics sector for domestic demand and export in proper way.
- Encourage innovation in Information technology sector.

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DATA WAREHOUSING AND TESTING

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ABSTRACT

Over the last 20 years, with the advancement in the computing technology, the fall in the computer hardware and change in the nature of business – the value of information has been raised dramatically. The need of making good decisions on the basis of large amount of data, which has the property of diversification among the different units of organization, has risen to a level not comparable to any phase throughout the history of Information Technology. The indispensable requirement to store enormous amount of data lead to the analytic systems which in turn gave birth to the idea of Data Warehousing. In this paper, we discuss about the data warehouse design, implementation and its testing activities, also we classify them in terms of what is tested, how it is tested, and we explain how the test approach can be effectively designed.

KEYWORDS
Data Warehouse (DW), Data Mining (DM), Query Processing, Testing.

INTRODUCTION

The Data Warehouse (DW) integrates data from multiple heterogeneous information sources and transforms them into a multidimensional representation for making decisions more effective. The responsibility of a data warehouse is to provide robust data management, scalability, high performance query processing and integration with organization data servers. "Data Warehousing is a Subject-Oriented, Integrated, Non-volatile, and Time variant collection of data in support of Management Decisions", - W.H. Inmon.

FIG. 01 – DATA WAREHOUSING INTRODUCTION
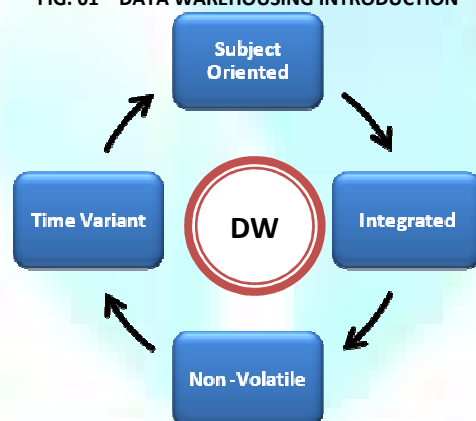
SUBJECT-ORIENTED
In data warehousing the prime objective of storing data is to facilitate decision process of a company, and within any company data naturally concentrates around subject area. This leads to the gathering of information around these subjects rather than around the applications or processes.

INTEGRATED
Though the data in the warehouses is scattered around different tables, databases or even servers, the data is integrated consistently in the values of variables, naming conventions and physical data definitions.

NON-VOLATILE
Being the snapshot of operational data on a given specific time, the data in the data warehouses should not be changed or updated, once it's loaded from organizational system. As the snapshot shows operational data at some moment of time and one expects data warehouse to reflect accurate values of that time frame. There exists only two operations – the time based loading of data, accessing the loaded data.

TIME VARIANT
The time based archival of data from operational systems to data warehouse, makes value of data, in the data warehouses, being function of time. As the data warehouse gives accurate picture of operational data for some given time and the change in the data in warehouse is based on time based change in operational data, data in the data warehouse is called, "time-variant".

Most of the organizations run their businesses on the basis of collection of data for strategic decision- making. To get a competitive edge the organization should have the ability to review historical trends and monitor real-time functional data. Hence, the concept of data warehousing in the sense, once the data is extracted from the operational system it can be validated, reformatted, reorganized, summarized, restructured and supplemented with data from other source. The resulting data warehouse become the best source of information for the decision making process. Data Warehousing technology has grown much in scale and reputation in the past few years, as evidenced by Gartner Group survey of Fortune 500 IT managers who found that 90% of all organizations had planned to implement Data Warehouses by 2011.

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NEED OF DATA WAREHOUSING

BUSINESS PROCESSING AND DECISION MAKING

In large organizations good decision-making process becomes very critical because of its diversified data which is available across different platforms. The best decisions are made when all the relevant data available are taken into consideration. The best possible source for that data is a well-designed Data Warehouse System.

DATA MINING AND DATA TRANSFORMATION

A common problem that exists in many organizations is the inability to quickly retrieve and combine operational data about the same entity that exists in multiple systems. At a very simple level, data reporting quality are concerned with collecting accurate data, transforming it into a common presentation format that is convenient for business partners. This sounds simple enough but there are many complicating factors that must be considered.

DATA SECURITY

With the provision of being multi-user database system, the primary focus is on providing controls for the security of database. The controls include unauthorized access to database as well as individual schema objects, assessment of environment parameters such as disk usage and system resource usage. It needs a set of privileges and a user is restricted by the grants given by these privileges. Data Warehousing provides a multi-level secure database management and mandatory access control to monitor the user actions on the Database.

DATA VOLUME

In any organization, it is frequently necessary to load a very large volume of data into the databases in a short amount of time, thereby requiring parallel processing of different data. The initial data loads are usually the most voluminous, so the organizations need to have a relatively long load window to accomplish this task.

Even though additional hardware and software are needed, the presence of a data warehouse is obligatory to handle the huge volume of data.

DATA WAREHOUSING ARCHITECTURE

Many organizations want to implement an integrated enterprise warehouse that collects information about all subjects (e.g., customers, products, sales, assets, personnel) spanning the whole organization. However, building an enterprise warehouse is a long and complex process, requiring extensive business modeling, and may take many years to succeed. The below architectural design explains about the implementation of data warehousing in organization. It includes tools for extracting data from multiple operational databases and external sources; for cleaning, transforming and integrating this data; for loading data into the data warehouse and for periodically refreshing the warehouse to reflect updates at the sources and to purge data from the warehouse, perhaps onto slower archival storage. In addition to the main warehouse, there may be several departmental data marts.

FIG.2: DATA WAREHOUSING ARCHITECTURE
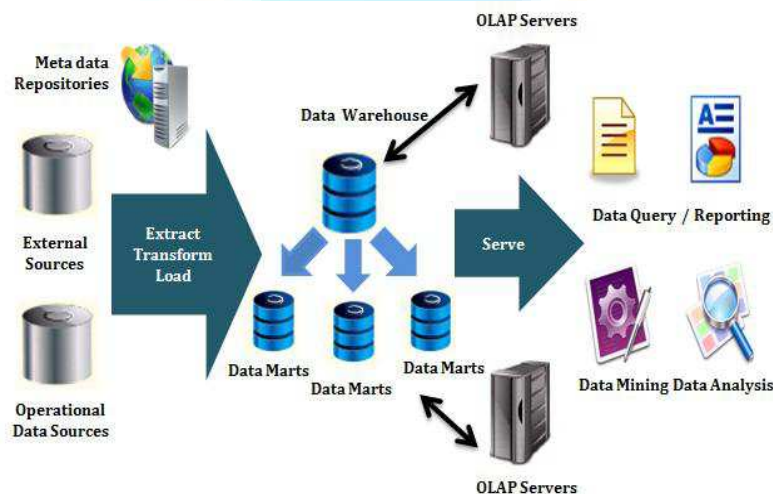
Note: Data marts are departmental subsets focused on selected subjects (e.g., a marketing data mart may include customer, product, and sales information). These data marts enable faster roll out, since they do not require enterprise-wide consensus, but they may lead to complex integration problems in the long run, if a complete business model is not developed.]

Data in the warehouse and data marts is stored and managed by one or more warehouse servers, which present multidimensional views of data to a variety of front end tools: query tools, report writers, analysis tools, and data mining tools. Finally, there is a repository for storing and managing metadata, and tools for monitoring and administering the warehousing system.

The warehouse may be distributed for load balancing, scalability, and higher availability. In such a distributed architecture, the metadata repository is usually replicated with each fragment of the warehouse, and the entire warehouse is administered centrally. An alternative architecture, implemented for expediency when it may be too expensive to construct a single logically integrated enterprise warehouse, is a federation of warehouses or data marts, each with its own repository and decentralized administration.

The designing and rolling out of a data warehouse is a complex process, consisting of the following activities,
- Define the architecture, do capacity planning, and select the storage servers, database and OLAP servers, and tools.
- Integrate the servers, storage, and client tools.
- Design the warehouse schema and views.
- Define the physical warehouse organization, data placement, partitioning, and access methods.
- Connect the sources using gateways, ODBC drivers, or other wrappers.
- Design and implement scripts for data extraction, cleaning, transformation, load, and refresh.
- Populate the repository with the schema and view definitions, scripts, and other metadata.
- Design and implement end-user applications.
- Roll out the warehouse and applications.

FACTORS INFLUENCING THE DATA WAREHOUSING DESIGN & IMPLEMENTATION

When designing a data warehouse, organizations employ either a top-down or bottom-up development approach. In the top-down approach, an enterprise data warehouse is built and information processes are created business area by business area with underlying dependent data marts pulled out from the enterprise data warehouse contents. In the bottom-up approach, independent data marts with information processes are created with the view of integrating them into an enterprise data warehouse in the future. The six important factors that potentially influence the design and implementation of data warehousing,

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INFORMATION INTERDEPENDENCE BETWEEN ORGANIZATIONAL UNITS

There is a high level of information interdependence when the work of one organizational unit is dependent upon information from one or more other organizational units. In this situation, the ability to share consistent, integrated information is important.

UPPER MANAGEMENT'S INFORMATION NEEDS

In order to carry out their job responsibilities, senior management often requires information from lower organizational levels. It may need to monitor progress on meeting company goals, drill down into areas of interest, aggregate lower-level data, and be confident that the company is in compliance with regulations.

NATURE OF END USERS TASKS

Some users perform non-routine tasks. Structured queries and reports are insufficient for their needs. They have to analyze data in novel ways. These users require an architecture that provides enterprise-wide data that can be analyzed "on the fly" in creative ways.

COMPATIBILITY WITH EXISTING SYSTEMS

There are many benefits to implementing IT solutions that are compatible with the existing computing environment. Consequently, the design of data warehouse architecture is likely to be impacted by the systems and technologies that are already in place. This may include compatibility with source systems, metadata integration, data access tools, and technology vendors.

TECHNICAL ISSUES

A variety of technical considerations can affect the design of architecture – the ability to integrate metadata; scalability in terms of the number of users, volume of data, and query performance; the ability to maintain historical data; and the ability to adapt to technical changes, such as in source systems.

CONSTRAINTS ON RESOURCES

The data warehouse architecture requires more resources to develop and operate. As a result, the availability of IT personnel, business unit personnel, and monetary resources can impact the design of the architecture.

DATA ANALYSIS TECHNIQUES

A data warehouse is built to provide an easy to access source of high quality data. It is typically the need to perform analysis and decision making through the use of that source of data. There are several techniques for data analysis that are in common use today. They are query and reporting, multidimensional analysis, and data mining. They are used to formulate and display query results, to analyze data content by viewing it from different perspectives, and to discover patterns and clustering attributes in the data that will provide further insight into the data content. The techniques of data analysis can impact the type of data model selected and it's content. It also seems clear that, in most implementations, multiple types of data models might be used to best satisfy the varying requirements.

QUERYING AND REPORTING

Query and reporting analysis is the process of posing a question to be answered, retrieving relevant data from the data warehouse, transforming it into the appropriate context, and displaying it in a readable format. It is driven by analysts who must pose those questions to receive an answer. Traditionally, queries have dealt with two dimensions, or two factors, at a time. Query definition is the process of taking a business question or hypothesis and translating it into a query format that can be used by a particular decision support tool. When the query is executed, the tool generates the appropriate language commands to access and retrieve the requested data, which is returned in what is typically called an answer set. The data analyst then performs the required calculations and manipulations on the answer set to achieve the desired results. Those results are then formatted to fit into a display or report template that has been selected for ease of understanding by the end user. The report is delivered to the end user on the desired output medium, which could be printed on paper, visualized on a computer display device, or presented audibly.

MULTI DIMENSIONAL ANALYSIS

Multi-dimensional analysis has become a popular way to extend the capabilities of query and reporting. That is, rather than submitting multiple queries, data is structured to enable fast and easy access to answers to the questions that are typically asked. For example, the data would be structured to include answers to the question, "How much of each of our products was sold on a particular day, by a particular sales person, in a particular store?" Each separate part of that query is called a dimension. By pre calculating answers to each sub-query within the larger context, many answers can be readily available because the results are not recalculated with each query; they are simply accessed and displayed. By having the results to the above query, one would automatically have the answer to any of the sub-queries. Multidimensional analysis enables users to look at a large number of interdependent factors involved in a business problem and to view the data in complex relationships. End users are interested in exploring the data at different levels of detail, which is determined dynamically. The complex relationships can be analyzed through an iterative process that includes drilling down to lower levels of detail or rolling up to higher levels of summarization and aggregation.

DATA MINING

Data mining is a relatively new data analysis technique. It is very different from query and reporting and multidimensional analysis in that is uses a discovery technique. That is, we do not ask a particular question on the data but rather use specific algorithms that analyze the data and report what they have discovered. Unlike query and reporting and multidimensional analysis where the user has to create and execute queries based on hypotheses, data mining searches for answers to questions that may have not been previously asked. This discovery could take the form of finding significance in relationships between certain data elements, a clustering together of specific data elements, or other patterns in the usage of specific sets of data elements. After finding these patterns, the algorithms can infer rules. These rules can then be used to generate a model that can predict a desired behavior, identify relationships among the data, discover patterns, and group clusters of records with similar attributes. Data mining is most typically used for statistical data analysis and knowledge discovery. Statistical data analysis detects unusual patterns in data and applies statistical and mathematical modeling techniques to explain the patterns. The models are then used to forecast and predict. Knowledge discovery extracts implicit, previously unknown information from the data. This often results in uncovering unknown business facts. Data mining can help discover new insights about the business by giving us answers to questions we might never have thought to ask.

TOOLS USAGE IN DATA WAREHOUSING

Creating and managing a data warehousing system is a complex computing problem because of its integration with different organizational data sources. Many different classes of tools are available to facilitate different aspects of the design and implementation process. Development tools are used to design and edit schemas, views, scripts, rules, queries, and reports. Planning and analysis tools are used for what-if scenarios such as understanding the impact of schema changes or refresh rates, and for doing capacity planning.

Data Warehouse management tools (e.g., HP Intelligent Warehouse Advisor, IBM Data Hub, Prism Warehouse Manager) are used for monitoring a warehouse, reporting statistics and making suggestions to the administrator: usage of partitions and summary tables, query execution times, types and frequencies of drill downs or rollups, which users or groups request which data, peak and average workloads over time, exception reporting, detecting runaway queries, and other quality of service metrics. System and network management tools (e.g., HP OpenView, IBM NetView, and Tivoli) are used to measure traffic between clients and servers, between warehouse servers and operational databases, and so on. Finally, only recently have workflow management tools been considered for managing the extract-scrub-transform-load-refresh process. The steps of the process can invoke appropriate scripts stored in the repository, and can be launched periodically, on demand, or when specified events occur. The workflow engine ensures successful completion of the process, persistently records the success or failure of each step, and provides failure recovery with partial roll back, retry, or roll forward. Data quality tools are available to enhance the quality of the data at several stages in the process of developing a data warehouse. Data Cleansing tools like SAP Business Objects Data Services XI, can be useful in automating many of the activities that are involved in cleansing the data- parsing, standardizing, correction, matching, transformation and house holding.

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DATA WAREHOUSE TESTING

Testing is an essential part of the design life-cycle of any software product. Needless to say, testing is especially critical to success in data warehousing projects because users need to trust in the quality of the information they access. Data warehouse testing may have the same principles/fundamentals of a general testing project, but testing data warehousing projects involve significant programming work as there are limited front end screens but mostly back end processes that work on data sets. The attitude and methodology required for data warehousing testing are not same as those required for normal testing. The skill sets required includes resources with a strong aptitude and with technology specialization and programming language.

The difference between testing data warehouse systems and generic software systems or even transactional systems depends on several aspects,

- Software testing is predominantly focused on program code, while data warehouse testing is directed at data and information. As a matter of fact, the key to data warehouse testing is to know the data and what the answers to user queries are supposed to be.
- Differently from generic software systems, data warehouse testing involves a huge data volume, which significantly impacts performance and productivity.
- Data warehouse testing has a broader scope than software testing because it focuses on the correctness and usefulness of the information delivered to users. In fact, data validation is one of the main goals of data warehouse testing.
- Though a generic software system may have a large number of different use scenarios, the valid combinations of those scenarios are limited. On the other hand, data warehouse systems are aimed at supporting any views of data, so the possible combinations are virtually unlimited and cannot be fully tested.
- While most testing activities are carried out before deployment in generic software systems, data warehouse testing activities still go on after system release.
- Typical software development projects are self-contained. Data warehousing projects never really come to an end; it is very difficult to anticipate future requirements for the decision-making process, so only a few requirements can be stated from the beginning. Besides, it is almost impossible to predict all the possible types of errors that will be encountered in real operational data. For this reason, regression testing is inherently involved.

Key focus areas need to be considered before data warehouse testing,

- Loss of data during the ETL process.
- Inaccurate and incomplete data coming from disparate source systems.
- Data duplication appearing in source feeds.
- Differing definitions of operational data from disparate systems.
- Authentication and security concerns.
- Multiple country integration issues, business definition and source systems disparity.
- Non-availability of comprehensive test bed.
- Imbalances in performance across the different environment like Development, UAT and Production.
- Data Quality Issues.

Data Warehouse Testing attempts to plug each of the above gaps by ensuring that every stage of the source to target movement/transformation of data is tested and is working fine.

CHALLENGES IN DATA WAREHOUSE TESTING

- Voluminous data, from heterogeneous sources.
- Data Quality not assured at source.
- Transaction-level traceability will be difficult to attain in a Data Warehouse.
- Difficult to estimate. Only volume might be available. No accurate picture of the quality of the underlying data.
- Business Knowledge. Organization-wide Enterprise data knowledge may not be feasible.
- 100% Data verification will not be feasible. In such cases, the extraction, transformation and loading components will be thoroughly tested to ensure all types of data behaves as expected, within each of these modules.
- Very High Cost of Quality. This is because any defect slippage will translate into significantly high costs for the organization.
- The Heterogeneous sources of data will be updated asynchronously. Temporal Inconsistency is part and parcel of a Data warehouse implementation.

DATA WAREHOUSE TEST APPROACH

Like for most generic software systems, different types of tests can be devised for data warehouse system. The peculiar characteristics of data warehouse testing and the complexity of data warehouse projects ask for a deep revision and contextualization of these test types, aimed in particular at emphasizing the relationships between testing activities.

Since the correctness of a system can only be measured with reference to a set of requirements, a successful testing begins with the gathering and documentation of end-user requirements. Since most end-users requirements are about data analysis and data quality, it is inevitable that data warehouse testing primarily focuses on the ETL process on the one hand (this is sometimes called back- end testing), on reporting and OLAP on the other (front-end testing). While back-end testing aims at ensuring that data loaded into the data warehouse are consistent with the source data, front-end testing aims at verifying that data are correctly navigated and aggregated in the available reports.

The below mentioned testing types are tightly related to the software quality factors like correctness, usability, efficiency, reliability, integrity, flexibility and also best fit the characteristics of data warehouse systems:

UNIT TESTING

It has been the task of the developer. This is white-box testing to ensure the module or component is coded as per agreed upon design specifications. The developer should focus on the following:

- That all inbound and outbound directory structures are created properly with appropriate permissions and sufficient disk space. All tables used during the ETL3 are present with necessary privileges.
- The ETL routines give expected results:

i. All transformation logics work as designed from source till target
ii. Boundary conditions are satisfied– e.g. check for date fields with leap year dates
iii. Surrogate keys have been generated properly
iv. NULL values have been populated where expected
v. Rejects have occurred where expected and log for rejects is created with sufficient details
vi. Error recovery methods
vii. Auditing is done properly

- That the data loaded into the target is complete:

i. All source data that is expected to get loaded into target actually get loaded– compare counts between source and target and use data profiling tools
ii. All fields are loaded with full contents– i.e. no data field is truncated while transforming
iii. No duplicates are loaded
iv. Aggregations take place in the target properly
v. Data integrity constraints are properly taken care of

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SYSTEM TESTING

It verifies that the item is compliant with its specified business requirements. We test for the functionality of the application and mostly it is black-box. The major challenge here is preparation of test data. An intelligently designed input dataset can bring out the flaws in the application more quickly.

The QA team must test for:

- Data completeness – match source to target counts.
- Data aggregations – match aggregated data against staging tables and/or ODS4.
- Granularity of data is as per specifications.
- Error logs and audit tables are generated and populated properly.
- Notifications to IT and/or business are generated in proper format.

INTEGRATION TESTING

It is used to ensure that the application developed works from an end-to-end perspective. We must consider the compatibility of the Data Warehouse application with upstream and downstream flows. We need to ensure for data integrity across the flow. It is a combined responsibility and participation of experts from all related applications is a must in order to avoid misinterpretation of results.

PERFORMANCE TESTING

The Data Warehouse must necessarily go through another phase called performance testing. It checks that the item performance is satisfactory under typical workload conditions with huge volume of data. Any Data Warehousing application is designed to be scalable and robust. Therefore, when it goes into production environment, it should not cause performance problems. We must ensure that the load window is met even under such volumes. This phase should involve DBA team, and ETL expert and others who can review and validate the code for optimization.

REGRESSION TESTING

Data Warehouse application is not a one-time solution. Possibly it is the best example of an incremental design where requirements are enhanced and refined quite often based on business needs and feedbacks. In such a situation it is very critical to test that the existing functionalities of a DW application are not messed up whenever an enhancement is made to it. Generally this is done by running all functional tests for existing code whenever a new piece of code is introduced. However, a better strategy could be to preserve earlier test input data and result sets and running the same again. Now the new results could be compared against the older ones to ensure proper functionality.

RECOVERY TESTING

It checks how well an item is able to recover from crashes, hardware failures and other similar problems. The recovery test of ETL checks for robustness by simulating faults in one or more components and evaluating the system response. For example, you can cut off the power supply while an ETL process is in progress or you can set a database offline while an OLAP session is in progress to check for restore policies effectiveness. It enables testers to verify the Data Warehouse behavior after critical errors such as power leaks during update, network fault, and hard disk failures.

SECURITY TESTING

It mainly concerns the possible adoption of some cryptography technique to protect data and the correct definition of user profiles and database access grants. It checks for user profiles to be properly set up. It is also check for single-sign-on policies to be set up properly after switching between different analysis applications.

TESTING PHASES

- Business Understanding Document
    - a. High Level Test Approach & Test Estimation
    - b. Review Business & Technical Specification
- Test Plan Creation, Review and Walkthrough
- Test Case Creation, Review and Walkthrough
- Test Bed & Environment Setup
- Test Data Creation
- Test Predictions Creation, Review (Setting up the expected results)
- Test Case Execution
- Deployment
- Test Summary & Deliverables

CONCLUSION

Now-a-days every organization recognizes the significant advantages and values that data warehousing can provide for data analysis and decision making with complex operational systems. The implementation of dedicated data warehousing system ensures robust data management, faster query processing and dynamic report generations at any point of time with utmost quality. The well defined test approach & strategy for data warehousing system ensures that the data from Data Warehouse is uniform, accurate, and consistent and thereby serves as a "single version of truth" for the enterprise.

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POLITICAL IMPACT OF MICRO FINANCE ON RURAL POOR IN ANDHRA PRADESH

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ABSTRACT

This paper outlines political impact of microfinance. Micro finance treated as a key strategy in addressing development issues across nations since the last three decades. This study attempts to explore on the much debated question impact of microfinance? The studies suggest that microfinance has a profound influence on the economic status, decision making power, and knowledge and self-worthiness. The microfinance related loan and its productive utilization found to be causing significant differences empowerment levels, measured empowerment of the loan availed participants. Impact assessment is kind of structured study, which measures the impact on employment, income generation, education, health, consumption, business development. Impact assessment refers to the assessment of "how financial products and services affected of the poor". Impact assessment is the measurement of the income growth, assets growth and vulnerability. The indicators for impact assessment are not limited to economic development but extended to development growth like health, education, empowerment etc., The study interprets and discussed impact of microfinance on political conditions of rural poor in Andhra Pradesh. An attempt has been made to analyse the political impact of micro finance respondent. In this regard an analysis has been made with the help of the following parameters i.e Factors influencing to join MFI group, Year of joining, Size of the membership, Size of the group, Position held in MFI group, Satisfaction towards MFI group, Frequency of meeting, Participation in meeting, Call for meeting, Decision on date of meeting / Agenda, Resolutions in meeting, Impact of training

KEYWORDS

Micro finance, Rural Poor, Political impacts, Andhra Pradesh.

INTRODUCTION

The biggest challenge to any civilized society is the economic deprivation of a major population. The most potent tool against human deprivation could be building human capital among the deprived, through sustainable development, initiative which is taken up by the deprived themselves " Self – realization and self – initiative" are the two most powerful weapons to eradicate poverty from the world map.

India has the biggest micro finance market of the world. Micro finance is powerful instrument for enhancing production and productivity and also for alleviating poverty. In order to build the capacities of poor and facilitate the process of empowering them many organization are working in India Micro finance play a vital role to bridge the gap between demand and supply of financial services among the rural poor.

Micro finance covers a wide range of financial services that include savings, credit, insurance and remittance. Micro finance target those people who are denied credit from formal financial and banking institutions because of lack of awareness as well as formal rules which they have to follow to get a credit from these institutions. Micro finance can be considered as a tool for empowerment as well as for social protection (saving, Insurance and remittances). Microfinance can also be used to develop new generation entrepreneurs among the rural poor by providing other necessary skills required.

The most important finding in the last three decades in the world of finance did not come from the world of the rich or the relatively well off. More important than the hedge fund or the liquid-yield option note was the finding that the poor can save, can borrow (can indeed decide on loans to fellow poor), and will certainly repay loans. This is the world of micro finance.

Microfinance has proved time and again that it is the access and not interest rates that are constraint for the poor. Another discovery followed, that the poor can and will save, and can indeed use a wide range of financial services such as remittances facilities and insurance products. The most well-known and cited international example of a micro-credit institution is the Grameen Bank in Bangladesh along with numerous others. Even during the Asian financial crisis, Bank Rayat Indonesia not only survived but also thrived; as did BancoSol in Bolivia.

The Indian Microfinance Sector is a museum of several approaches found across the world. Indian microfinance has lapped up the Grameen blueprint; it has replicated some aspects of the Indonesian and the Bolivian model. In addition to the imported artifacts of microfinance, we also have the home-grown model of self-help groups (SHGs).

Definitions

Micro finance may be defined by the as "provision of thrift, credit and other financial services and products of very small amounts to the poor in rural, semi-urban or urban areas for enabling them to raise their income levels and improve living standards" — NABARD.

A definition of microfinance as provided by Robinson is, 'Microfinance refers to small-scale financial services for both credits and deposits- that are provided to people who farm or fish or herd; operate small or micro enterprises where goods are produced, recycled, repaired, or traded; provide services; work for wages or commissions; gain income from renting out small amounts of land, vehicles, draft animals, or machinery and tools; and to other individuals and local groups in developing countries, in both rural and urban areas'. —Robinson (2001)

Microfinance enables the poor and excluded section of people in the society who do not have an access to formal banking to build assets, diversify livelihood options and increase income, and reduce their vulnerability to economic stress. In the past, it has been experienced that the provision for financial products and services to poor people by MFIs can be practicable and sustainable as MFIs can cover their full costs through adequate interest spread and by operating efficiently and effectively. Microfinance is not a magic solution that will propel all of its clients out of poverty. But various impact studies have demonstrated that microfinance is really benefiting the poor households (Littlefied and Rosenberg,2004).

Microfinance enables the poor and excluded section of people in the society who do not have an access to formal banking to build assets, diversify livelihood options and increase income, and reduce their vulnerability to economic stress.

In the International Years of Micro-credit 2005, "Microfinance was referred to as loan, savings, insurance, transfer services and other financial product targeted at low-income clients".

Poor section of people living in poverty, like everyone else, need a diverse range of financial products and services to sustain their livelihood, productive finance to run their business, build assets positions for both production and consumption, and to protect themselves against risks and uncertainties. Financial services needed by the poor include working capital loan, consumption credit, and savings, pension, insurance, provident funds, money transfer services etc.,

Microfinance products include micro savings, micro credit, micro insurance, remittance and other products like pension, provident fund etc., Microfinance refers to providing a gamut of high quality financial products and service to the poor section of the society.

Theoretically microfinance means all type of financial products and services used and/or required by poor section of the society who mostly do not have access to formal financial institutions and are more accessible to the informal financial market. Practically, microfinance refers to the small-scale financial services offered to poor people by institutions, organizations and enterprises who aim at their sustainability and profitability along with reducing the poverty of their clients.

According to Brett Mathew (Mathewood Consulting Company) there are several types of microfinance products used by poor households. These microfinance products are based on the types of needs of poor people.

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The needs of the poor section of the society are:

Cost of health care, replacement of cost after a natural disaster,

Retirement (for self or parents), migration farm equipment's, well, home upgrade, self-insurance etc,

Irrigation, transportation, livestock, micro enterprise, home renovation, schooling and education etc,

Food security, health treatment, festivals and social obligations, emergencies etc,

Sending money to family at home and away, working capital etc,

Meeting urgent family disasters like   sickness, crop failure, payoff money lenders etc,

Housing, well, irrigation systems, boats, motor bikes etc,

In India, all the MFIs are not providing all types of microfinance products and some of the MFIs provide products as follows:

Production loans, mostly the income-generating loans including working capital and long-term business investment

Savings include   short-term savings, saving accounts, monthly savings weekly savings etc.,

Insurance like agriculture insurance, health insurance, life insurance, livestock insurance, house insurance, insurance against business etc.,

Remittance services

Non-financial services like social intermediation

The need for microfinance also could   be for increasing the income growth and living standards and diversify from subsistence agriculture to processing, manufacturing construction, trade, transport and services. All NGO-based microfinance intermediaries provide credit products. Some of the MFIs also provide insurance products along with credit product under a partnership model where the intermediaries collaborate with an insurance company and the insurance company provides the insurance products to the clients of the NGO-based intermediaries.

STATEMENT OF THE PROBLEM

It is true that the concept of micro financing was in existence for more than a century. However the micro financing, which has been introduced recently is different, free from exploitation, based on the principle of co-operation and group approach. As ahead mentioned even in the 1980s several micro credit programmes including Integrated Rural Development Programme (IRDP), Development of Women and Children in Rural Areas (DWCRA), Training of Rural Youth for Self-Employment (TRYSEM) etc., were prevalent, but the approach and methodology followed were entirely different. It is this methodology which has made the SHGs to achieve better recovery rates, improved access to credit from formal sector, participation in not only economic activities but also other social and community development programmes. Further it is observed that the formal sector credit was very limited and hardly available for small borrowers. SHGs have broken this trend and it has seen that only small borrowers are members of SHGs. The question that remains still to be answered is that how these SHGs could succeed in capturing the bulk of population, which were hitherto denied access to credit? How could they succeed in attracting the bankers to volunteer in their doorsteps to extend credit, which was a Herculean task prior to SHG? How could the MFIs handle the micro financing, which resulted in good recovery rate, which was a dream for formal sector? Would this success sustain or would it vanish after a temporary existence? What needs to be done to sustain in future? Given the merits of MFIs, all these questions necessitated this study to emerge in the present form. Development experience has shown that the policies favouring government have failed and market was supported to rule with minimum intervention of the state. In both these policy frameworks, poor had continued to be neglected as their focus was on the rich and believed that the benefit would trickle down. But in the later period the market also failed due to various reasons. It necessitated a new kind of development to emerge with institutions governing the interests of the respective section of the population. Between the state and the government, the NGOs have entered and created a third space, which takes some aspects of both government and market. It was observed that the poor had failed to benefit through any intervention, as the access to formal credit was absent. As a result, the informal credit continued to dominant and exploits the poor. The failure of formal credit reaching the poor, due to high risk involved owing to the imperfect knowledge of other borrowers and the associated transaction costs for the banks, informal sector with the virtue of perfect information on the poor borrowers, established a good credit market. It is felt that the poor cannot be helped by formal credit for the paper work, asymmetry of information and the transaction cost associated. On the other hand the informal credit sources should not be allowed to exploit the poor. It is good if the former as the first best reaches the poor. In the absence of this occurring, the second best alternative has been conceived, incorporating certain features of both the characteristics of formal and informal credit in the name of micro financing through MFIs with organized efforts of the participants. This micro financing has the characteristics of group lending, peer monitoring, peer pressure etc., through which it is able to get the full information about that borrowers and extend credit with minimum transaction cost with less paper work, but greater recovery performance. This has been widely recognized as the alternative form of credit and resource mobilization for the poor, credit and thrift management etc., but there are certain issues, which may be research questions to be analysed by future researchers in addition to this study. The MFIs associated micro financing is targeted to mostly women. The experience has shown that the economic activities have not been crossed beyond the micro scale. The women who have been taken up economic activities, hardly promoted to produce products of global importance. Why does this scale of operation confine to micro scale? Why does this programme target only women? Given that the poor constitute both men and women and suffer equally with lack of access to credit. Is it that targeting women alone will facilitate the market for products of external agencies, the multinational corporations; the products produced by MFIs may not share or capture the market of MNCs? Will this glorified movement sustain in the same spirit and vigour throughout? Whether long run stability is possible? In the long run, by growing to better scale of operations, the opportunity cost of devoting time on group activities may be high and in such context.

Micro-Finance has been recognised and accepted as one of the new development paradigms for alleviating poverty through social and economic empowerment of the poor, with special emphasis on empowering women. Experiences of different anti-poverty and other welfare programmes within as well as outside the country as also by the International Organisations have shown that the key to success lies in the evolution and participation of community based organisations at the grassroots level. People's participation in credit delivery and recovery and linking of formal credit institutions to borrowers through group approach have been recognised as a supplementary mechanism for providing credit support to the rural poor.

In the above back drop an attempt is made in this study to examine the role and impact of microfinance in empowering rural poor and problem encountered by respondents/beneficiaries and suggest remedial measures to overcome these problem in order to encourage and promote empowerment which has got great potential in Indian environment in general and   the state of Andhra Pradesh particular.

REVIEW OF RELATED STUDIES

Having defined the concepts used in the study and brings the theoretical base the following section reviews the related studies. It is well known that the finance is essential for all walks of life such as to procure basic needs including food, house, dresses, and medical facilities. The micro finance is playing vital role in the third world countries like India. Now days the micro finance is very familiar among the poor particularly among the rural poor. Historically the women are considered as an inferior section of the population assigning secondary status.

Yaron [1994], Besley, (1994)[11], underlined that the micro finance institutions remain most successful ones in terms of outreach and performance in delivering credit services to the poorest of the poor women, and small artisans in the rural and urban areas, reduction in adverse selection of borrowers, development of collateral substitutions, offering cost effective approaches to formal institutions.

Abdul Hayes, Ruhul Amin and Stan Becker [1998][12] analysed the relationship between poor women's participation in micro credit programmes and their empowerment by taking both SHG and non-SHG members in rural Bangladesh. They have split the concept of Women Empowerment into three components and measured separately in order to arrive at a better understanding of their underlying factors and their relationship to women's empowerment. These separate indices are interspersed consultation index, individual autonomy index and authority index. The three options were given different weights- "generally", was assigned a value of 1, "never" a value of 0 and "occasionally", a value of 0.5. The results have shown that the SHG members are ahead of non-members in all the three indices of empowerment. Moreover, the non-members within NGO programme areas show a higher level of empowerment on the autonomy and authority indices than do the non-member within the comparison areas. Over all, it was found that part of the higher autonomy and authority

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indices in the NGO progrmme areas in contrast to the comparison areas is accounted for by the contribution of both NGO credit members and non-members in the NGO programme areas. Being empowered by their new sources of financial income and related credit group supports, female recipients of NGO credits may have asserted their autonomy and authority vis-a vis their husbands' restrictions and dominance in related household affairs. It was further found that education, house type, annual income etc., tend to be positively associated with autonomy and authority indices. Also positively associated is duration of NGO membership and non-agricultural occupation. The implications of these findings are that NGO credit programmes in rural Bangladesh are not only likely to bring about rapid economic improvement in the situation of women but also hasten their empowerment. The NGO credit member is reported to be more confident, assertive, intelligent, self-reliant and conscious of their rights. It was suggested that the NGO role alone would not be sufficient. The government has to have a large network of credit programme for the rural poor women to increase their economic solvency and enhance their empowerment. The complementary role of NGOs and Government can take care of the problem

The authors suggested that by providing independent sources of income outside home, micro credit tends to reduce economic dependency of the women on husbands and thus help enhance autonomy. Second, the same independent sources of income together with their exposure to new sets of ideas, values and social support could make these women more assertive of their rights. And finally, micro credit programmes-by providing control over material resources should raise women's prestige and status in the eyes of husbands and thereby promote intersperse consultation.

MuhammeHussainBhatti [1999][3] found that the improvement of women's economic situation is the basic determinant of their empowerment. Women are being extended extension, advice and the financial assistance to generate income in farm and off farm sectors. These efforts of women are being responded significantly, resulting in a start of women's recognition not only as income earning hands but as responsible business partners in joint families as well.

T.S.Ragavendra [2000][37]Studied three SHGs run by forward, SC/ST and backward communities in Karnataka to assess the performance. He found the SHG member no longer borrow for moneylenders. It was suggested that with vision, participation and motivation, forward community SHGs could sustain in changing farm based activities into market based for the other two groups, the major constraint is the resource, which must be met by local banks. The group approach generating activities in the credit delivery system must be encouraged.

Suman Jain [2000], noted that women are assisted for income generating in number of ways by NGOs. They are given financial assistance directly or as facilitated by NGO functionaries to have access to finance from banks, financial institutions donors, corporate sector and government schemes etc., NGOs also help women for skill development by conducting training programmes through various resource agencies. Many NGO have special entrepreneurial development programmes to help women entrepreneurial motivation and business acumen which include having informal meetings identify group members, facilitate group formation and setting up group norms, coordinates the process of saving mobilization, trade selection, the initial preparation, mobilizing resources, help in maintaining records etc., The kind of income generating activities in which women get employment are agriculture and agro based activities, forest based activities, small enterprises, trade crafts and occupation based processing and marketing units. He noted that the two major financial problems faced by self-employed women are lack of working capital as collateral for credit. It was concluded that the success of the SEWA Bank experience has shown that active participation of the members and the board are crucial to the impact created by a bank such as the SEWA bank. From women's point, their involvement in and ownership of a successful institution enhance their collective strength and the empowerment that comes with organization. It was suggested that from a wider perspective, members owned or controlled micro credit institutions can help to strengthen our democratic system.

D.P. Malik G.C.Chandra and S.K. Dhanda [2001] analysed the Vikas Voluntary Vahini [VVV] Farmer's Clubs as an agent of rural development. It was observed that the VVV clubs helped the rural people to get awareness on the availability of credit facilities, organizing fairs, melas, exhibitions, health and veterinary camps, kisan melas and arranges field demonstrations and various activities with the help of extension agencies. Efforts are on, in the study area of Hisar and Fatehabad to introduce innovation in the programme and develop links between SHGs and banks through involvement of NGOs.

Lakshmanan [2001] in his study in rural Tamil Nadu observed that the saving of SHGs increased from Rs. 20 in the beginning to Rs. 50 in the latest period. The groups obtained revolving fund; there is transparency in administration. Members are engaged in production of mats with the sufficient encouragement and support of the husbands. The problem faced by them includes high cost raw material. It was concluded that the SHG is really a boom, which gives financial autonomy and make the participants economically independent.

M.Anjugam and T.Alagumani [2001] in their study in Madurai district of Tamil Nadu assessed the economic, social and institutional impact of SHGs. It was underlined that the major purpose of loan extended was to pay off the loan from moneylenders. Other than this, loan was given to medical, house repair, educational and social obligations. The women could accumulate assets in terms of jewels, TV, Steel Bureau and able to install the facility of electricity, purchase livestock, land for construction, leasing in cultivable land etc., the repayment was 100% and the members' awareness on girl's education, outside contacts and decision-making skill etc., were improved.

K.C Sharma [2001]The SHGs have contributed to increase the outreach with gender orientation as 85% of the SHGs linked with banks formed by women. These groups enabled women to engage in economic activities and decision-making at the household and the society level. It makes the process of development participatory, democratic, and independent of subsidy and sustainability. Significant changes realized in terms of increase in, income, assets, savings, borrowing capacity and income generating activities must be sustained by safeguarding the healthy growth of SHG movement in India. It should not end like the programmes with subsidy orientation.

S.N.Mishra, and M.M Hossain [2001] in their study to assess the impact of mahilamandals a rural SHGs in Orissa in terms of empowerment of rural women through participation and employment generation in the pre and post SHG periods, arrived at the fact that there is a considerable increase in the revolving fund, loan extended, grant availed, savings done etc., The loans were given both for consumption and social obligations. There is a considerable improvement in the socio-economic status in terms of literacy, housing conditions, food security to manage the lean season, nutritious level of food etc., in the post SHGs situation compared to pre-SHG period. The trained members intervened in improving the health status of the SHG women, the net income increased by more 60% through scientific cotton cultivation, livestock, maintenance and small business like retail shop, dry fish trading etc., The group was maintaining successfully the fair price shop and additional employment generated worked out to be 185 person days per member and it was suggested that these mahilamandals could be a model for other SHGs

M.L Sharma, K.R.Sharma and N.K.Sharma [2001] in their study on determining the success of NGOs in micro financing to SHGs in rural Himachal Pradesh, found that the working and impact of SHGs on rural poor depended the NGOs regional coverage, ideology, programme, implementation, effectiveness, popularity and its leadership. The farm families utilized the credit for consumption purposes mostly followed by investment on education, social ceremonies and farm production. Regarding popularity and stability of the NGOs, a majority of the respondents were of the opinion that democratic working of the NGOs, long term planning, farsightedness of management, honest administration, and hardworking officials shown a major impact on availing credit at the right time, type and amount to the member of SHGs.

R.K.Mishra [2002][1] examined the success of micro credit intervention in India and compared it with Orissa. It is found that the repayment by the members to SHGs was around 98% and SHGs to banks was over 95%. SHGs in several categories including women, joint farmers groups, social forestry groups etc., were formed. Underling the strengths and weaknesses, the challenges to be faced have been brought out by the author as follows. "The attitude of other banks needs to be changed, government should encourage and support NGOs to attempt group approach and create a favourable policy environment, needs to adopt flexibility by banks in providing money to groups through SHPIs. These ought to be done as it is observed that the micro finance does not address issues like reorganization of ownership of land and long-term sustainability of any activity. Further, it is observed that micro finance activities are oriented towards lending to individuals, using groups as a risk reduction mechanism. In the long run it may lead to establishment of another set of informal banking institutions which are in competition with money lenders, traders, commission agents etc., there is a possibility of loss of resources of the poor if not protected adequately against any possible crisis".

Dwarakanath H.D [2002][2] analysed the characteristics and growth of self-help groups in Andhra Pradesh and found that the SHGs using the loan facilities from the cooperative credit banks, commercial banks, mahila bank and Maheswaran banks, have produced more than 50 varieties of products. Among them, the brass items, hosiery, candles, carpets, coir items and pickles are important products. In addition to, the author says, that the women groups started to educate

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their own group members and also they realized the importance and significance of literacy whereas a lot of enthusiasm has been generated and the SHGs had a greater vision in empowerment of rural women and for overall human development. Moreover, the SHG members proved the way to the power of decision making to the women in their family, and also create a mass on socioeconomic and political condition in this district.

Jothy K and Sundar J [2002][4] in their study of evaluating the programme of Tamil Nadu MahalirThittam found that SHG women are currently involved in economic activities such as production and marketing of agarbathis, candle and soap, readymade garments, pickles, appalam, vathal, fur toys, bags, palm leaf products, dhotis, herbal products, fancy sea shell, ornaments, eatables, coir mats and other coir products, mattress, chapels, leather good etc.,In addition, the SHG women monitor the normal functioning of the ration shops, maintain vigil to prevent brewing of illicit group, help the aged, deserted and windows to obtain loan.

Rajasekar D [2003][5]analsyed the impact of the economic programmes of SHARE, a NGO in Tamil Nadu on poverty reduction with the help of data collected from the households of 84 women members. The economic programmes have contributed to saving and income increase for the women. However, the member group was not found to be significantly different from the comparison group in terms of control over income and decision-making. The growing amount of saving provides confidence and security to women. They borrow mainly for consumption and crop production. Not much credit is provided to initiate income-generating activities. Women's income constitutes a large proportion of household income. Women and minimum contribution by male members head majority of such households. It may result in a situation in which the male members withdrawing themselves from labour market. It seems to be putting more pressure on women. It was however emphasised that the men should also be brought within the purview of development intervention if women are to be empowered. It was further found that the women who earn do not convert income to meet their personal needs. Their mobility is restricted to visiting husband's parent's home and that is done after the permission granted from husband. SHG members possess knowledge of various government programmes, aware of reservation provided to women in panchayats, aware of mandating of Gramashaba meeting etc.,

NEED FOR THE STUDY

It is true that the concept of micro financing was in existence for more than a century. However the micro financing, which has been introduced recently is different, free from exploitation, based on the principle of co-operation and group approach. As ahead mentioned even in the 1980s several micro credit programmes including Integrated Rural Development Programme (IRDP), Development of Women and Children in Rural Areas (DWCRA), Training of Rural Youth for Self-Employment (TRYSEM) etc., were prevalent, but the approach and methodology followed were entirely different. Further it is observed that the formal sector credit was very limited and hardly available for small borrowers. MFIs have broken this trend and it has seen that only small borrowers are members of MFIs. The question that remains still to be answered is that how these MFIs could succeed in capturing the bulk of population, which were hitherto denied access to credit? How could they succeed in attracting the bankers to volunteer in their doorsteps to extend credit, which was a Herculean task prior to MFI? How could the MFIs handle the micro financing, which resulted in good recovery rate, which was a dream for formal sector? Would this success sustain or would it vanish after a temporary existence? What needs to be done to sustain in future? Given the merits of MFIs, all these questions necessitated this study to emerge in the present form. Development experience has shown that the policies favouring government have failed and market was supported to rule with minimum intervention of the state. In both these policy frameworks, poor had continued to be neglected as their focus was on the rich and believed that the benefit would trickle down. But in the later period the market also failed due to various reasons. It was observed that the poor had failed to benefit through any intervention, as the access to formal Credit was absent. As a result, the informal credit continued to dominant and exploits the poor. The failure of formal credit reaching the poor, due to high risk involved owing to the imperfect knowledge of other borrowers and the associated transaction costs for the banks, informal sector with the virtue of perfect information on the poor borrowers, established a good credit market. It is felt that the poor cannot be helped by formal credit for the paper work, asymmetry of information and the transaction cost associated. On the other hand the informal credit sources should not be allowed to exploit the poor. It is good if the former as the first best reaches the poor. In the absence of this occurring, the second best alternative has been conceived, incorporating certain features of both the characteristics of formal and informal credit in the name of micro financing through MFIs with organized efforts of the participants. This micro financing has the characteristics of group lending, peer monitoring, peer pressure etc., through which it is able to get the full information about that borrowers and extend credit with minimum transaction cost with less paper work, but greater recovery performance. This has been widely recognized as the alternative form of credit and resource mobilization for the poor, credit and thrift management etc., but there are certain issues, which may be research questions to be analysed by future researchers in addition to this study. The MFIs associated micro financing is targeted to mostly women. The experience has shown that the economic activities have not been crossed beyond the micro scale. The women who have been taken up economic activities, hardly promoted to produce products of global importance.

In the above back drop an attempt is made in this study to examine the role and impact of microfinance in empowering rural poor and problem encountered by respondents/ beneficiaries and suggest remedial measures to overcome these problem in order to encourage and promote empowerment which has got great potential in Indian environment in general and the state of Andhra Pradesh particular. The specific objectives of the study are as follows:

OBJECTIVES OF STUDY

Micro finance is currently growing at a very fast rate. Micro finance is no doubt providing facilities for the rural poor but to what extent is not clearly mentioned anywhere. Hence that is a for an in-depth impact studies with the following objective:-

To Examine the Impact of microfinance on Psychological / political of rural poor in Andhra Pradesh

METHODOLOGY

The present study has been conducted in Andhra Pradesh with the objective of studying the impact of microfinance on rural poor. The sample constituted 100 beneficiaries selected across the state of Andhra Pradesh (different agencies).

The study was based on primary data collected through structured questionnaire schedule as well as secondary data three part of schedule were used for collected primary data from the field from members, second part of information collected from leaders and third part of schedule from development functionaries. The following parameter was broadly studies to promoted microfinance beneficiaries. The information was also collected through discussion with development functionaries.

SAMPLING METHODOLOGY

The study has covered 100 members of microfinance beneficiaries. Both primary and secondary data was collected with the help of both qualitative and quantitative data collection techniques such as interview schedule, group discussions, case studies and non-participant observation. Field work has been conducted for data collection for study period. Microfinance has been recognized and accepted as one of the new development paradigms for alleviating poverty through social and economic empowerment of the poor, with special emphasis on empowering rural poor.

PERIOD OF THE STUDY

The present study cover a period of five years from 2002-2007 (Tenth Five year plan) in order to draw trend to empowering rural poor through microfinance in the state of Andhra Pradesh.

DATA ANALYSIS

The data collected from the field was processed using two software package viz. excel and SPSS (Statistical package for Social Science) quantitative information was cross tabulated to know social and economic dimension of each variable and its association with other factors a qualitative information was used in the interpretation of the quantitative data. Using information gathered for select variable in the microfinance schedule.

LIMITATION & PROBLEM OF DATA COLLECTIONS

During the research several problems faced several problems were related to lack of availability of data and of persons concerned such as these include:-

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Nonexistence of listed microfinance institutions in some village and which forced the research visit.

Non availability of official is other serious problems. In many cases the in-charge officers do not have compile in information.

Data on the list of microfinance was not fully available with rural development department. The data available was not up to date.

During the field study was undertaken during peak agriculture season. Many respondents were busy in their activities like harvesting etc.

The books of accounts mention were not up to date. Some of the microfinance did not have even basic records. Many microfinance institutions had written their accounts in rough books, rather than prescribed books.

The microfinance stakeholder /microfinance institutions who misused funds were not willing to show their records with the excuse that their leaders was not in the village or that the books were in a relative's house and the key were not available etc.,

Necessary secondary data up to date was not available and hence no cross checking could be done comparing the primary and secondary data.

The present study provides analysis of data and results of the study area. The chapter interprets and discusses the results of the investigation focused on the impact of micro-finance on rural poor in Andhra Pradesh State and the results pertaining to the hypotheses were presented in this study.

IMPACT ASSESSMENT

Impact assessment is a kind of structured study, which measures the impact on employment, income generation, nutrition, education, health, consumption, business development (micro entrepreneurship) and gender equity of MFIs clients. Impact assessment refers to the assessment of "how financial products and services affect the lives of the poor". Impact assessment is the measurement of the income growth, assets growth and vulnerability reduction of the poor by the micro-finance programmes. The indicators for impact assessment are not limited to economic development but extended to development and growth like health, education, empowerment etc.,

Broadly there are three categories of impact due to micro-finance, and these categories are (i) Economic (ii) Socio-cultural and (iii) psychological / political. The socio-cultural category include change in power, relationship (status position) shift of economic decision making from men to women, social and cultural diversity etc,. and the psychological category include the women empowerment, psychological strength due to financial strength, political empower etc.,

Specific indicators are developed to explain the impact within each domain. The indicators of economic empowerment included here are the variables like economic self-sufficiency, consumption of nutrition foods, purchase of consumer durables and awareness regarding the use of utensils. The positive changes in these indicators reflect economic empowerment of the poor.

Similarly, social empowerment is explained here through the variables like importance in the family, awareness regarding education and health, positive change in these indicators explain the social empowerment of the members.

The third domain, i.e., political empowerment is presented here through participation in grama sabha and political awareness. A positive change in these variables explains political empowerment of the poor.

This study discusses the result of investigation focused on the impact of microfinance on psychological / political empowerment of rural poor in Andhra Pradesh.

PSYCHOLOGICAL/POLITICAL EMPOWERMENT

Psychological / political empowerment i.e., political empowerment is presented here through participation in MFI group meeting, position held in the group meeting, training of the group members decision making etc., and in grama sabha and political awareness. A positive change in these variables explains the psychological and political empowerment of the rural poor.

An attempt has been made to analyse the Psychological / political empowerment of microfinance respondents. In this regard an analysis has been made with the help of the following parameters. They are: Factors influencing to join MFI group, Year of joining, Size of the membership, Size of the group, Position held in MFI group, Satisfaction towards MFI group

Frequency of group meeting, Participation in meeting, Call for meeting, Decision on date of meeting / Agenda, Resolutions in meeting, Impact of training

1. FACTORS INFLUENCING TO JOIN MFI GROUP

The microfinance stakeholder choose to join any group in their neighbourhood or localities, which may be influenced by various factors. Hence, the respondents were asked question regarding motivation to join the groups. Importantly, that NGO's workers or facilitators motivated them. Self-motivation to join the microfinance institutions is also another factor and the relevant data is presented in Table 1 Null hypothesis – I (H_0) is formulated and results pertaining to it are presented in the table

H_0: "There is no significant difference in factors influencing to join MFI group among all the regions of A.P."

TABLE 1: DISTRIBUTION OF SAMPLE RESPONDENTS ACCORDING TO MOTIVATIONAL FACTORS TO JOIN IN MICROFINANCE

Sl. No	Suggested to join	Telangana	Andhra	Rayalaseema	Total
1	Self	11 (39.28) [24.44]	11 (39.28) [31.43]	6 (21.44) [30.00]	28 (28.00)
2	Family members	3 (60.00) [6.67]	2 (40.00) [5.71]	0	5 (5.00)
3	Friends/ Relatives	5 (33.33) [11.11]	6 (40.00) [17.14]	4 (26.67) [20.00]	15 (5.00)
4	NGO's workers	25 (50.00) [55.56]	16 (32.00) [45.71]	9 (18.00) [45.00]	50 (50.00)
5	Others	1 (50.00) [2.22]	0	1 (50.00) [5.00]	2 (2.00)
Total		45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Source: Compiled from questionnaire data

Note: Figure parenthesis indicates percentage

Chi-square Value	4.676
Table Value	15.51
D.F	8
P-Value	>0.05
Result	Not Significant

The microfinance stakeholder choose to join any group in their neighbourhood or localities, which may be influenced by various sources. It is observed in this study that the choice of the group is decided by the 'Self' with 28 per cent forms and run by themselves, without any guidance neither from NGOs nor

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form banks/ Govt. agencies. Majority of the respondents group by NGO's workers with their influence has the major source of influence. It is true that the sample areas.

The other sources of influence are friends/relatives with 15 per cent and family members with 5 per cent and other with only 2 per cent. It is understood from the distribution of the sample that NGOs facilitated the maximum in number, which is also true in the universe and also as per NABARD data.

Further the chi–square (x^2) test is applied to find out the differences in motivating the members in Joining the groups among the three regions the calculated value of (x^2) (4.676) is less than the table value of 15.51 at 5% level of significance (d.f. 8). Hence, it is concluded that there is no significance difference in motivating the member to join in groups among three regions of Andhra Pradesh.

2. YEAR OF JOINING

Large number of members has been associated with microfinance institutions between years 2002-2007 (Tenth five years plan). The relevant data is presented in the table 2 and Null hypothesis–II (H_0) is formulated and results pertaining to it are presented in the table H_0: "There is no significant difference in year of their joining profile of microfinance respondents in Telangana, Andhra and Rayalaseema regions of A.P."

TABLE – 2: DISTRIBUTION OF SAMPLE MICRO-FINANCE RESPONDENTS ACCORDING TO YEAR OF THEIR JOINING

Sl.No	Year	Telangana	Andhra	Rayalaseema	Total
1	2002	20 (46.51) [44.44]	17 (39.53) [48.57]	6 (13.96) [30.00]	43 (43.00)
2	2003	19 (46.34) [42.22]	14 (34.14) [40.00]	8 (19.52) [40.00]	41 (41.00)
3	2004	5 (62.50) [11.11]	1 (12.50) [2.86]	2 (25.00) [10.00]	8 (8.00)
4	2005	1 (25.00) [2.22]	0	3 (75.00) [15.00]	4 (4.00)
5	2006	0	2 (100.00) [5.71]	0	2 (2.00)
6	2007	0	1 (50.00) [2.86]	1 (50.00) [5.00]	2 (2.00)
Total		**45 (100.00)**	**35 (100.00)**	**20 (100.00)**	**100 (100.00)**

Source: Compiled from questionnaire data

Note: Figure parenthesis indicates percentage

Chi-square Value	16.34
Table Value	18.31
D.F	10
P-Value	>0.05
Result	Not Significant

Large number of members have been associated with microfinance institutions between 2002-2007 (Tenth Five Years Plan) 43 per cent of the respondents joined in the year 2002 and followed by year 2003 with 41 per cent. In 2004 microfinance institutions in Andhra Pradesh face some problem with operation and resulted in low response to join MFIs.

Table 2 shows the chi – square value relating to the distribution of year-wise profile of the respondents among the regions of A.P. There is no significant difference since the obtained Chi – square value 16.34 is less than its critical value of 18.31 at 5% level of significance. Hence, Hypothesis –II is accepted and concluded that there is no significant difference in Year-wise joining of the respondents among the regions of Andhra Pradesh.

TABLE 3: ANOVA: ONE-FACTO ANALYSIS

SUMMARY	Count	Sum	Average	Variance	SD
2002	3	43	14.33	54.33	7.37
2003	3	41	13.67	30.33	5.51
2004	3	8	2.67	4.33	2.08
2005	3	4	1.33	2.33	1.53
2006	3	2	0.67	1.33	1.15
2007	3	2	0.67	0.33	0.58

Telangana	6	45	7.50	89.90	9.48
Andhra	6	35	5.83	57.37	7.57
Rayalaseema	6	20	3.33	9.47	3.08

Source of Variation	SS	df	MS	F	P-value	F crit
Year	650.44	5	130.09	9.76	<0.001	3.33
Error	133.22	12	13.32			
Total	783.66	17				

Table 3 shows the ANOVA F-observed and critical value, d.f and the distribution of year of joining in microfinance profile of the respondents among the regions of A.P. There is significant difference as the obtained F-value value of 9.76 is more than its critical value of 3.33 at 1% level of significance. Hence, Hypothesis –II is rejected and concluded that there is significant difference in year of joining in microfinance profile of the respondents among the regions of Andhra Pradesh.

3. SIZE OF THE MEMBERSHIP

The relevant data is presented in the table 4 and Null hypothesis –III (H_0) is formulated and results pertaining to it are presented in the table. H_0: "There is no significant difference in year of size of the membership profile of microfinance respondents in Telangana, Andhra and Rayalaseema regions of A.P."

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TABLE- 4: DISTRIBUTION OF SAMPLE MICROFINANCE RESPONDENTS ACCORDING TO SIZE OF MEMBERSHIP

Sl. No	Total member	Telangana	Andhra	Rayalaseema	Row Total
1	<10	6 (60.00) [13.33]	3 (30.00) [8.57]	1 (10.00) [5.00]	10 (10.00)
2	10-15	36 (46.15) [80.00]	27 (34.61) [77.14]	15 (19.24) [75.00]	78 (78.00)
3	16-20	3 (27.28) [6.67]	4 (36.36) [11.42]	4 (36.36) [20.00]	11 (11.00)
4	>20	0	1 (100.00) [2.85]	0	1 (1.00)
Column Total		45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Source: Compiled from questionnaire data

Note: Figure parenthesis indicates percentage

Chi-square Value	5.225
Table Value	12.59
D.F	6
P-Value	>0.05
Result	Not Significant

Accordingly in this study it is analysed as to find out what is the range of members in the sample respondents. It is observed that in the table   that the members range from 11-15 members is the maximum in group size 11-15 followed by 15-20. It is only one in above 20 is found.

Table 4 shows the chi–square value of the distribution of size of the membership profile of the respondents among the regions of A.P. There is no significance since the obtained Chi–square value 5.225 is less than, critical value of 12.59 at 5% level of significance. Hence, Hypothesis–III is accepted and it can be concluded that there is no significant difference in size of the membership profile of the respondents among the regions of A.P

TABLE 5: ANOVA: ONE-FACTOR ANALYSIS

SUMMARY	Count	Sum	Average	Variance	SD
<10	3	10	3.33	6.33	2.52
10-15	3	78	26.00	111.00	10.54
16-20	3	11	3.67	0.33	0.58
>20	3	1	0.33	0.33	0.58

Telangana	4	45	11.25	278.25	16.68
Andhra	4	35	8.75	149.58	12.23
Rayalaseema	4	20	5.00	47.33	6.88

Source of Variation	SS	df	MS	F	P-value	F crit
Rows	1268.67	3	422.89	16.18	<0.001	4.76
Error	156.83	8	26.14			
Total	1425.50	11				

Table 5 reveal the ANOVA F-observed and critical value, d.f and the distribution of the size of the membership in group profile of the respondents among the regions of A.P. There is significant difference as the calculated F-value value of 16.18 is more than its critical value 4.76 at 1% level of significance Hence, Hypothesis –III is rejected and concluded that there is significant difference in the size of the membership in group profile of the respondents among the regions of Andhra Pradesh.

4. SIZE OF THE GROUP

The relevant data is presented in the table 6 and Null hypothesis –IV (H_0) is formulated and results pertaining to it are presented in the table

H_0: "There is no significant difference in size of the group year of their joining profile of microfinance respondents in Telangana, Andhra and Rayalaseema regions of A.P."

TABLE- 6: GROUP SIZE OF PROFILE OF THE RESPONDENTS

Sl.No	Group size	Telangana	Andhra	Rayalaseema	Total
1	Stable	35 (47.95) [77.78]	26 (35.62) [74.28]	12 (16.38) [60.00]	73 (73.00)
2	Increasing	9 (40.91) [20.00]	9 (40.91) [25.71]	4 (18.18) [20.00]	22 (22.00)
3	Decreasing	1 (20.00) [2.22]	0	4 (80.00) [20.00]	5 (5.00)
Total		45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Note: Figure parenthesis indicates percentage

Chi-square Value	12.394
Table Value	9.488
D.F	4
P-Value	<0.05
Result	Significant

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Table shows the chi – square and p-value and figure 4 and showing the Group size profile of the respondents among the regions of A.P. There is significance since p-value < 0.05 Hence, Hypothesis – XII is rejected. As the obtained Chi – square value 12.394, more than critical value 9.488 which is significant since p-value is <0.05. It can be concluded that there is significant difference in Group size profile of the respondents among the regions of Andhra Pradesh

TABLE 7: ANOVA: ONE-FACTOR ANALYSIS

SUMMARY	Count	Sum	Average	Variance	SD
Stable	3	73	24.33	134.33	11.59
Increasing	3	22	7.33	8.33	2.89
Decreasing	3	5	1.67	4.33	2.08
Telangana	3	45	15.00	316.00	17.78
Andhra	3	35	11.67	174.33	13.20
Rayalaseema	3	20	6.67	21.33	4.62

Source of Variation	SS	df	MS	F	P-value	F crit
Group size	834.89	2	417.44	8.86	<0.05	6.94
Error	188.44	4	47.11			
Total	1128.89	8				

The chi – square test has been applied to know the differences in the of Group size profile of the respondents among the regions of A.P. There is significant difference since the obtained F-value 8.86 is greater than the critical value 6.94 at 5% level of significance. Hence, the null Hypothesis (II) is rejected and it can be concluded that there is significant difference in education profile of the respondents among Telangana, Andhra and Rayalaseema of A.P

5. POSITION HELD IN MICROFINANCE GROUP
The relevant data is presented in the table 8 and 9 and Null hypothesis–IV (H$_0$) is formulated and results pertaining to it are presented in the table
H$_0$: "There is no significant difference in position held by respondent in microfinance group among the regions of A.P."

TABLE- 8: DISTRIBUTION OF SAMPLE MICROFINANCE RESPONDENTS ACCORDING POSITION HELD BY THEM

Sl. No	Your position	Telangana	Andhra	Rayalaseema	Total
1	Ordinary member	18 (45.00) [40.00]	11 (27.50) [31.43]	11 (27.50) [55.00]	40 (40.00)
2	Active Member	21 (51.22) [46.67]	14 (34.14) [40.00]	6 (14.63) [30.00]	41 (41.00)
3	Cashier/Secretary	4 (30.77) [8.89]	8 (61.53) [22.86]	1 (7.70) [5.00]	13 (13.00)
4	President	2 (33.33) [4.44]	2 (33.33) [5.71]	2 (33.33) [10.00]	6 (6.00)
Total		45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Source: Compiled from questionnaire data

Note: Figure parenthesis indicates percentage

Chi-square Value	27.624
Table Value	12.59
D.F	6
P-Value	<0.05
Result	Significant

The Table explain the position held by the respondents at present given. It is observed in the table that more than 41 per cent of respondents were active members and followed by ordinary member with 40 per cent and 13 per cent facilitated by cashier/secretary and 6 per cent of respondents continue as the presidents and other important position in groups. Socio-economic characteristics of leadership of respondents are tabulated at the table 6 per cent proportion of president from SC /ST community is slightly less than their membership in the sample group and that of OBC/FC is higher.
Table 8 shows the chi-squre and p-value and figure 5 showing the position held wise distribution of respondents among the regions of A.P. There is significance since p-value <0.05. Hence, Hypothesis – XIII is rejected. As the obtained Chi-Squire value 27.624, is more than its critical value of 12.59 which is significance since p-value is <0.05. Thus it can be concluded that there is significance difference in the position held by the respondents in all regions of A.P.

TABLE 9: ANOVA: ONE-FACTOR ANALYSIS

SUMMARY	Count	Sum	Average	Variance	SD
Ordinary member	3	40	13.33	16.33	4.04
Active Member	3	41	13.67	56.33	7.51
Cashier/Secretary	3	13	4.33	12.33	3.51
President	3	6	2.00	0.00	0.00
Telangana	4	45	11.25	92.92	9.64
Andhra	4	35	8.75	26.25	5.12
Rayalaseema	4	20	5.00	20.67	4.55

Source of Variation	SS	df	MS	F	P-value	F crit
Your position	328.67	3	109.56	7.24	<0.05	4.76
Error	90.83	8	15.14			
Total	419.50	11				

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Table the ANOVA F-observed and critical value, d.f and p-value and showing the distribution of your position profile of the respondents among the regions of Andhra Pradesh. There is significance since p-value <0.05 Hence, Hypothesis –XIII is rejected. As the obtained F-value value 7.24 critical value 4.76 and is significant since p- value is <0.05. It can be concluded that there is significant difference your position profile of the respondents among the Andhra Pradesh.

6. SATISFACTION TOWARDS OF MFI
The relevant data is presented in the table 10 and Null hypothesis – V (H₀) is formulated and results pertaining to it are presented in the table

H_0: "There is no significant difference in distribution of respondent satisfaction towards MFI in Telangana, Andhra and Rayalaseema regions of A.P."

TABLE- 10: DISTRIBUTION OF SAMPLE RESPONDENT'S PERCEPTION TOWARDS MFI

Sl.No	Your feeling	Telangana	Andhra	Rayalaseema	Total
1	Satisfied	14 (40.00) [31.11]	15 (42.85) [42.85]	6 (17.14) [30.00]	35 (35.00)
2	Burdened	31 (47.69) [68.89]	20 (30.76) [57.14]	14 (21.54) [70.00]	65 (65.00)
	Total	45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Source: Compiled from questionnaire data

Note: Figure parenthesis indicates percentage

Chi-square Value	1.469
Table Value	5.991
D.F	2
P-Value	>0.05
Result	Not Significant

The satisfaction of respondents with family members has been reported to be quite high. Most of them were found not satisfied with the family members, while a significant proportion was reported to be burdened.

Table 10 shows the chi-squre and p-value and figure 6 showing distribution of respondents' satisfaction towards MFI among the regions of A.P. There is no significance since p-value <0.05. Hence, Hypothesis – XIII is accepted. As the obtained Chi-Squire value 1.469, is more than its critical value of 5.991 which is not significant since p-value is <0.05. Thus it can be concluded that there is no significant difference in the position held by the respondents in all regions of A.P.

7. FREQUENCY OF MEETING
The efficient functioning of microfinance is possible through meeting as overall activities of microfinance revolve round the meeting. Meetings held regularly in the groups in still discipline in the group members. All the affairs of the groups are supposed to be carried out in the meetings, which ensure transparency in dealings. Mandatory attendance in the meetings ensures participation in the group and in stills belongingness. The microfinance institutions decides on the regularity of meetings- weekly, fortnightly, monthly, etc.,

The relevant data is presented in the table 11 &12 and Null hypothesis – V (H₀) is formulated and results pertaining to it are presented in the table

H_0: "There is no significant difference in frequency of meeting-wise distribution of microfinance respondents in Telangana, Andhra and Rayalaseema regions of A.P."

TABLE- 11: SAMPLE RESPONDENTS PERCEPTION ON FREQUENCY OF MICROFINANCE MEETINGS

Sl. No	Frequency of meeting	Telangana	Andhra	Rayalaseema	Total
1	Weekly	18 (43.90) [40.00]	14 (34.15) [40.00]	9 (21.95) [45.00]	41 (41.00)
2	Fortnightly	16 (43.24) [35.56]	15 (40.54) [42.86]	6 (16.22) (30.00]	37 (37.00)
3	Monthly	11 (50.00) [24.44]	6 (27.27) [17.14]	5 (22.73) [25.00]	22 (22.00)
	Total	45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Source: Compiled from questionnaire data

Note: Figure parenthesis indicates percentage

Chi-square Value	9.687
Table Value	9.488
D.F	4
P-Value	<0.05
Result	Significant

The frequency of periodical meeting may varies from group to group. It is observed in this study table that majority of the group conduct meeting weekly with 41 per cent followed by fortnightly meeting with 37 per cent only 22 per cent of them were holding meeting by monthly. The more frequency of the meeting more interaction among the members and more would be the intervention in community and social affairs. It would also facilitate the members to save in small amount when it is held weekly meeting in lower scale may be suggestive for sustainability. It is obligatory for every member who joins the respondents. In the event of the obscene, prior permission needs to seek or it may have to be informal to the concerned. It may member remains absent and if it is repeated penalty may be imposed in money terms, Hence, it is necessary that the members take utmost care in informing or get permission of their absence on emergency reasons or be entertained continuously. Hence for the absence, some action will be taken and they are furnished. The action taken includes imposing fines, warning and excusing. If the reasons, is genuine. It will be excused and if it is repeated they will be penalized monetarily and fine amount would be added to the group welfare fund.

TABLE 12: ANOVA: ONE – FACTOR ANALYSIS

SUMMARY	Count	Sum	Average	Variance	SD
Weekly	3	41	13.67	20.33	4.51
Fortnightly	3	37	12.33	30.33	5.51
Monthly	3	22	7.33	10.33	3.21

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Telangana	3	45	15.00	13.00	3.61
Andhra	3	35	11.67	24.33	4.93
Rayalaseema	3	20	6.67	4.33	2.08

Source of Variation	SS	df	MS	F	P-value	F crit
Frequency of meeting	66.89	2	33.44	8.14	<0.05	6.94
Error	16.44	6	4.11			
Total	83.33	8				

Table shows the ANOVA F-observed and critical value, d.f and p-value and showing the distribution of frequency of meeting profile of the respondents among the regions of Andhra Pradesh. There is significance since p-value <0.05 Hence, Hypothesis –V is rejected. As the obtained F-value value 8.14, more than the corresponding critical value of 6.94 which is significant since p- value is <0.05. It can be concluded that there is significant difference perception of respondent on frequency of meeting in all regions of Andhra Pradesh.

8. PARTICIPATION IN MEETING

The relevant data is presented in the table 13 and Null hypothesis – VI (H_0) is formulated and results pertaining to it are presented in the table. H_0: "There is no significant difference in participating in meeting by microfinance respondents in all the regions of A.P."

TABLE-13: DISTRIBUTION OF MFI RESPONDENTS' PARTICIPATION IN GROUP MEETING

Sl.No	No. of Members Participating	Telangana	Andhra	Rayalaseema	Total
1	All Members	23 (45.09) [51.11]	21 (41.17) [60.00]	7 (13.75) [35.00]	51 (51.00)
2	Some members	22 (44.89) [48.89]	14 (28.57) [40.00]	13 (26.53) [65.00]	49 (49.00)
Total		45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Source: Compiled from questionnaire data

Note: Figure parenthesis indicates percentage

Chi-square Value	3.183
Table Value	9.488
D.F	4
P-Value	>0.05
Result	Not Significant

Table shows the chi – square and p-value and figure 8 showing the distribution of respondent's participation in group meeting among the regions of Andhra Pradesh. There is no significance since p-value >0.05 Hence, Hypothesis – XVI is accepted. As the obtained Chi – square value 3.183, is less than its critical value 9.488 which is not significant since p- value is >0.05. It can be concluded that there is no significant difference in respondents' participation in group meeting among the regions of Andhra Pradesh

9. AUTHORITY TO CALL FOR MEETING:

The relevant data is presented in the table 14 and 15 and Null hypothesis-VII (H_0) is formulated and results pertaining to it are presented in the table

H_0: "There is no significant difference in the distribution of microfinance respondents' authority to call for meeting in Telangana, Andhra and Rayalaseema regions of A.P."

TABLE-14: DISTRIBUTION OF MFI RESPONDENTS AUTHORITY TO CALL FOR GROUP MEETING

Sl.No	Call the meeting	Telangana	Andhra	Rayalaseema	Total
1	Group members NGOs	30 (45.45) [66.67]	23 (34.84) [65.71]	13 (19.69) [65.00]	66 (66.00)
2	Project Staff	13 (50.00) [28.89]	7 (26.92) [20.00]	6 (23.08) [30.00]	26 (26.00)
3	Mixed staff	2 (25.00) [4.44]	5 (62.50) [8.57]	1 (12.50) [5.00]	8 (8.00)
Total		45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Source: Compiled from questionnaire data

Note: Figure parenthesis indicates percentage

Chi-square Value	3.423
Table Value	9.488
D.F	4
P-Value	>0.05
Result	Not significant

Table shows the chi – square and p-value and figure 9 showing the distribution of microfinance respondents' authority to call for group meeting all the regions of Andhra Pradesh. There is no significance since p-value > 0.05 Hence, Hypothesis – VII is accepted. As the obtained Chi–square value 3.423, less than its corresponding critical value 9.488 which is not significant since p- value is >0.05. It can be concluded that there is no significant difference in distribution of microfinance respondents' authority to call for group meeting in all the regions of Andhra Pradesh.

TABLE 15: ANOVA: ONE –FACTOR ANALYSIS

SUMMARY	Count	Sum	Average	Variance	SD
Group members NGOs	3	66	22	73	8.54
Project Staff	3	26	8.67	14.33	3.79
Mixed staff	3	8	2.67	4.33	2.08

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Telangana	3	45	15.00	199.00	14.11
Andhra	3	35	11.67	97.33	9.87
Rayalaseema	3	20	6.67	36.33	6.03

Source of Variation	SS	df	MS	F	P-value	F crit
Call for meeting	587.56	2	293.78	15.11	<0.01	6.94
Error	77.78	4	19.44			
Total	665.34	8				

Table shows the ANOVA F-observed and critical value, d.f and p-value and showing the distribution of microfinance respondents' authority to call for group meeting in all the regions of Andhra Pradesh. There is significance since p-value <0.01 Hence, Hypothesis –XVII is rejected. As the obtained F-value value 15.11, more than critical value 6.94 which is significant since p- value is <0.01. It can be concluded that there is significant difference in distribution of microfinance respondents' authority to call for group meeting in all the regions of Andhra Pradesh.

10. AUTHORITY ON FIXING DATE OF GROUP MEETING/ AGENDA
The relevant data is presented in the table 16 & 17 and Null hypothesis –VIII (H_0) is formulated and results pertaining to it are presented in the table
H_0: "There is no significant difference in MFI respondents' authority on fixing date of group meeting/ Agenda in Telangana, Andhra and Rayalaseema regions of A.P."

TABLE-16: DISTRIBUTION OF MFI RESPONDENTS' AUTHORITY ON FIXING DATE OF GROUP MEETING/ AGENDA

Sl. No	Decision of the meeting	Telangana	Andhra	Rayalaseema	Total
1	All members	9 (52.94) [20.00]	7 (41.17) [20.00]	1 (5.88) [5.00]	17 (17.00)
2	President only	14 (76.47) [31.11]	4 (23.53) [11.42]	0	18 (18.00)
3	Link worker jointly	4 (40.00) [8.89]	5 (50.00) [14.28]	1 (10.00) [5.00]	10 (10.00)
4	NGO facilitator	15 (30.00) [40.00]	18 (36.00) [51.42]	17 (34.00) [85.00]	52 (52.00)
5	Mixed	4 (66.67) [8.89]	1 (16.67) [2.85]	1 (16.67) [5.00]	7 (7.00)
	Total	45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Note: Figure parenthesis indicates percentage Source: Compiled from questionnaire data

Chi-square Value	18.597
Table Value	15.51
D.F	8
P-Value	<0.01
Result	Significant

Table 16 shows the chi – square and p-value and figure 4.10 showing the distribution of MFI respondents' authority on fixing date of group meeting/ Agenda in the regions of Andhra Pradesh. There is significance since p-value < 0.01Hence, Hypothesis –XVIII is rejected. As the obtained Chi – square value 18.597 more than its corresponding critical value 15.51 which is significant since p- value is <0.05. It can be concluded that there is significant difference in distribution of MFI respondents' authority on fixing date of group meeting/ Agenda in all the regions of Andhra Pradesh.

TABLE-17: ANOVA: ONE-FACTOR ANALYSIS

SUMMARY	Count	Sum	Average	Variance	SD
All members	3	17	5.67	17.33	4.16
President only	3	18	6.00	52.00	7.21
Link worker jointly	3	10	3.33	4.33	2.08
NGO facilitator	3	53	17.67	0.33	0.58
Mixed	3	6	2.00	3.00	1.73

Telangana	5	49	9.80	38.20	6.18
Andhra	5	35	7.00	42.50	6.52
Rayalaseema	5	20	4.00	53.00	7.28

Source of Variation	SS	df	MS	F	P-value	F crit
Decisions taken in the meeting	464.93	4	116.23	13.31	<0.001	3.84
Error	69.87	10	8.73			
Total	534.80	14				

Table 17 shows the ANOVA F-observed and critical value, d.f and p-value and showing the distribution of MFI respondents' authority on fixing date of group meeting/ Agenda in all the regions of Andhra Pradesh. There is significance since p-value <0.001 Hence, Hypothesis –XVIII is rejected. As the obtained F-value value 13.31, is more than corresponding critical value 3.84 which is significant since p- value is <0.001. It can be concluded that there is significant difference in distribution of MFI respondents' authority on fixing date of group meeting/ Agenda in all the regions of Andhra Pradesh.

11. REGULATIONS IN MEETING
The relevant data is presented in the table 18 and 19 and Null hypothesis –IX (H_0) is formulated and results pertaining to it are presented in the table. H_0: "There is no significant difference in the distribution of MFI respondents' authority of taking resolutions in group meeting in Telangana, Andhra and Rayalaseema regions of A.P."

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TABLE-18: DISTRIBUTION OF MFI RESPONDENT'S AUTHORITY OF TAKING RESOLUTIONS IN GROUP MEETING

Sl. No	Decides of the meeting	Telangana	Andhra	Rayalaseema	Total
1	By consensus	8 (53.33) [17.78]	6 (40.00) [17.14]	1 (6.67) [5.00]	15 (15.00)
2	By voting	3 (75.00) [6.67]	1 (25.00) [2.85]	0	4 (4.00)
3	Groups representative	18 (38.30) [40.00]	16 (34.04) [45.71]	13 (27.60) [65.00]	47 (47.00)
4	Link worker/Facilitator In consultation with member	13 (44.82) [28.89]	10 (34.48) [28.57]	6 (20.70) [30.00]	29 (29.00)
5	Link worker/Facilitator	3 (60.00) [6.67]	2 (40.00) [5.71]	0	5 (5.00)
	Total	45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Source: Compiled from questionnaire data

Note: Figure parenthesis indicates percentage

Chi-square Value	6.541
Table Value	15.51
D.F	8
P-Value	>0.05
Result	Not Significant

Major decision are taken by group representative 47 per cent and 29 per cent respondents decision taken by facilitator with consultation with members. Decision been taken on consensus basis by the group member 15 per cent.

Table 18 shows the chi–square and p-value and figure 11 showing the distribution of MFI respondent's authority of taking resolutions in group meeting in all the regions of Andhra Pradesh. There is no significance since p-value >0.05 Hence, Hypothesis –IX is accepted. As the obtained Chi – square value 6.541, less than critical value 15.51 which is not significant since p- value is >0.05. It can be concluded that there is no significant difference in distribution of MFI respondent's authority of taking resolutions in group meeting in all regions of Andhra Pradesh

TABLE 19: ANOVA: ONE –FACTOR ANALYSIS

SUMMARY	Count	Sum	Average	Variance	SD
By consensus	3	15	5	13	3.61
By voting	3	4	1.33	2.33	1.53
Groups representative	3	47	15.67	6.33	2.52
Link worker/Facilitator In consultation with member	3	29	9.67	12.33	3.51
Link worker/Facilitator	3	5	1.67	2.33	1.53
Telangana	5	45	9.00	42.50	6.52
Andhra	5	35	7.00	38.00	6.16
Rayalaseema	5	20	4.00	31.50	5.61

Source of Variation	SS	df	MS	F	P-value	F crit
Decisions taken	438.67	4	109.67	94.00	<0.0001	3.84
Error	9.33	10	1.17			
Total	448.00	14				

Table 19 shows the ANOVA F-observed and critical value, d.f and p-value and showing the distribution of MFI respondents authority of taking resolutions in group meeting in the all regions of Andhra Pradesh. There is significance since p-value <0.01 Hence, Hypothesis –XI is rejected. As the obtained F-value 94.00, more than critical value 3.84 which is significant since p- value is <0.0001. It can be concluded that there is significant difference in distribution of MFI respondents' authority of taking resolutions in group meeting in the all regions of Andhra Pradesh.
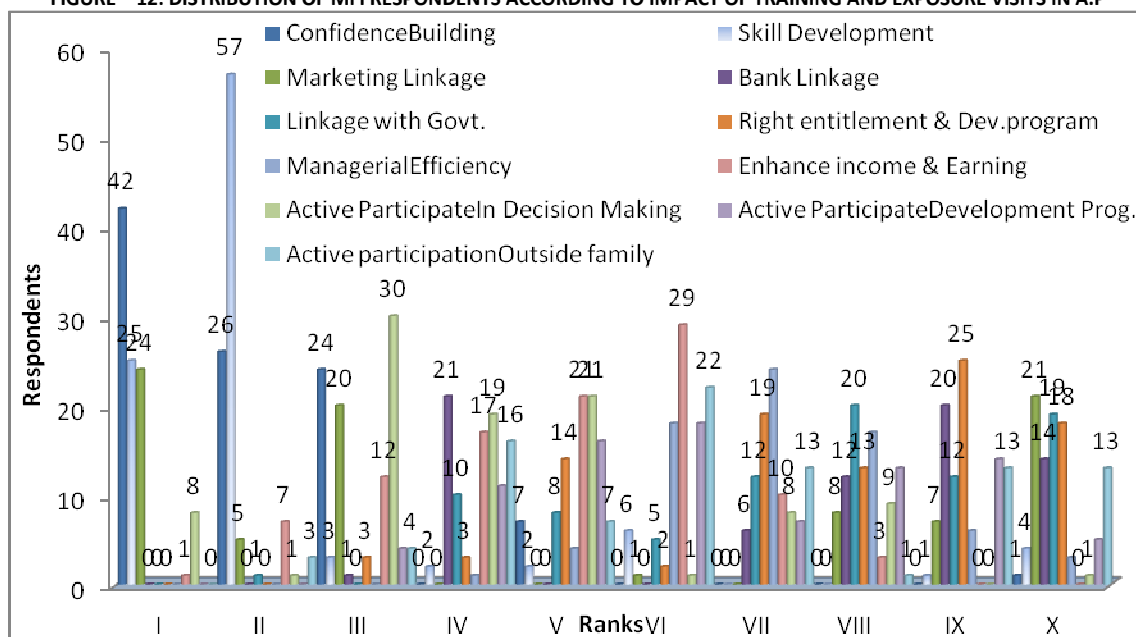
12. IMPACT OF TRAINING

There was a unanimous demand form group member in all villages that skill development training was required for undertaking any income generating activity and they felt that microfinance loan alone would not help in improving the livelihood. As the table shows that there is massive needs for confidence building in different income generating activities while many microfinance institutions has not wherewithal to provide training, the government also not given adequate attention to provide training. The microfinance stakeholder have also facilitated by various agencies to undergo several training particularly confidence buildings, skill development, marketing activity, managerial efficiency, particularly in development programme etc., An enquiry in to the motivational agencies to participate in various training was made and observed that nearly half of them have been motivated. Microfinance stakeholder who have not only become member but also under took several training to uplift their status and engage in some kind of activities.

TABLE – 20: DISTRIBUTION OF MFI RESPONDENTS ACCORDING TO IMPACT OF TRAINING AND EXPOSURE VISITS IN A.P

Ranks	I	II	III	IV	V	VI	VII	VIII	IX	X
Confidence Building	42	26	24	0	7	0	0	0	0	1
Skill Development	25	57	3	2	2	6	0	0	1	4
Marketing Linkage	24	5	20	0	0	1	0	8	7	21
Bank Linkage	0	0	1	21	0	0	6	12	20	14
Linkage with Govt.	0	1	0	10	8	5	12	20	12	19
Right entitlement &Dev. program	0	0	3	3	14	2	19	13	25	18
Managerial Efficiency	0	0	0	1	4	18	24	17	6	3
Enhance income & Earning	1	7	12	17	21	29	10	3	0	0
Active Participate In Decision Making	8	1	30	19	21	1	8	9	0	1
Active Participate Dev.Prog.	0	0	4	11	16	18	7	13	14	5
Active participation Outside family	0	3	4	16	7	22	13	1	13	13

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FIGURE – 12: DISTRIBUTION OF MFI RESPONDENTS ACCORDING TO IMPACT OF TRAINING AND EXPOSURE VISITS IN A.P

From the table it is clear that only in ten areas i.e. confidence building, skill development, marketing linkage, linkage with government, right entitlement & development program, managerial efficiency, enhance income earning, active participation in decision making etc., confidence building with 57 per cent of respondents had given 1st preference followed by 42 per cent respondent with skill development. It was revealed that 29 per cent with 3rd preference of enhance income earning followed by active participation in decision making.

Through in quantitative terms it appear that microfinance institutions provided a reasonable training and other input to the groups, actually the extent of training provided and its outreach is quite inadequate. According to the information gather from them duration of most of training are less than a day, in majority cases only leaders participated and there is not much dissemination.

In order to facilitate the confidence building and improve the credit absorption capacity of the microfinance, the capacity of its members has to be built up. The purpose of training and other capacity building efforts is to develop skills and encourage behavioural and altitudinal changes in the members. Group members would have to be trained with at the formal, as well as informal levels. It is the responsibility of the microfinance institutions, promoter, institutions and the facilitator to ensure that the trainings take place, as and when required. The purpose of training is to help rural poor to improve their performance, and improve their skill which might be achieved by helping them to solve performance problems. A training need is said to exist when a gap between the required performances of an individual member or group and a desired level of competency is perceived. Training mode can then be described as a set of specific skills, knowledge, and attitudes, which are needed by individuals/ groups in order to perform a particular job or task more efficiently. Training is best provided by experienced trainers or persons familiar with microfinance. The trainer has to motivate the members to learn and provide them with learning opportunities. The main task is to facilitate the development of the group's capacity to organize and manage its activities. The trainer may also act as advisor or promoter to the group. The trainer may leave the decision making to the group members and promote attitudes of self-help and reliance. The trainers need to be good communicators and be familiar with basic technological skills needed for the development of microfinance. They need to have a sound knowledge base of management, planning, accounting, lending etc., and other skills needed for the microfinance. One of the objectives of microfinance is to inculcate the democratic Principles of functioning among the members. It is expected that all members would take part in the decisions and actions of the group. The training to microfinance members requires participatory methods and focused goals.

SUMMARY OF FINDINGS AND CONCLUSION

The major findings and discusses the issues of micro financing and brings conclusion. The objectives and goals of micro financing are to bring economic and social empowerment among rural poor, ensure financial sustainability, and provide skill development so that it would sustain with an economic activity. This present study attempted to analyses whether the micro financing have brought any change in the lives of rural poor. Great debates are on as to whether, forming groups, making women as members, providing credit and imparting some business skills would change the social equations in the society. The proponents argue that providing credit to rural poor can prove to be a suitable mechanism in enhancing Poor's socioeconomic conditions and thereby altering the relations between gender and class. On the other hand, critics argue that provision of credit may lead to marginal increase in income and assets which may enhance the wellbeing and economic security, but the increase may be too little to affect pervasively entrenched political and economic relations.

CONCLUSION AND SUGGESTIONS

FACTORS INFLUENCE

In majority of the cases (50 per cent), it is the MFI field worker that has influenced the members by explaining the loan products especially the availability of a large loan amount. More than half of the enrolments were a result of influence from the member and the other household members to take the decision to join MFIs. In 15 per cent of the cases, friends and relatives influenced the decision. Interestingly, in 12 per cent of the cases, SHG members encouraged membership in MFIs.

YEAR OF JOINING

Large number of members have been associated with microfinance institutions between 2002-2007 (Tenth Five Years Plan). 61 per cent of the respondents joined in the year 2002 and followed by year 2003. after 2004 microfinance institutions in Andhra Pradesh face some problem with operation this cause member take microfinance activity.

SIZE OF THE MEMBERSHIP

Accordingly in this study it is analysed to find out what is the range of members in each group among the sample respondents. It is observed from the data that the members range from 11-15 in each group. In majority of cases group the size 11-15, followed by 15-20. It is only one in above 20 is found.

PARTICIPATION IN GROUP MEETINGS

More than half of the respondents accepted that all member of the groups participate in meetings (54 per cent) and the remaining respondents revealed that only some members participate in group meeting. In Telangana and Andhra regions majority of respondents revealed that all the members of the groups participate in meetings (51 per cent). However, respondents belonging to Rayalaseema revealed that about 65 per cent of them participate in meeting with some members only.

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POSITION IN MFI GROUP

The position held by the respondents at present given. It is observed that more than 41 per cent of respondents were active members and followed by ordinary member with 40 per cent and 13 per cent facilitated by cashier/secretary and 6 per cent of respondents continue as the presidents and other important position in groups. Socio-economic characteristics of leadership of respondents are tabulated at the table 6 per cent proportion of president from SC /ST community is slightly less than their membership in the sample group and that of OBC/FC is higher.

SATISFACTION

The satisfaction of respondents with family members has been reported to be quite high. Most of them were found not satisfied with the family members, while a significant proportion was reported to be burdened

FREQUENCY OF MEETING

The frequency of periodical meeting may varies from group to group. It is observed in this study that majority of the group conduct meeting weekly with 41 per cent followed by fortnightly meeting with 37 per cent only 22 per cent of them were holding meeting by monthly. The more frequency of the meeting more interaction among the members and more would be the intervention in community and social affairs. It would also facilitate the members to save in small amount when it is held weekly meeting in lower scale may be suggestive for sustainability.

PARTICIPATION

The respondents were further asked about their participation in the decisions of the meetings. The majority of the respondents i.e. 53 per cent reported that all members participate in the decisions of the group meetings. Importantly, in the decision making process, NGO's facilitators also participate to enable the group members in choosing the best alternative

DECISION MAKING

Major decision are taken by group representative 47 per cent and 29 per cent respondents decision taken by facilitator with consultation with members. Decision been taken on consensus basis by the group member 15 per cent.

RESOLUTIONS

Importantly, decisions in the group meetings are taken on the basis of consensus emerged (65 per cent). However, link workers or NGO's facilitators also take decisions in consultation with group members (29per cent. It is positive trend that definitely a decision of the group meetings is being taken in the consultation with link-workers/ facilitators.

IMPACT OF TRAINING

It is clear that only in ten areas i.e. confidence building, skill development, marketing linkage, linkage with government, right entitlement & development program, managerial efficiency, enhance income earning, active participation in decision making etc., confidence building with 42 per cent of respondents had given 1st preference followed by 57 per cent respondent with skill development. It was revealed that 29 per cent with 3rd preference of enhance income earning followed by active participation in decision making.

Though in quantitative terms it appear that microfinance institutions provided a reasonable training and other input to the groups, actually the extent of training provided and its outreach is quite inadequate. According to the information gathered from them the duration of most of training programmes are less than a day and in majority cases only leaders participated and there is not much dissemination.

In order to facilitate the confidence building and improve the credit absorption capacity of the microfinance, the capacity of its members has to be built up. The purpose of training and other capacity building efforts is to develop skills and encourage behavioural and altitudinal changes in the members. Group members would have to be trained with at the formal, as well as informal levels.

SUGGESTIONS

Some important parameters for betterment of the working of microfinance institutions.

Minimal or zero balance saving bank accounts should be initiated for all the poor individual and not only for the MFI/SHGs. The government can play a major role in this. This step would not only create a safe window for them but also help them to multiply their money.

All in all the government should keep an eye on the MFIs and facilitate their working through making a structured regulatory framework for NGOs/SHGs and other microfinance institutions.

Government can consider bringing down the stipulation of equity requirement for MFIs so that there is not much pressure to earn more to satisfy private investors. Lending banks may also be made to accept such norms

Government can waive income tax at least 10 to 15 years so that the MFI will not have the pressure of making will the outgoing and such policy will also help improve the sustainability of MFIs through better internal accruals. Government can consider fixing low interest rates on lending by the banks to MFIs both as the primary sector / weaker section and special interest subvention so that the MFIs can balance their high cost of operation and lend to the poor clients at reasonable rate of interest.

Special recovery process and customer grievance redressal measures may be introduced so as minimize the hardships faced by the poor.

The market-driven business model will have to be replaced with legitimate, more sustainable model with social objectives.

A strong and effective regulation of the sector is therefore imperative to put an end to undesirable practices and put the sector on the path of providing inclusive growth.

Emphasis should be given to SHGs formation and group lending rather than individual lending

There is a need to have proper regulating authority at each level saving, depositing, lending of money, which will help in long term sustainability of the sector and in avoiding any misuse of money.

There is need to evolve new products by the banks commensurate with the requirements of women

Strong marketing network is essential for effective and proper marketing of product and services of micro enterprises linked SHGs. They need marketing support and institutional capacity to handle marketing activities independently.

As women are an important part of the community, building their capability to manage communities and community project should be enhanced. Education is a good channel for women empowerment and poverty.

It is suggested to increase the ceiling limit of the loan to Rs 25,000. The interest rate on the loan amount should be brought down to minimum extent.

The members of all the self-help groups need to undergo training programmes related to accounting, motivation etc. It helps them in better understanding of need of relation between micro financing and members for smooth functioning.

It is recommended that all sanctioning and disbursement of loans should be done only at a central location and more than one individual should be involved in this function. In addition, there should be close supervision of the disbursement function.

It is recommend that there should be a "margin cap" of 10 per cent in respect of MFIs which have an outstanding loan portfolio at the beginning of the year of 100 crores and a "margin cap" of 12 per cent in respect of MFIs which have an outstanding loan portfolio at the beginning of the year of an amount not exceeding 100 crores. There should also be a cap of 24 per cent on individual loans.

It is recommended that the responsibility to ensure that coercive methods of recovery are not used should rest with the MFIs and they and their managements should be subject to severe penalties if such methods are used. The regulator should monitor whether MFIs have a proper Code of Conduct and proper systems for recruitment, training and supervision of field staff to ensure the prevention of coercive methods of recovery. Field staff should not be allowed to make recovery at the place of residence or work of the borrower and all recoveries should only be made at the Group level at a central place to be designated

It is recommend that the government should take initiative for publishing a Client Protection Code for MFIs and mandate its acceptance and observance by MFIs.

It is there must be a minimum period of moratorium between the grant of the loan and the commencement of its repayment.

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It is recovery of loan given in violation of the regulations should be deferred till all prior existing loans are fully repaid.

Government should promote microfinance systems only when they are linked to social mobilization and community empowerment.

Discriminations by the offical shall be stoped.

Politicall interference seems to be block for effective functioning regular training programs shall be conducted. MFI are not political pressue to manitor and write off loans provide lover against unexpected losses.

Working MFI should be made transparent will proper legistations.

Monitoring on utilization of loan for income generat achiving. Suffient information about theincome generating projects, Incentives for clients and Recovery exemption in guanine cases especially in death, illheath.

MFI help more people become economically self sufficeint Confidence building social awarness of the people, increased literacy and education.

Groups' members usually create a common fund by contributing their small savings on a regular basis; a group manages pooled resources in a democratic way; considers loan requests; and loans are disbursed by purposes. The rates of interest vary from group to group higher than that of banks but lower than that of moneylenders.

The innovative forms of financing is imperative to supplement credit strategies for meeting the needs of the poor by combining the flexibility, sensitivity and responsiveness of the informal credit system with the technical and administrative capabilities and financial resources of formal financial institutions and also to build material trust and confidence between bankers and the rural poor and to encourage banking in a segment of population that formal financial institutions usually find difficult to reach.

The groups develop their own management system and accountability for handling the resources generated. The interaction among the members based on participatory mechanism in terms of decision-making.

MFI's can create a unique, alternative need based credit delivery mechanism by pooling their meager resources for catering to their consumption and production requirements.

There is need to accept that rural poor needs are not only for self-employment. The Programs should be designed on the basis of the needs of rural poor at the micro level. Planning for self-employment for rural poor needs a multipronged strategy.

The various categories for financial institutions in rural market have exhibited different potentials in serving rural poor. There is need to synchronize their efforts so that their work becomes supplementary and complementary in serving rural poor.

Microfinance through has reached the un-reached rural poor. There is need to evolve an informal micro financing through formal financial institutions. The massive growth of microfinance has paved the way for immediate financial accessibility for the poor who are too far away from this accessibility and microfinance. Microfinance is an alternative system of credit delivery for the poorest of the poor. It would help in improving the quality of life in rural India. The government of India can play vital role in encouraging. MFI should come forward and extend facilities especially in empowering rural poor by providing education (training), motivation, and financial help and so on. MFI bring unity and integrity among the members. It improves general welfare of family and community. MFI assist the rural poor to perform traditional roles better and to take up micro entrepreneurship.

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