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**FACULTY OF MANAGEMENT STUDIES (FMS)**  
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## IN FAVOUR OF ETHICS IN BUSINESS: THE LINKAGE BETWEEN ETHICAL BEHAVIOUR AND PERFORMANCE

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### ABSTRACT

*Increasing numbers of large corporations find themselves caught between two seemingly contradictory goals: satisfying the investor's expectations for progressive earnings growth and the consumer's growing demand for ethical conduct. The present paper is a tool kit for business organizations who want to become ethically fit. The paper exhibits the dilemma faced by the corporate world regarding embracing ethics in business. It attempts to establish with the help of some empirical findings that on a broader canvas ethical conduct is contributory towards the bottom line growth. It also suggest that to evaluate the performance of a business the frame of reference has to be changed. It also offers tangible suggestions as to what business corporations ought to do in order to get ethically fit.*

### INTRODUCTION

The ethical perspective has been the part of human thought since ages. Questions about the ethical justification of human activity have occupied philosophers since time immemorial. Whether Ved Vyas, Buddha, Mahavir, Kabir, Lao-tse, Confucius, the writers of the gospels, or the Fathers of the Church like Augustine or Thomas of Aquinas: they all have discussed sustainable human existence and what is meant by good and bad human behaviour. Current sentiment against big business has given new weight to the cause. It is being seen as moving more and

more to the forefront of social thought. Since the mid-seventies and increasingly since the beginning of the nineties, every significant profession and every institution that thinks anything of itself has its "something ethics" to proclaim - environmental ethics, media ethics, research ethics, and even corporate ethics are the consequence. The first attempt to know the concern over the ethics of business executives was made by Baumart<sup>1</sup>. He enquired the readers of Harvard Business Review about their opinion on business ethics.

Recent scandals in corporate world has shook the world's conscience and a need is felt to make ethical conduct compulsive rather than adopting a persuasive approach.

"These high-profile acts of deception have shaken people's trust. Too many corporations seem disconnected from the values of our country. These scandals have hurt the reputation of many good and honest companies. They have hurt the stock market. And worst of all, they are hurting millions of people who depend on the integrity of businesses for their livelihood and their retirement, for their peace of mind and their financial well-being." (U.S. President George W. Bush, July 9, 2002).

According to U.S. Federal Reserve Chairman Alan Greenspan "infectious greed" had simply "gripped the business community." According to market and social trend analyst Daniel Yankelovich<sup>4</sup>, the public's widespread cynicism toward businesses today is the third wave of public mistrust about corporations in the past 90 years. The first, set off by the Great Depression, continued until World War II; the second, caused in part by economic stagflation and the Vietnam War, lasted from the early 1960s until the early 1980s. The current wave of disapproval began in 2001 with the bursting of the dot-com bubble, the ensuing bear market, and the financial scandals involving Enron, WorldCom, Tyco, and others. But this time, according to the survey, the response appears to be different. More and more companies are looking inward to see what has gone wrong and looking

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outward for answers.

India too has been rocked by corporate scandals like CRB, Unit Trust, Plantation companies, siphoning of money by NBFCs, Ketan Parekh etc.

### **ETHICS IN BUSINESS**

Ethics is a highly elusive, enigmatic, complex and sensitive concept (Singh, 2001). It is "A moral or ethical statement may assert that some particular action is right or wrong; or that some actions of certain kinds are so; it may offer a distinction between good and bad characters or dispositions; or it may propound some principle from which more detailed judgments of these sorts might be...." J L Mackie (Mackie, 1997). S.K. Chakarbory (Chakarbory, 2002) prefers 'ethics in business' to 'business ethics'. He believes that 'Business ethics' sends out the message that business is first and ethics is a secondary rider. This mitigates against the genuineness of spirit. 'Ethics in business' conveys a sense of priority. Ethics is first. According to Lamb et al (Lamb et al, 2004), ethics refers to the 'moral principles or values that generally govern the conduct of an individual or a group'.

Ethical choices are unavoidable. The three basic areas of managerial decision-making are: choices about the law – what it should be and whether or not to obey it; choices about economic and social issues beyond the domain of the law – usually called 'grey areas' or 'people values'; and choices between self-interest and the interests of the company/it stakeholders (Nash, 1993). Regarding law Pfizer CFO David Shedlarz (Couto et al, 2005) says "It is critically important to do right. It is not adequate to meet the letter of the law — the spirit and the intent are what have to be kept keenly in mind." Choices are simple, either self-regulate or let the laws take over. As is clear by recent developments, due to unethical practices of the corporations the governments in both India and US have come out with stringent rules and regulations.

### **CORPORATE DILEMMA**

Milton Friedman (Friedman, 1970) once famously said that 'the business of business is business.' A business is a commercial enterprise which exists, in a capitalist society, in order to make a return on capital invested in it. It needs, therefore, to make a profit on the bottom line if it is to survive as the kind of thing its creators intended it to be. It is this point which leads some to insist that profit is the only value that a business ought to pursue and that to insist that it pursue others is, at the least, to jeopardize its chances of realizing that basic value and, at the worst,

to distort its nature and unjustly subvert its owners' intentions and purposes (Friedman et al, 1970, 1962, 1990).

Although many companies now spend significant sums of money to comply with their own codes of ethical conduct, most view these expenditures only as an essential cost of doing business, not as an investment that will provide a return (Cogman & Oppenheim, 2002).

Many believe that a corporation cannot simultaneously have high principles and high profits. In fact, there is an increasingly common view that many corporations are ethically irresponsible, pursuing their profits unscrupulously at the cost of the environment and the safety and health of consumers. Theodore Levitt (Levitt, 1958) argued that business should never indulge in altruism unless it makes economic sense. Charity or self denial and similar values are important in certain walks of life but these virtues are irrelevant to business. This is the rule of capitalism, i.e. something is good only if it pays.

The basic question is can ethics and business co-exist in a sustainable way? Now, economic performance alone is no longer enough to give businesses legitimacy. Non-economic demands, e.g. the sustainable fulfillment of social and environmental responsibility in industrialized and developing countries, have been increasing their significance for legitimation for many years.

So have the rules of the games changed? Are the ends no longer capturing market share, increase in revenue, increase in shareholder's wealth? Or the discussion is regarding the ethicality of means employed to achieve the same? So do maxims like ends justify the means no longer exist? Teleological ethics theories maintain that good ends and/or results determine the ethical values of actions. Or it will be purity of means that will justify the quality of ends? Deontological ethics theories hold that fulfilling obligations, responsibly following proper procedures, doing the right thing and adhering to moral standards determine the ethical value of an action.

Unless one convince business sector that inculcating ethics in their functions will offer better outcome in terms of bottom line or could suggest a altogether different frame of reference that broadens the canvas, all the tenets about ethics will stay at the best to papers and training halls.

### **A CASE FOR BUSINESS ETHICS**

There is a literature of business-ethics

guidance that argues unconvincingly that “doing good” means, “doing well,” and thus will benefit the bottom line. That argument may be true, but no one has ever systematically proven it (Kleiner, 2001). The correlation between business ethics and the bottom line has been a frequent theme in a number of studies. For example, a study by Roman, Hayibor and Agle (Roman et al, 1999) examines such a relationship by analyzing and reclassifying existing literature and research done over the past 25 years of the 51 reclassified studies, 33 were found to show a positive relationship between ethics and corporate financial performance. Companies who apply ethical auditing and measure their triple bottom line – economic, environmental and social sustainability –are shown by independent studies to have outperformed since 1990 other S&P 500 index companies (Moon & Bonny, 2001).

In his report David Vidal (Vidal, 1999) for the non-profit Conference Board business group, “found that: Although bottom-line evidence of (good) citizenship’s benefits is scarce, anecdotal validation in the form of enhanced corporate image, customer preference, strong employee relations and smoother regulatory approvals is proliferating in both the US and the UK.”

Marvin Bower (Bower, 2003) summarises these benefits by stating that a business with high ethical standards has three primary advantages over competitors whose standards are lower:

A business of high principle generates greater drive and effectiveness because people know that they can do the right thing decisively and with confidence. When there is any doubt about what action to take, they can rely on the guidance of ethical principles. Inner administrative drive emanates largely from the fact that everyone feels confident that he can safely do the right thing immediately. And they also know that any action that is even slightly unprincipled will be generally condemned.

A business of high principle attracts high-caliber people more easily, thereby gaining a basic competitive and profit edge. A high-caliber person favors the business of principle and avoids the employer whose practices are questionable. For this reason, companies that do not adhere to high ethical standards must actually maintain a higher level of compensation to attract and hold people of ability.

A business of high principle develops better and more profitable relations with customers, competitors, and the general public because it can

be counted on to do the right thing at all times. By the consistently ethical character of its actions, it builds a favorable image. In choosing among suppliers, customers resolve their doubts in favor of such a company. Competitors are less likely to comment unfavorably on it. And the general public is more likely to be open-minded toward its actions.

In practice too, the business case rests more on the damage that unethical behaviour can do to a company’s reputation and brand value, which the consultancy Interbrand has calculated may account for up to 25% of the world’s financial wealth (Ruston, 2001). In addition, unethical behaviour could cost you in terms of market share too. Shell lost considerable market share in Germany in 1995 after activists persuaded consumers that its proposed disposal of the Brent Spar oil platform, in the North Sea, would harm the environment. Even though the UK government and independent scientists had endorsed the company’s proposal as the one that would cause the least damage, motorists boycotted Shell’s service stations, and some were vandalized by activists (Cogman, Oppenheim, 2002).

A landmark study done by Johnson & Johnson which tracked companies over a 35 year period from the 1950s to the 1980s, clearly shows that a company’s ethical reputation influences the market value of its shares (Donaldson, 1994). A survey by McKinsey (Coombes & Watson, 2000) reflects that processes matter. The first survey, which examined attitudes toward investments in Asia, was conducted in September and October 1999 with Institutional Investor’s Asia Pacific Institute. The 84 respondents, 82 percent of which have invested in Asia, hold an estimated \$1.05 trillion-plus in assets under management. The second survey, which looked at Europe and the United States, was conducted in October and November 1999 with Institutional Investor’s US and European institutes. The 42 respondents, 95 percent of which have invested in the United States and Europe, hold an estimated \$550 billion-plus in assets under management. The third survey, examining investors’ attitudes toward Latin America, was conducted in March and April 2000 with the World Bank. The 90 respondents, 70 percent of which have invested in Latin America, hold an estimated \$1.65 trillion-plus in assets under management.

Three-quarters of the investors said that board practices are at least as important as financial performance when they evaluate companies for investment. For Latin America, almost half of the

respondents consider board practices to be more important than financial performance. Over 80 percent of the investors say that they would pay more for the shares of a well-governed company than for those of a poorly governed one with a comparable financial performance. Indeed, surveys suggest that institutional investors will pay as much as 28 percent more for the shares of well-governed companies in emerging markets.

In Millennium Poll conducted by Environics (1999), of about 25,000 people in 23 countries, 60 percent of the respondents said they judged a company on its social record, 40 percent took a negative view of companies they felt were not socially responsible, and 90 percent wanted companies to focus on more than just profitability.

The issue get strength from the excerpts of Michael Porter (The Times, 17 May 2001), a professor at Harvard Business School at the London Business School, in a more socially and environmentally aware world, corporate responsibility in these spheres will itself be a source of competitive advantage .

The results are reflected in change of market practices. Prominent pension funds have begun to question companies on social issues, and socially responsible investing, though still a relatively small-scale phenomenon, is growing rapidly. In the United States, the assets of what are called ethical funds grew from \$682 billion in 1995 to \$2.16 trillion in 1999, and they now make up approximately 13 percent of investments under management in the United States, which is up from 9 percent in 1997. It is no wonder that so many corporations are beginning to take their social responsibilities seriously (Cogman & Oppenheim, 2002). Moreover, companies are showing little patience for executives who place their businesses at risk by crossing the line from prudent to unethical behavior. A recent example was the prompt decision by Boeing's board to oust CEO Harry Stonecipher over a sexual affair he was having with an employee. Mr. Stonecipher had been appointed to the top job 15 months earlier to help improve Boeing's standing with the Pentagon, its largest customer, after a series of ethics breaches. The board did not specifically indicate what ethical rule Mr. Stonecipher had violated, but it was clear that in the current climate, any obvious ethical lapse would be an indiscretion that the company could not tolerate and that would affect the bottom line (Van Lee et al, 2005) .

Maxwell (Maxwel, 2003) quoted James Burke, Chairman of Johnson and Johnson, who stated

“If you invested \$30,000 in a composite of the Dew Jones thirty years ago, it would be worth \$134,000 today. If you had put that \$30,000 into these [socially and ethically responsible] firms - \$2,000 into each of the fifteen [in the study] – it would now be worth over \$1 million.”

Lane (Lane, 2004) published the results of his study on Socially Responsible Investing (SRI). Unlike other studies that employ a negative process of excluding investments from a portfolio of certain socially or environmentally undesirable industries (tobacco, alcohol, gambling, defense, chemicals, mining, timber, and energy), this study followed an approach of positive screening for certain desirable behaviors. The behaviors ranked were in the areas of Environmental Practices and Social Justice (including diversity/employee relations, and human rights). A definite positive correlation was established between share value and market perception of the ethical conduct of public corporations. This perception is not only based on the honesty of leaders, but on the company's overall social responsibility. The writing on the board is very explicit that 'doing good' means 'doing well'.

Recently a survey by Booz Allen Hamilton and the Aspen Institute (Van Lee et al, 2005) invited approximately 9,500 senior executives from around the world to participate in this global study. The objective of our research was to understand how companies are dealing with the challenges of managing value. The findings are:

- **Ethical behavior is a core component of company activities.**

Of the 89 percent of companies that have a written corporate values statement, 90 percent specify ethical conduct as a principle. Further, 81 percent believe their management practices encourage ethical behavior among staff. Ethics-related language in formal statements not only sets corporate expectations for employee behavior; it also serves as a shield companies are using in an increasingly complex and global legal and regulatory environment.

- **Most companies believe values influence two important strategic areas — relationships and reputation — but do not see the direct link to growth.**

Of the companies that value commitment to customers, 80 percent believe their principles reinforce such dedication. Substantial majorities also categorize employee retention and recruitment and

corporate reputation as both important to their business strategy and strongly affected by values. However, few think that these values directly affect earnings and revenue growth.

- **Most companies are not measuring their “ROV.”**

In a business environment increasingly dominated by attention to definable returns on specific investments, most senior executives are surprisingly lax in attempting to quantify a return on values (ROV). Fewer than half say they have the ability to measure a direct link to revenue and earnings growth.

- **Top performers consciously connect values and operations.**

Companies that report superior financial results emphasize such values as commitment to employees, drive to succeed, and adaptability far more than their peers. They are also more successful in linking values to the way they run their companies: A significantly greater number report that their management practices are effective in fostering values that influence growth, and executives at these companies are more likely to believe that social and environmental responsibility have a positive effect on financial performance.

- **Values practices vary significantly by region.**

Asian and European companies are more likely than North American firms to emphasize values related to the corporation's broader role in society, such as social and environmental responsibility. The manner in which companies reinforce values and align them with company strategies also varies by region.

- **The CEO's tone really matters.**

Eighty-five percent of the respondents say their companies rely on explicit CEO support to reinforce values, and 77 percent say such support is one of the “most effective” practices for reinforcing the company's ability to act on its values. It is considered the most effective practice among respondents in all regions, industries, and company sizes.

Stephen Garone (Garone, 1999) in a report prepared for the Conference Board studied relationship between the economic performance of firms and their involvement in citizenship-related activities. His report concludes that citizenship impact on the bottom line can be demonstrated in specific

instances and not at all in others, but that in any case, it can be generally shown not to harm shareholder value. The report further finds that interest in citizenship is likely to grow.

## HOW TO MEASURE ETHICAL VALUE OF AN ACTION?

Ethics, in the end, is not something we do. It is something we become. If you want to change the industry you work for, you must start by finding a professional mind-set that will allow you to measure results creatively, and learning to cultivate and follow your best instincts (Kleiner, 2002) Perhaps the most difficult step in the process to create an ethical organization is to set the referral points with which one can assess the ethical value of an action. A business organization has to attain a right balance between the short term and long term concerns of an organization.

Cadbury (Cadbury, 1987) suggested two steps: First, to determine as precisely as we can, what our personal rules of conduct are, and secondly to think who else will be effected by decisions and how we could weigh their interest in it. A third dimension has been added to it. The idea of triple bottom line (TBL) is offered as a referral point whereby the overall performance of a company is supposed to be measured on its combined contribution to economic prosperity, environmental quality and social capital. The short expression of triple bottom line refers to three P's - people, planet and profit. At its broadest, the term is used to capture whole set of values, issues and processes that companies must address in order to minimize any harm resulting from their activities and to create economic, social and environmental value. Marc J. Epstein and Bill Birchard (Epstein & Birchard, 1999) look freshly at the financial, operational, and social indicators through which businesses measure themselves — for instance, earnings per share, quality statistics, and employee turnover — with an eye toward the benefits of shareholders, customers, employees, and communities, respectively. The most unfamiliar measures, and the ones requiring the most thought, are the social measures: corporate reputation, the quality of education in communities affected by the company, and data on the diversity of the work force.

## HOW TO ACHIEVE IT?

Presumably most businesses, like most people, do not wish simply to survive, but to prosper. What values does a business need if it is to flourish and grow? (Clutterbuck et al, 1992).

One of the researches done in US can prove to be an effective guide to effective implementation of ethics in business based on system development theory. Together with researchers from Pennsylvania State University and the University of Delaware, Andersen (Andersen, 1999) conducted a survey in on the effects of ethics and compliance programmes in six large American companies; 10778 employees were selected at random and 2,883 responded. The study was designed to measure employees' perceptions, attitudes and behaviours.

To encourage honesty, employees were asked about unethical behaviour that they had observed rather than their own behaviour. Employees at all level of the organizations were surveyed in order to explore potential differences in perceptions between managers and line employees. The surveys were sent to employees' homes, rather than to work, to assure confidentiality.

### THE SURVERY FINDINGS

Many corporate ethics and compliance programmes rely heavily on a code of ethics and a telephone hotline or other formal reporting mechanisms to control employee behaviour. This study suggests, however, that these two mechanisms are the least effective influences on ethical behaviour and executive leadership's attention to ethics has the greatest impact on controlling employee's unethical conduct. Furthermore, the mere existence of a formal mechanism by which ethical wrongdoing can be reported is not to encourage such reporting if the behaviour of management and the corporate culture do not support and encourage its use.

### INGREDIENTS OF SUCCESS

The survey concluded that the most important factors contributing to the success of an ethics and compliance programme are when the general perception of employees is as follows:

**Leadership:** that executives and supervisors care about ethics and values as much as they do about the bottom line.

**Consistency between words and actions:** that management "practices what it preaches". This is more important than formal mechanisms such as hotlines for people to report wrongdoing.

**Fairness:** that it operates fairly. To most employees, the most important ethical issue is how the organization treats them and their co-workers.

**Openness:** that people talk openly about ethics and values, and that ethics and values are integrated into business decision-making. In some cases, such companies even seek out critics to learn from them: the leading UK environmental activist Jonathon Porritt, for instance, speaks at and advises on training programs for BP executives (Cogman & Oppenheim, 2002).

**Just rewards:** that ethical behaviour is rewarded. This has greater influence on the effectiveness of an ethics programme than the perception that unethical behaviour is punished.

**Values-driven:** that an ethics and compliance programme is values-driven. This had the most positive effect on all seven areas where an ethics and compliance programme can have an effect and resulted in:

- Lower observed unethical conduct;
- Stronger employee commitment;
- A stronger belief that it is acceptable to deliver bad news to management.

यद्यदाचरति श्रेष्ठस्तत्तदेवेनरो जनः ।  
स यत्प्रमाणं कुरुते लोकस्तदनुवर्तते ॥

(श्रीमद्भगवद्गीता 3।21)

The conduct of great persons is seen as a role model by others in the society. People adapt their conduct as per the evidences suggest by them.

The Key to establishing an ethical culture, which strikes a balance between institutional authority and individual autonomy, is to build an environment that supports personal autonomy while providing proper guidance through codes, rules and policies. The critical task is to develop ethical leadership among all employees and especially to enhance their skills in ethical decision-making. Employees should be encouraged to act as ethical models and in the process practice leadership skills (Baumhart, 1961).

S.K. Chakroborty's approach (Chakroborty, 2002) is mainly value-led approach. He prescribes process of 'chitta-shuddhi' (mind cleansing) techniques, evolved by him over time. His source of the approach is 'Vedanta'. They are empirical in that they are based on personal experience. He argues the development of ethical stamina through regulations? He points out that already there are plethora of regulations and contends that history

continuously proves that no matter how tight and rigorous and comprehensive the institutional infrastructure is, unless the will factor is well taken care of these institutions give way. Human ingenuity always beats them. Enron, World Tel, Home Trade etc., are few examples.

## CONCLUSION

As is felt, the pressure of performance in terms of top line and bottom line is making executives myopic and they are not able to appreciate the cost of ignoring ethical conduct. The whole approach towards the evaluation of business performance needs to be redefined. Societal and ecological implications of conducting business could only be neglected at the cost of impairing sustainable development of the society at large, which is the end result of any developmental activity. As the systems concept suggests that finally any wrong committed on the side of society or ecology will finally impact business too. In case of linkage between ethical conduct and performance, an attempt has been made to portray that it is not the society alone that is not benefited by embracing ethics. As exhibited with the help of many examples, doing business ethically does not lead to externalities but at the end benefits fall on the side of business too. Still, to make it an eternal part of the vision of executives, an effort should be played by government, business associations and voluntary organisations that could evolve a system that appreciates, promotes and sustains business organisation that go for triple bottom line. Organisations at their end should take the path shown by survey by Andersen (Andersen, 1999) and Chakraborty (Chakraborty, 2002) to get ethically fit.

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## CORPORATE SOCIAL RESPONSIBILITY IN A COMPARATIVE PERSPECTIVE

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### ABSTRACT

*The field of comparative CSR, ultimately, addresses a research question of critical practical importance: how best to structure global enterprise to import best practice in CSR in order to produce economic development that is consistent with raising labor standards and 23 encouraging environmental protection? Strike, Gao and Bansal (2006) have produced empirical evidence that clearly states the challenge, by virtue of their findings that international diversification of firms increases both CSR as well as corporate irresponsibility, given the difficulties of managing semi-autonomous subsidiaries in different countries. Further comparative investigations of the respective roles of government; institutional actors such as labor unions, investors and NGOs; and actors within the firm, such as TMTs and employees, are necessary to further our understanding of the differing pressures from consumers, cultures and political entities towards responsible corporate actions. Such research may provide an empirical and theoretical basis for developing policies to encourage CSR and for conceptualizing which kinds of pressures are likely to be effective in encouraging a positive relationship between international businesses and society.*

### INTRODUCTION

Comparative studies of corporate social responsibility (CSR) are relatively rare, certainly as

contrasted with other related fields, such as comparative corporate governance or comparative corporate law. This is to be expected in a field, CSR, that is still “emergent” (McWilliams, Siegel and Wright, 2006). While theoretical perspectives on corporate social performance or stakeholder management have been developed for over two decades (Carroll, 1979; Freeman, 1984; Donaldson & Preston, 1995; Clarkson, 1995; McWilliams and Siegel, 2001), it is only in the last decade that businesses have begun to exhibit serious evidence of CSR in their strategic management and stakeholder social reporting.

Moreover, the field of empirical CSR research generally has been hampered by the lack of a consistent definition of the construct of CSR, as well as its operationalization and measurement, as recently pointed out by McWilliams, (Siegel & Wright, 2006; Rodríguez, Siegel, Hillman and Eden, 2006). This lack of consistency of CSR definitions across studies makes it difficult to evaluate and compare the findings from different studies because they usually refer to different dimensions of CSR. Most research on CSR has focused on the consequences of CSR implementation—or lack of implementation—on financial performance with little attention to comparative issues (e.g., McWilliams & Siegel, 2000; Margolis & Walsh, 2003; Barnett & Salomon, 2006), the main exception being a meta-analysis which includes studies conducted in the context of different countries (Orlitzky, Schmidt, & Rynes, 2003). We know, however, from existing research that individuals are likely to have distinct expectations and attitudes towards CSR contingent on the industry (Bansal & Roth, 2000; Strike, Gao & Bansal, 2006) or societal culture (Waldam et al., 2006) in which they are embedded.

Notwithstanding these difficulties, comparative studies of CSR illuminate theories of corporate governance and relationships amongst the various actors that both comprise and influence companies. Thus it is of value to attend to the studies that have been conducted, and to develop research protocols to encourage further comparative work.

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Studies that are comparative in this field differ in how they define the comparative unit of analysis, and such differences often have methodological implications. Where countries or other geographical units such as continents are used as the basis for comparing CSR environments, studies then tend to use either comparative legal analysis or comparative institutional analysis. Fewer studies than might be expected use individual countries as the unit of analysis, but this is likely inherent in the nature of the CSR challenge itself. CSR as a rapidly developing business strategy (and not simply a theory in the management literature), is a response to globalization and the extension of global multi-national enterprises (“MNEs”) across countries, with the implication that state control over such enterprises is rapidly fragmenting (Logsdon & Wood, 2002; Zumbansen, 2006). Thus, broader units of analysis that reflect these global challenges are often used.

One approach that has used both comparative legal analysis and comparative institutional analysis has been to compare the perspectives and strategies on CSR inherent in different corporate governance systems, such as contrasting Anglo-American versus Continental European approaches to CSR. A number of these studies will be discussed in Part One, below. Other studies have used a “most similar case” approach to show differences in companies’ approaches to CSR in countries with seemingly similar socio-political traditions within these corporate governance systems. Comparisons between the US and the UK are of particular note because they have implications for theories about corporate governance systems in addition to CSR, as discussed in Part One.

Other comparative approaches examine pressures on companies across a broad range of countries at one level of analysis or on one dimension. A developing body of scholarship compares, across countries, the actions or perspectives of employees, consumers, institutional investors or non-governmental organizations (NGOs) to engage in CSR initiatives. Some of these studies will be summarized below in Part Two, with a particular emphasis on differences in perspectives of top management teams (TMT) and consumers between geographic regions. Other approaches look at companies’ CSR actions more directly, such as studies of differences in corporate social reporting across countries or differences in companies’ community partnerships or partnerships with NGOs across countries. A number of these studies will be discussed in Part Three. Recent research in

international business discusses the strategic management of CSR issues by global companies operating in different countries, summarized in Part Three. Part Four concludes.

## **COMPARISONS OF LEGAL AND INSTITUTIONAL FACTORS SHAPING CSR**

### **Comparative legal analysis regarding CSR**

Today, scholarship at the intersection of law and sociology “decenters” the state as a locus of regulatory power in favor of a more nuanced view of various systems of control that have an impact on conduct, including law, norms, industry and professional practices, markets and even architecture (Braithwaite & Drahos, 2000; Lessig, 1999; Scott, 2003). And yet comparative legal analysis still has much to offer in understanding CSR, since the laws governments pass to encourage CSR are uniquely powerful, in at least three respects. One, the standards established by laws and mandatory regulation, while not immediately translated into action in any realistic portrait of global organizational practice, have a particularly strong influence on establishing social expectations about responsible corporate behavior. The social expectations then act as a “focal point” around which firms structure their behavior (McAdams and Nadler, 2004). Two, once the social expectation is created, a number of other forces, including consumer demands, institutional investor demands, community demands, and NGO demands, interact to create incentives for firms to meet the standards set out in the law (Kagan, Gunningham & Thornton, 2002), whether enforcement is a realistic threat or not. Three, the laws and policies that governments enact send a strong signal about the importance of a subject—a signal that, as regards CSR, is amplified by the business culture in the country, consumers’ interests, institutional investors’ actions, the corporate governance regime, NGOs’ effectiveness, and the individualistic versus collectivist nature of the country’s underlying political and social philosophy.

An example of these factors, given government leadership in the administration of Prime Minister Tony Blair, is the emphasis by the UK government in promoting CSR (Moon, 2004; Aaronson & Reeves, 2002). In 1996, the Blair administration promulgated regulations, since followed by Belgium, France, Germany and the Netherlands, that require the trustees of occupational pension funds to adopt ‘Statements of Investment Principles’ detailing the way social and environmental information is taken into account in constructing investment portfolios. This law has had an important

effect on the behavior of the largest pension funds, causing them to ask questions of asset managers about their CSR records, and in turn fueling greater interest in, and investment in, socially responsible investment (SRI) (Williams & Conley, 2005). As one example of its policy encouragement, the U.K. government was persuaded that extractive industry revenue transparency would help to promote government accountability, political stability and reduced poverty in many “resource rich yet poor” countries. It also realized that such political stability would be advantageous to two of its flagship companies, BP and Shell, but only so long as BP and Shell did not suffer competitive disadvantages from losing oil concessions to companies that did not require revenue transparency. As a result, Prime Minister Tony Blair became a leader in the recent Extractive Industry Transparency Initiative to encourage companies in the oil, gas, and mining industry to “Publish What They Pay,” that is to publish the payments companies made to countries to obtain concessions to extract oil, gas or minerals (Williams, 2004).

Given the UK’s leadership role in encouraging CSR, it is not surprising that comparative studies show that companies in the U.K. have higher rates of stakeholder engagement and social reporting than companies in every other European country except Norway, even as European companies generally lead the world on these metrics (Welford, 2005). Future work that investigates the effect of government laws and policies in the U.K. in producing these high rates of reporting, and that differentiates between legal factors and institutional factors such as institutional investor pressures, top management team (TMT) leadership, labor or NGO activism, in producing these high rates of stakeholder engagement and social reporting, would be valuable.

With respect to developing countries, one predominant CSR concern is that governments will ignore corporate irresponsibility or refuse to enforce protective labor or environmental standards in the law as an inducement to foreign investment (Aman, 2001). China, for instance, has strong rights to collective bargaining, by law, and yet thousands of people in jail for trying to exercise those rights (Diamond, 2004). Yet, some developing country governments are promulgating laws requiring higher standards of responsible environmental or social conduct in order to compete for foreign capital and institutional investment, in addition to competing on the more familiar “rule of law” issues of contract and property law rights, financial transparency, intellectual property

protection, and reduced government corruption (Hebb & Wojcik, 2004). Comparing these legal developments in different emerging economies would be valuable as a basis for further understanding of the relationship of law and development and of the contribution of CSR, if any, to economic development.

CSR in Asia is unrelated to the pre-existing levels of economic development, but is related to the extent to which domestic companies engage in international trade, even where that trade is with other Asian nations (Chappel and Moon, 2005). Conversely it would be useful to study whether “imports” of CSR standards into developing countries lead to greater economic development or enhance rule of law norms. This strand of comparative legal analysis of CSR would take up the suggestion of Ahlering and Deakin (2006) to examine more carefully the complementarities between legal and economic institutions in promoting economic development.

### COMPARATIVE INSTITUTIONAL ANALYSIS

Comparative institutional analysis proceeds from the assumption that formal institutions, such as constitutions, laws and government policies, interact with both informal institutions such as social norms and “mental modes of analysis” (Doh & Guay, 2006), and organizations such as business entities, labor organizations and civil society, to produce unique cultural and institutional frameworks for company action (Aguilera & Jackson, 2004; Campbell, 2005; Ahlering & Deakin, 2006). One such recent study is that of Doh and Guay, which explored differences in the institutional environments in the EU versus the US with respect to government policy making, corporate strategies to affect government policy-making, and NGO activism (Doh & Guay, 2006). Doh and Guay looked at differences in NGO strategies and power in the EU versus US with respect to three CSR policy issues, those of genetically-modified foods, climate change and HIV/Aids drug pricing. They conclude that the more influential position of NGOs in the EU is explained by differences in the processes of policy-making in the EU, in that there are explicit avenues for including the views of business, labor and civil society as important policies are being developed at the EU level, and by differences in the political legacies of the two regions, given the social democratic traditions in the EU versus the more individualistic and libertarian strands of political thought in the US (Doh & Guay, 2006).

Another comparative institutional study that evaluates the legal requirements and market incentives to engage in CSR throughout the EU, with

a particular emphasis on Spain, is Cuesta González and Valor Martínez (2004). Their article includes a comprehensive description of regulations and government policies across the EU to encourage CSR initiatives and to require greater disclosure of social and environmental information that should be useful to future researchers. The authors view the most important aspects of CSR, labor relationships and environmental protection, as incorporated into the regulatory framework in Europe, but that social and environmental information and company responsibility for subsidiaries' actions or their supply chains are "gaps" in the framework that leave room for voluntary CSR. Cuesta et al. (2004) note that most of the laws in Europe to address these gaps seek to create market incentives to encourage CSR, such as recognition of best practices, awareness campaigns and the like, designed to encourage consumers to use their purchasing power to promote CSR, which the authors conclude is indicative of governments "not strongly committed to these initiatives" (Cuesta et al., 2004: 284). The authors evaluate the disclosure requirements as an effort to overcome information asymmetries about companies' CSR activities, such that capital and consumer markets can respond with greater precision to companies' records. Generally, though, the authors conclude that consumer and investor market incentives are too weak in Spain, the specific country they examine in detail, and so specific regulations would be required to increase the value of required disclosure, to expand fiduciary duties of company directors and managers, and to hold the public sector accountable for its social, economic and environmental performance.

A trenchant suggestion to extend institutional comparative work of this type comes from Zumbansen (2006: 18), who posits that the questions of defining companies' social responsibilities and examining convergence and divergence in corporate governance cannot fully be answered until companies themselves are examined as "institutions of social learning" within unique socio-economic and regulatory contexts, each shaped by national path dependencies and international comparisons. While some comparative social responsibility work is starting in that direction, by combining attention to comparative institutional and regulatory context with examining companies' actions in those different contexts, Zumbansen is undoubtedly correct to call for more systematic attention to how companies respond and "learn" within different regulatory and institutional environments.

## IMPLICATIONS OF COMPARATIVE CSR FOR UNDERSTANDING CORPORATE GOVERNANCE SYSTEMS

Studies of comparative CSR have implications for our understanding of theories of corporate governance. Corporate governance scholars have roughly divided the world into the Anglo-American "outsider" system versus the Continental European and Japanese "insider" systems, which divisions have been suggested to map onto shareholder versus stakeholder views of the firm and onto different cognitive styles in various cultures (Licht, 2004). Yet, recent studies of comparative CSR suggest that these conceptual demarcations need substantial qualification. In particular, a number of studies show that legal developments and institutional contexts in Britain concerning CSR show important similarities with Europe, and related contrasts with the United States, thus casting doubt on a unified "Anglo-American" system of corporate governance.

Matten and Moon (2004) have compared CSR in Europe versus in the United States, and have proposed a conceptual framework of "explicit" versus "implicit" CSR, while recognizing that these are matters of emphasis, not wholly dichotomous states. They define explicit CSR as that seen in the United States, where companies volunteer to address important social and economic issues through their CSR policies, in significant part because of less stringent legal requirements than in Europe for such things as health care provision, employee's rights, environmental protection and the like (Id.:9). In contrast, in Europe and the UK, responsibility for these issues is undertaken as part of a company's legal responsibilities, and thus CSR is "implicit" in the way the company does business (Id.). The results of their work suggests that Britain shares with Europe institutional and legal features that reflect its European character, so that business is assigned, by law, "an agreed share of responsibility for society's interests and concerns" (Matten & Moon, 2004:9). In this analysis, Matten and Moon (2004) have implicitly interrogated the question whether there is an "Anglo-American" system of corporate governance, at least at the level of agreed conclusions on the perennial debates of the corporate purpose, and whether shareholders only, or stakeholders in addition, should comprise the full ambit of managerial strategy and concern.

Similarly, Armour, Deakin and Konzelmann (2003) and Deakin (2005) have looked critically at the claim that the United Kingdom's system of corporate

governance shares with the United States primacy for the interests of shareholders. They find considerable support for the idea that the institutional context in Britain—particularly protections of employees in insolvency law and in labour law—casts doubt on a unitary “Anglo-American” view of corporate governance. They also describe some influential pension fund shareholders in London as concerned with broader stakeholder interests, observing that “[s]ome institutional investors are beginning to use their influence to monitor performance by companies across a range of social and environmental issues that impact upon stakeholders” (Armour, Deakin & Konzelmann, 2003).

Williams and Conley (2005) and Aguilera, Williams, Conley and Rupp (2006) have followed Armour, Deakin and Konzelmann (2003) in evaluating legal and institutional factors in the UK and the City of London that are encouraging a divergence between the US and the UK in the emphasis given in the two countries’ capital markets to companies’ social and environmental role. Legal factors include more required disclosure of social and environmental information by publicly listed companies in the UK than in the US; and the required disclosure by pension fund trustees of the extent to which social and environmental issues are considered in constructing their investment portfolios (Williams & Conley, 2005). Institutional factors include: (a) differences in the composition of institutional investors in the two markets, with a higher percentage of institutional investors in the UK being pension funds and insurance companies with longer time-horizons for investment than the mutual funds that have dominated in the US; (b) “soft law” encouragement in the UK by the highly-influential Cadbury Commission of institutional investor engagement with portfolio companies; and (c) encouragement of attention to CSR issues by the Institutional Shareholders Committee, which represents over 80% of institutional investment in the UK (Aguilera, Williams, Conley and Rupp, 2006; Williams & Conley, 2005). Further research should reevaluate these institutional factors as private equity 10 investors and hedge funds become a more substantial percentage of each market, in order to determine if the time-frames for investment are being affected by shifts in the composition of the two markets, since concern with longer-term risks is part of investors’ concerns with CSR. It would be particularly important to evaluate if the priority given to CSR issues by City of London investors, as previously described, is being eroded.

### **ACTOR-CENTERED CROSS-NATIONAL COMPARISONS: ATTITUDES OF MANAGERS AND CONSUMERS TOWARDS CSR**

As remarked above, comparative research can be approached from multiple perspectives. For example, it can compare a given issue, such as CSR transparency, across different countries or different industries. Another route is to take an actor-centered perspective where one analyzes the differences and similarities in the strategy and capacity of different stakeholders to influence CSR issues at the firm, government or societal level. A third comparative route might be to combine the two comparative methods, looking at different CSR issues as well as stakeholder reactions across regions, as did Doh and Guay (2006) in the research discussed in Part One. Thus, in conducting comparative and qualitative research using a case study methodology to assess the roles of NGOs in the US and Europe in exercising influence on three CSR issues (trade and regulation of genetically modified organisms, relaxation of intellectual property protection for HIV/AIDS medications, and the Kyoto agreement on climate change), they were able to show that differences in these two regions in the structure of political institutions and the strategies of interests groups directly determined how CSR is perceived and put into practice by the different firms, activists, and governments. This type of comparative research is difficult to conduct, given the complexity of data collection, and the research design is challenging if we were to rely on survey methodology.

One CSR research question which has received some comparative attention and hence is worthwhile synthesizing and discussing is how stakeholders across different institutional and cultural settings approach and react to CSR issues. In particular, there is some interesting work looking at the role of managers and consumers across countries. We discuss each of them in turn.

### **COMPARATIVE TMT ATTITUDES TOWARDS CSR**

There is an extensive literature which conceptually justifies why managerial values and attitudes towards CSR in a given organization, industry or national context are likely to have a strong influence on firm-level CSR outcomes (e.g., Hay and Gray, 1974; Hemingway and Maclagan, 2004; Hemingway, 2005; Aguilera, Rupp, Williams, Ganapathi, forthcoming). In addition, the research finding that individual and organizational values, regardless of country-level factors, are significant predictors of CSR managerial behavior has also been confirmed by

multiple empirical studies in different national and industry contexts. For example, Vitell and Paolillo's (2004) cross-cultural study of the antecedents of the perceived role of social responsibility in the decision-making process of managers from Spain, Turkey, Great Britain and the U.S. shows that managerial CSR decisions and likelihood of success are shaped by the managers' individual ethical perspective and their organizational culture. Similarly, Waldman et al.'s (2006) cross-national and longitudinal study of culture and leadership precursors shows that both CEO visionary leadership and individual integrity are key factors associated with corporate social responsibility values. Finally, in the context of one emerging country, Branzei, Ursacki-Bryant, Vertinsky, and Zhang's (2004) study of 360 Chinese firms uncovers that leaders' cognitions influence the formation of novel responses to much needed corporate greening strategies. One of the implications of these three empirical studies is that individual and organizational context do matter.

In light of these findings at the individual level, we would like to turn our attention to how managers might display different attitudes and values towards CSR given the cultural and historical differences across countries, regions, and even industrial fields. In other words, we seek to introduce a more systematic comparative perspective as well as to explore the distinct expectations that society (and societal actors) is likely to impose on TMTs as a team and as individual managers on their engagement in CSR issues. In effect, we expect a wide range of variation despite increasing global convergence in business practices. That expectation is based on the extensive evidence developed by international management scholars showing that managers, and more generally top management teams (TMTs), behave differently across countries because they are highly influenced by the national cultural norms of work (e.g., Hofstede, 1980, 2001; Schwartz, 1994; Triandis, 1995), organizational culture (O'Reilly and Chatman, 1996; Schein, 1992), or profession (Sirmon and Lane, 2004) in which they are embedded. Hence, these managers tend to make distinct strategic decisions and also have diverse constraints and capabilities in their decision-making process, depending on the country in which they are operating.

We know from the more established business ethics literature that there is a strong relationship between the likelihood that a manager will engage in corrupt business behavior and the extent to which managers operate in countries with high power distance, masculinity and uncertainty (Husted 1999).

In this regard, one conceptual framework to compare how managers' attitudes towards CSR might vary across countries can be done by testing the cross-national validity of Donaldson and Dunfee's (1999) integrative social contracts theory as extended to CSR.

This research could explore whether hypernorms or fundamental principles such as "people should not be forced to work excessive hours and under inhumane conditions" are constant across societies, but local norms such as "allowing some degree of child labor in very controlled circumstances is acceptable"—vary across countries. In addition, there are a number of empirical studies systematically comparing managerial ethical reasoning across countries which the CSR field could use as a benchmark. For example, Spicer, Dunfee, and Bailey (2004) have conducted an empirical analysis that compares responses on an ethics survey from Americans working in Russia and in the United States. They show that location had little effect on these managers' attitudes towards hypernorms, but it did have a significant effect on their attitudes towards local norms and how expatriates address ethical dilemmas outside the US. And Cullen, Parboteeah and Hoegl (2004) draw on institutional anomie theory, which takes into account cultural values and social institutional effects on individuals' behavior, and use the World Values Survey, to test managers' unethical conduct in 28 countries. They find significant nation-level effects, for instance, that industrialization weakens social norms and triggers a win-at-all-cost mentality, or that in societies with strong cultural values such as universalism and materialism managers tend to engage in more egoistic ethical reasoning.

There exist a few empirical studies which show cross-national differences in managerial attitudes towards CSR. We discuss four of them below to illustrate the distinct dimensions that comparative CSR has taken and ultimately to encourage other scholars to continue this research venue (the comparative CSR field) which remains fairly unexplored. The work that we discuss exemplifies the variety of research designs and countries covered. Then, we conclude this section by discussing another set of studies which do not see country-level variables as main drivers of CSR managerial attitudes and strategies, and point us towards somewhat mixed 14 findings. This lack of consistent findings can be explained, in part, due to the lack of a universal definition of CSR. It is not surprising that when individuals fill in surveys in different countries they have very distinct mental maps and expectations of

what CSR is and is not, what it should be in an ideal world, and who should be involved in CSR issues. As Fukukawa and Moon (2004) have brought to our attention, even the definition of such terms as “business” varies between countries, such that the Japanese word for business is a “compound of the words *kei*, meaning ‘governing the world in harmony while bringing about the well-being of the people,’ and *ci*, meaning making ‘ceaseless efforts to achieve.’” First, Orpen (1987) conducted a survey among senior managers in South Africa and the United States to uncover their attitude towards CSR. One part of the survey was designed to assess managers’ “major arguments for and against involvement in social responsibility activities by business” (p.90) and another part of the survey was designed to assess managers’ “perceptions of the extent to which their society regards it as desirable that business engage in various social responsible activities” (p.91). Orpen (1987) finds that U.S. managers hold a much more positive attitude of CSR activities than South African managers. In other words, U.S. managers agreed more with pro-responsibility statements while South African managers tended to support more anti-responsibility arguments, and differences were stronger when referring to social as opposed to environmental issues. Moreover, it is also shown that US managers felt more pressure to get involved in CSR strategies than their counterparts in South Africa.

Second, Maignan and Ralston (2002)’s cross-national study shows that businesses’ communication about CSR, as evaluated by the information displayed in the 100 largest company web pages in 1999 in France, the Netherlands, the UK and the US, varies significantly. Maignan and Ralston concluded that businesses in these four countries do not ascribe the same 15 importance to managing their image as a socially responsible organization, and that businesses draw on different mechanisms in different countries to communicate the nature of their CSR principles, processes and stakeholder issues. For example, US and UK firms tended to be more eager to show that they “cared” about CSR issues, at least, on the surface, whereas Dutch and French firms were more likely to include CSR issues in their websites only as a response to stakeholders’ scrutiny and pressures. Maignan and Ralston (2002) also show variance across these four industrialized OECD countries in the principal motivations for CSR, whether these were mostly performance driven, as in the UK, an extension of their core company values, as in the US, or a combination of performance-driven, values-driven, and stakeholder driven such as was in the case of Dutch and French firms. Lastly, stakeholders’ pressure

on companies to address CSR issues also differed across countries. Maignan and Ralston (2002) show that communities and consumers were the primary stakeholder drivers in the UK while customers and regulators were more salient in France and the Netherlands.

More recently, Waldman, Sully de Luque, Washburn and House (2006) published an extensive cross-national study of 561 firms based in 15 countries, on five continents, which examines the relation between CSR values of top management team members and two country-level societal cultural constructs, institutional collectivism and power distance, among other individual-level constructs. Their societal culture values are based on the Global Leadership and Organizational Behavior Effectiveness (GLOBE) research project (House et al., 2004), where institutional collectivism is defined as “the extent to which a collective should believe in encouraging and rewarding the collective distribution of resources and collective action, and emphasizes group performance and rewards” (p.826); and power distance refers to the degree which a culture believes that power should be unequally distributed. (High power distance 16 societies tend to be more stratified economically, socially and politically.) For example, Brazil scores high in institutional collectivism and China scores high in power distance, according to the GLOBE scores. In addition, managerial CSR values are conceptualized and measured as a multidimensional construct where managers can identify with three different dimensions of CSR: shareholder/owner, stakeholder issues, or community/state welfare. Waldman et al. (2006) show that managers in countries which esteem institutional collectivism traits such as obtaining gratification for addressing long-term concerns, and devalue high power distance traits, are more likely to manifest managerial behaviors positively associated with the three dimensions of CSR. In addition, they show that managers in wealthier countries are mostly concerned with shareholder/owner CSR issues, that is, CSR strategies which maximize economic returns.

Similarly, Egri and colleagues (2006) have conducted an extensive multi-level study which looks at the individual and national effects on attitudes towards corporate responsibilities (CR) in 28 countries. One of the key differences with Waldman et al. (2006) is that Egri et al.’s macro-level variable draws on two different societal cultural values included in the World Values Survey developed by Inglehart (1997), which are: traditional/secular-rational and survival/self-expression cultural values. The additional contribution of this study is that in their analysis of



what influences corporate responsibility outcomes across countries, the authors differentiate three different types of corporate responsibility (social, environmental and economic) and also account for three country level factors (societal culture, degree of government intervention, and trade openness) In addition to reporting that personal values have a direct relationship with the type of CR that managers are likely to support in different countries, Egri and colleagues (2006) show that managers in traditional cultures that promote ethical idealism and communitarian norms, and tend to have a Roman Catholic heritage (e.g., Colombia 17 and Italy) were more supportive of social CR than environmental or economic CR. Secular-rational and survival societies such as ex-Communist countries (e.g., Croatia and Hungary) or Confucian-oriented societies (e.g., Taiwan and Hong-Kong) were more likely to support economic CR initiatives.

As mentioned before, other comparative studies have not so clearly concluded that national cultural and market settings are strong predictors of managerial CSR behavior. Instead, they put more weight on the values of individuals and organizations regardless of country or regional institutional and cultural context. For example, Quazi (1997) and a follow up study by Quazi and O'Brien (2000) comparing textile and food manufacturers in two very different countries, Australia and Bangladesh, find that managerial CSR decision-making in these two countries tends to be more universal than country-driven and that individual differences are mostly two-dimensional in terms of the span of corporate responsibility and the range of outcomes of social commitments of businesses, as opposed to culturally driven.

Similarly, Bansal and Roth (2000) have conducted an excellent qualitative study which looked at two broad conceptual categories of determinants of managerial ecological responsiveness in two countries, the United Kingdom and Japan. On the one hand, they examine corporate-level motivations such as competitiveness, legitimation, and degree of overall environmental responsibility, and on the other hand, they explore the contextual determinants defined as the level of cohesion within a given industry, the salience of the given CSR issue and the managerial individual concern for CSR issues. They are able to conclude that managers and firms in these two countries are driven by distinct factors to pursue positive CSR actions although there is not an explicit country-level cleavage. Instead, the authors remind us that ecological responsiveness exemplifies

configurational equifinality, that is, firms, regardless of their country of origin, can reach the same final state of responsiveness from differing contextual and motivational conditions and taking distinct paths to reach that same outcome.

### **COMPARATIVE CONSUMER ATTITUDES TOWARDS CSR**

Consumers are an important stakeholder in the context of CSR and can become strategic nightmares for companies, as Nike experienced when it became a lightning rod for concerns over labor practices in Asia, or as Royal Dutch Shell experienced with the Brent Spar environmental imbroglio. Marketing research has demonstrated that corporate social performance information shapes consumer purchase intentions (e.g., Brown & Dacin, 1997; Creyer & Ross, 1997). There also exists a fascinating literature drawing on social movement theory which discusses consumers' capabilities, strategies and ultimately power as an organized group to impact firms' CSR behavior (e.g., Kozinets & Handelman, 2004; O'Rourke, 2005; Schurman, 2004; Sharma & Vredenburg, 1998). However, the research on comparative consumer attitudes towards CSR is less developed, and certainly less abundant than the comparative managerial work reviewed in the previous section.

Isabelle Maignan and her colleagues have offered pioneering insights into the field of marketing research and CSR, or the so-called, 'socially responsible buying' behavioral literature, by asking what differences there are across countries regarding the extent to which consumers support socially responsible business. For example, Maignan's (2001) study is one of the first cross-national comparative studies of consumer attitudes towards CSR and of the demands that this group of stakeholders is willing to make on firms. Maignan (2001) collected consumer survey data in France, Germany and the US, and concludes that American consumers are mostly concerned with corporate economic responsibilities, agreeing with such statements as business must "maximize profits" and "control their production costs strictly," (p.64) as opposed to 19 statements emphasizing companies' legal, ethical and philanthropic responsibilities. Meanwhile, French and German consumers generally tend to put more value on supporting socially responsible organizations conforming with legal and ethical standards, and have better mechanisms and tactics in place to monitor and influence the behavior of organizations as a consumer group (see also Maignan and Ferrell (2003) for a follow

up study).

More recently, Schuler and Cording (2006) have developed a conceptual model of consumer behavior based on the process by which consumers make purchasing decisions, as affected by different characteristics of information intensity, such as information source, degree of diffusion, and corporate reputation, to explain the complex relationship between corporate social performance (CSP) and corporate financial performance. It would be worthwhile to test their consumer behavioral model in different industry and national settings. In addition, some researchers have examined the role of marketing professionals and their perception of consumers in CSR issues. For example, Singhapakdi, Karande, Rao, and Vitell (2001) compare the attitudes of marketing professionals when assessing consumer preferences in Australia, Malaysia, South Africa and the US. This might be another interesting route to take in exploring consumer attitudes and behavior towards firms' CSR. Finally, it is important to note that while there are societies that place a lot of emphasis on consumers' voice and have in place direct mechanisms where they can express their concerns such as in the France, this is not the case in other societies, such as in Japan, where the consumer movement has been relatively weak (Wokutch, 1990).

#### **BEHAVIOR-CENTERED CROSS-NATIONAL COMPARISONS**

A different comparative approach is to examine companies' CSR behaviors, such as sustainability reporting or NGO/company partnerships, across countries. A number of these 20 studies have looked at companies' sustainability reporting, evaluating differences across countries in reporting rates, in the issues discussed and in how CSR issues are framed. Studies consistently find that reporting rates are highest in Europe, followed by Japan, and with the US showing the lowest rates of reporting among comparable companies (Kolk, 2003; KPMG, 2005; Kolk, forthcoming; Welford, 2005). Kolk's most recent study shows that 90% of European companies in the Fortune Global 250 publish sustainability reports, followed by 83% of Japanese companies, as contrasted with 35% of American companies. Kolk suggests that this dramatic differential between Europe and the US reflects cross-national differences in public discussion of CSR and sustainability reporting and European leadership in CSR (Kolk, forthcoming:6), while it must be noted that Europe requires social and environmental reporting, albeit without being specific about the format. Of course,

the fact that Europe requires some aspects of sustainability reporting can also be understood as evidence of its leadership on CSR.

Interesting differences emerge in what issues are emphasized in companies' sustainability reports and how those issues are framed. Kolk finds that about 60% of sustainability reports now discuss the corporate governance of sustainability within the organization, while surveys of similar sets of companies only a few years ago (2002 reports) did not discuss this topic (Kolk, forthcoming). Kolk also finds that European and Japanese companies are more specific than US companies about "the organizational aspects and responsibilities for sustainability" (Kolk, forthcoming: 8). Differences also emerge in external verification of sustainability reports, with 45% of European reports being externally verified, as contrasted with 24% of Japanese reports and 3% of American reports (Kolk, 2006:10 & Table 3). As Kolk recognizes, American disclosure patterns and lack of verification may reflect the greater concern with litigation in the United States, and the difficulties of a purely voluntary approach to expanded sustainability 21 disclosure in such a context. Further comparative research that investigates the decisions by TMTs to produce sustainability reports, and their understanding of their own motivations for the structure, contents and verification of such reports, would be of value.

Country of origin also has an impact on how multinationals as legal entities incorporated in a given home country behave around the world through their subsidiaries. For example, Meek, Roberts, and Gray (1995) have conducted a study of voluntary annual report disclosure by U.S., U.K., and continental European multinational firms. They are able to show that the country of origin has a significant effect not only on the degree of voluntary disclosure but also on what type of information (i.e., strategic, nonfinancial and financial) is most likely to be covered in these MNCs' annual reports.

Despite the transnational efforts to design and implement universal CSR standards connected to "triple bottom line" thinking (Waddock, Bodwell and Graves, 2002), in practice international hard regulation and enforcement on how MNCs should behave around the world is non-existent. It is interesting to examine to what degree MNCs from different parts of the world comply with soft international regulation. For example, Christmann and Taylor (2006) look at MNCs' compliance with ISO 9000 (a set of international environmental standards) in China, which allows them to control for the host country enforceability of

regulation. They discover that MNC compliance with this environmental standard, whether it is substantive or symbolic, is determined by customer preferences, customer monitoring, and expected sanctions from customers in their home countries. This study suggests a fruitful line of inquiry evaluating the relative efficacy of legal versus market "enforcement," of standards.

Another comparative approach to the study of CSR within MNCs is to examine whether there are differences in practices not only between the home MNC and the subsidiaries, but also 22 across the different subsidiaries of a given MNC. Husted and Allen (2006) have investigated how CSR is managed within MNCs, and studied the relationship between global and local (country-specific) CSR. Building upon Donaldson and Dunfee (1994:260), they define global CSR issues as those "issues that transcend national boundaries and about which considerable consensus is emerging," such as human rights and environmental protection (Husted and Allen, 2006: 840) Local CSR issues are those that respond to the specific needs and concerns of particular communities, such as the HIV-AIDS in Africa: it is an issue that every company doing business in Africa needs to address, but has not become part of the global CSR agenda. Husted and Allen (2006) surveyed firms in Mexico, and found that the firms followed different patterns of management of global and local CSR issues depending on whether they were firms with many, semi-autonomous subsidiaries (multi-domestic); were organized from a central office with lean subsidiaries (global); or combined elements of central organization and local responsiveness (transnational). Following Husted and Allen's (2006) suggestion, these results can be useful to evaluate government policies in developing countries to encourage greater economic development. For instance, comparative research might study whether decisions about valuable licenses to operate or to extract local resources would best be granted to specific types of firms (global, multi-domestic, transnational), depending on the mix of local versus global CSR issues in the region or industry at issue.

## CONCLUSION

The field of comparative CSR, ultimately, addresses a research question of critical practical importance: how best to structure global enterprise to import best practice in CSR in order to produce economic development that is consistent with raising labor standards and 23 encouraging environmental protection? Strike, Gao and Bansal (2006) have

produced empirical evidence that clearly states the challenge, by virtue of their findings that international diversification of firms increases both CSR as well as corporate irresponsibility, given the difficulties of managing semi-autonomous subsidiaries in different countries. Further comparative investigations of the respective roles of government; institutional actors such as labor unions, investors and NGOs; and actors within the firm, such as TMTs and employees, are necessary to further our understanding of the differing pressures from consumers, cultures and political entities towards responsible corporate actions. Such research may provide an empirical and theoretical basis for developing policies to encourage CSR and for conceptualizing which kinds of pressures are likely to be effective in encouraging a positive relationship between international businesses and society.

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## CONSUMER COMPLAINING - WILL IT IMPROVE BRAND LOYALTY ? A COMPARISON OF RURAL – URBAN CONSUMERS

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### ABSTRACT

*Brand loyalty is one of the key assets for any firm's success. Neither the marketers' actions nor the customers' determination develop loyalty; instead, considered as a reciprocal relationship, a dynamic space shared by the brand and the consumer. Understanding the relationship between complaining behaviour and brand loyalty of the consumers, in rural-urban context of the Indian subcontinent would give a better understanding about the consumers and exploring the rural-urban differences, if any. The current research work addresses the complaining behaviour of rural-urban consumers and brand loyalty. Findings support that rural and urban consumers showed higher intentions to complain to storekeepers than firm level and the complaining intensity of the consumers improved the brand usage for a longer periods.*

### INTRODUCTION

The key factors to identify the strong brands include the brand's loyal consumer base and its willingness to pay more for those brands. Lack of differentiation for a brand from its competitors is a sign that the brand may be vulnerable to low brand death. Brand loyalty gives greater advantages to the firms in terms of reduced marketing costs, customers engaging in positive word-of-mouth communication

(Mahajan et al 1993) and greater resistance to the competitors' promotional activities. However, either of the parties involved in the relationship (Schultz and Bailey 2000) do not own brand loyalty. It should be distinguished from the repeat purchase behaviour, which might be because of discounts, premiums, limited alternatives, or purchasing power. Thus, brand loyalty could be viewed as a combination of level of customer satisfaction and positive brand association developed by the customers. Neither the marketers' actions nor the customer determination develop loyalty; instead, it could be considered as a reciprocal relationship, which is a dynamic space shared by the brand and the consumer.

Customers' evaluations of quality and satisfaction are critical inputs in developing marketing strategies. In the intense competitive marketing environment, the firms are recognising that complaining customers should be the most-wanted customers. When they take their time to complain, they want to make things better. They want to be the loyal customers. If they did not care about the organization, they would simply leave and never come back. Thus, by capturing the customers' feedback and proper response to the complaints launched against the firm/product, companies can capitalise on complaining customers and improve their overall customer satisfaction levels (Hren 1996). Those with complaints need a vehicle to voice their concerns to the company. If they do not have that opportunity, they will stop using the company's services or products, and/or they will tell others about their problems (engaging in negative word-of-mouth communication), making more people skeptical about the company/brand. It is estimated that a customer whose issues are resolved to his satisfaction expected to pass the message approximately five to eight people about the positive experience; on the other hand, those whose problems were not satisfactorily resolved will tell approximately 10 to 16 people about the negative experience (Hren 1996). Exit and word-of-mouth actions are triggered by some threshold effect; that is

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once consumers exceed a particular dissatisfaction level, their propensity to use such actions increases substantially (Singh and Pandya 1991).

Thus by understanding the complaining behaviour of the consumers, particularly in rural-urban context of this subcontinent, for the toilet soap category, would give better understanding, particularly, about the consumer behaviour towards a FMCG product category. The current study aims to explore the complaining behaviour of the consumers of toilet soap brands in a rural-urban framework and the significance of consumer complaining in developing brand loyalty.

## HYPOTHESES AND METHODOLOGY

Hirschman (1970) suggested taxonomy of consumer complaining behavior responses. This taxonomy classifies options into (i) exit the relationship (ii) voice their dissatisfaction and (iii) neither exiting or voicing. Singh (1988; 1990) expanded on this taxonomy by providing three different CCB response categories voice, private, and third party responses. It is recognised that complaining customers are worth their weight in gold. Customers, who choose to complain, are offering the firms an opportunity to demonstrate their trustworthiness and that the resolution process drives customers' subsequent attitudes and behavior (Tax et. al. 1998). They verbalise what it will take to keep the business and articulate what more silent but dissatisfied customers are experiencing, and finally, pointing out the flaws in the firm's systems, operations, and corporate culture that are draining the firm's capital and earnings (Harari 1996). Thus, the companies that "get it" understand that this mind-set yields an enormous return on investment and highly successful in the market place.

Tsiros and Mittal (2000) experiment on antecedents of regret and its consequences illustrated that satisfaction directly influence the repurchase intentions and complaint behavior. Satisfaction with complaint handling has a direct impact on trust and commitment from the consumers (Tax et. al. 1998). The extent to which consumer's attitudes towards complaining are translated into complaint behaviour depends upon the level of his dissatisfaction with the brand/product or services.

Indian Rural markets often characterized by low level of income, literacy, penetration and it limits the capacity of consumption of goods and services when compared with its urban counterparts. Nearly 638,365 villages with 750 Mn population, with an average population per village is about 1161 people,

literacy level of less than 60 percent and more than 20 officially recognised languages and 100s of dialects make things complicated for any marketers (The Marketing White Book, 2005) in terms of either physical distribution or mass communications. Urban and the rural markets are showing vast differences in terms of penetration levels for various product categories too (Marketing Whitebook 2004). Urban consumers many times, take independent purchase decisions whereas, presence of strong social structures, including various hierarchical systems and customs, low literacy levels, even community level decision-making is also quite common in rural places (Marketing Whitebook 2005). The markets are not fully reached by either physical distribution or media; the consumers, particularly, the rural consumers are far behind the reach of products/brands and the related information than the urban consumers.

In a discriminant model for overall performance of toilet soap products, developed by Ramkumar et al (2008), availability is still an issue, which influenced the overall performance ratings of the brands by the rural consumers of this subcontinent. A study of Thillai Rajan and Venkatesakumar (2007) on rural consumer's information search efforts suggests that the sales person as a source of information relied the least; however, the consumers preferred to take more in-store search efforts.

Thus, it is expected that as the rural consumers, who are low in their literacy levels and far from the company headquarters, constrained with limited product/media reach than the urban consumers, expected to voice their complaints to the storekeepers' level than to the firm level. Hence, the following hypotheses are proposed:

**H1:** Intentions to complain to the storekeepers are significantly higher for rural consumers than the urban consumers.

**H2:** Intentions to complain to the companies are significantly higher for rural consumers than the urban consumers.

**H3:** Intentions to complain to the storekeepers are significantly higher than complaining to the companies for both rural consumers as well as the urban consumers.

Even when complaints are not resolved satisfactorily, the complained customer experienced higher levels of repurchase intentions compared to those who did not complain at all (Nyer 2000).

Moreover, Tsiros and Mittal (2000) study supports that the intensity of complaining influences the satisfaction and product evaluation in the post complaint stage. Thus, the following hypothesis is considered.

**H4:** Rural as well as urban consumers, who had the intentions to complain, use the brand longer duration than those consumers who did not have any intentions to complain.

**The measures**

To measure the complaining behaviour, the scale items from Ganesan and Venkatesakumar (2003) work on post purchase action stage and brand switching among the rural consumers was adopted (Cronbach’s alpha of 0.780). The consumers were requested to report about how long they use their current brand of toilet soap, and their complaining intentions, in case of the toilet soap brand falling short of expectations. The intentions to complain to the shopkeeper’s level and to the firm level were measured on a five-point scale.

**DATA AND PROFILE**

The data collected through a field survey in rural and urban places of Kanchipuram district, Tamil Nadu, India. Six hundred respondents were contacted for the study purpose on toilet soap purchase behaviour. By adopting the definition of Census of India 2001, for the rural classification, from the rural places 424 consumers interviewed. From the urban places of the district, 176 were contacted. The respondents were approached with a structured interview schedule.

For the respondents contacted from rural places, male respondents constitute nearly 52.8 percent of the sample and female respondents by 47.2 percent. Nearly 31 per cent of the respondents are from nucleus family type and the rest from joint family type. Income is positively skewed distribution with average income of the family is INR 8539 per month ( $\sigma$ = INR 7500) and average family size is about 4.6 members per family.

For the urban sample, male respondents constitute nearly 52.3 percent of the sample and female respondents by 47.7 percent. Nearly 79.5 percent of the respondents are from nucleus family type and the rest from joint family type. Income is positively skewed distribution with mean income of the family is INR 10513 per month ( $\sigma$ = INR 6888) and average family size is about 4.4 members.

**Findings and discussion**

**Table – 1 Intention to Complain**

Source to Complain*	Consumers	Mean	Std. Deviation	F-Ratio & Sig.
Intention to complain to the store Keepers	Rural Consumers	3.6526	1.02439	21.198 & Sig.= 0.000
	Urban Consumers	3.2060	1.20900	
	Total	3.5216	1.09976	
Intention to complain to the company	Rural Consumers	3.1161	1.17428	8.569 & Sig. = 0.004
	Urban Consumers	2.8029	1.23791	
	Total	3.0243	1.20077	

\*Measured on a 5-point scale

Summarised the findings related to hypotheses H1 and H2. The rural consumers, in general, showed higher intentions to complain than the urban consumers did. Intentions to complain to the storekeepers are significantly higher for rural consumers ( $i = 3.653$   $\sigma = 1.024$ ) than the urban consumers ( $i = 3.206$ ,  $\sigma = 1.209$ ) and the mean difference is statistically significant ( $F= 21.198$  &  $Sig= 0.000$ ). Regarding voicing the complaints to the firm levels, again, the rural consumers showed significantly higher intentions ( $i = 3.116$  &  $\sigma = 1.174$ ) than their urban counterparts ( $i = 2.803$  &  $\sigma = 1.238$ ) and the mean difference is statistically significant ( $F= 8.569$  &  $Sig= 0.004$ ). The results are in support of the hypothesis H1 and H2.

In urban places, the store choices and brand choices are numerous which would be the reason for lesser intentions either to complain to shopkeeper’s level or to firm level by the urban consumers. On the other hand, rural consumes are constrained by the number of outlets and a study of Ramkumar et al (2008), support that availability is still an issue in rural places. Sinha et al (2002) study on store choice behavior of Indian shoppers’ supported that convenience and merchandise were the primary reasons followed by ambience and patronised stores were the reasons for choosing the stores for purchasing. Thus, the rural consumers, constrained by the reach of product/service and communication, try to resolve their issues with storekeepers, and showed higher intentions to complain than their urban counterparts show.

Intention to complain to the firms is significantly higher for the rural consumers than the urban consumers. Since the choices are lower in rural places and only in the recent times, many firms started

working at the rural markets for their volume growth, the rural consumers demonstrated higher intentions to complain to the firms also. Fisher et al (1999) striking findings across the selected industries studied proved that consumers reported that companies did not offer any type of option to potentially resolve their complaints. A similar opinion may be prevailing in rural as well urban places also. Both the hypotheses H1 and H2 are supported.

To test whether storekeepers as source used more often to complain than the firms, a paired-t test is carried out and results are summarised in the table-2 for both rural and urban consumers. The findings are in support of the hypothesis (H3) that rural as well urban consumers showed higher intentions to raise complaints to the store persons than complaining at the firm level.

**Table – 2 Paired Samples Statistics for Complaining Intentions**

Consumer type	Source to complain	Mean	Std. Deviation	t-value
Rural Consumers	Intention to complain to the Store Keepers	3.6526	1.02439	7.238 & Sig. = 0.000
	Intention to complain to the company	3.1161	1.17428	
Urban Consumers	Intention to complain to the Store Keepers	3.2060	1.20900	4.445 & Sig. = 0.000
	Intention to complain to the company	2.8029	1.23791	

\*Measured on a 5-point scale

Probably, the consumers can do a follow-up easily with the store persons and most of the complaints are happen to be oral/informal (due to low literacy levels) and the product category like toilet soap does not create huge financial losses, the consumers might be uninterested to take it the firm level as it needs a formal complaining process. The consumers may view complaint-resolving procedures by the firms as a time consuming process. Moreover, to take the issues to the firm levels, one need formal complaining process, whereas reporting to the storekeepers may not require any formal complaining procedures. Thus, the consumers might prefer to settle any issues more of an informal way than a formal process. This may be unique phenomenon in the subcontinent.

**Table - 3 Brand usage periods (in years)**

Consumer Group	Complaining behaviour	Mean usage	Std. Deviation	F-Ratio & Sig.
Rural Consumers	Intention – Not to Complain	4.6944	3.83447	4.406 & Sig. = 0.037
	Intention – to Complain	5.7217	4.00996	
	Total	5.1506	3.93904	
Urban Consumers	Intention – Not to Complain	4.5938	3.52190	0.170 & Sig. = 0.681
	Intention – to Complain	4.9565	3.87859	
	Total	4.6897	3.60010	

Further, to relate the complaining behaviour with brand loyalty, One-way ANOVA is performed for both rural as well as to the urban consumers and the hypothesis H4 is supported for the rural consumers. The rural consumers, who were having intentions to complain, used the toilet soap brands longer years than those who did not have the intentions to complain. The difference between the two consumer group is statistically significant ( $F = 4.406$  &  $p < 0.05$ ). However the hypothesis is not supported for the urban consumers, even though the urban consumers who have the intentions to complain use the brand longer periods ( $F = 0.170$  &  $p < 0.681$ ). Thus, the findings are in support of work of Nyer (2000) and Harari (1996) works that even whether the complaints are resolved satisfactorily or not, the complained customer experienced higher levels of repurchase intentions compared to those who did not complain at all. Thus the consumers, who complained, vented their feelings and used the brand longer duration; it could be considered as a sign to demonstrate their trustworthiness to the firm (Tax et. al. 1998). A caution to be made is, the consumers, particularly in rural places, exhibited higher intentions to complain to the storekeepers. There is likely possibility that, if the complaints represented by the storekeepers not resolved satisfactorily, there is every chance that the storekeepers may spread negative information about the brand/firms and even prefer not to stock the brand (s) also.

#### MANAGERIAL IMPLICATIONS

The results of the study highlighted significant findings about the rural and urban consumers' behaviour, particularly about the complaining characteristic. The consumers, both rural as well as

urban, prefer to take the issues to the storekeepers' levels or seek the resolution informally than a formal complaining process of taking to the firm level. If the firms initiate formal training on complaints handling process to the store persons/shopkeepers, they are expected to improve the brand loyalty of the consumers by resolving the issues effectively and avoid switching over behaviour of the consumers. Traditionally, marketers have been trained to acquire customers, either new ones who have not bought the product before or those who are currently competitors' customers (Winer 2001). However, understanding the needs of customers at different levels of profitability, and adjusting service based on those differences, is more critical to the enterprise than has been previously held (Zeithaml et. al. 2001). Training should center on in developing skills in building customer relationships and determining customer needs so that the relationship may be customized to the individual customer's preferences /segments (Reynolds and Arnold 2000). These actions will fetch results in the long run but it will be a cost effective measure in retaining the customers and informing the consumers.

Another significant finding from the study is, rural consumers appear to be more loyal and prefer to complain, and those who complain, use the brand longer period. Particularly, the rural markets in India, which are highly fragmented and tiny in size, the firms are constrained by directly reaching the consumers through media or physical distribution, educating the salespersons / store employees and retain /improve the consumers loyalty will be extremely rewarding. The retail outlets / sales persons will be very useful source of information for the customers once they proved some results in successfully resolving issues brought by the consumers.

## CONCLUSION

Conventional wisdom holds that companies must offer their customers something truly unique in order to win their business and loyalty. In truth, successful businesses offer them something simpler but much more important (Barwise and Meehan 2004). The firms are standing to gain in the end, by redressing the issues related to consumers. Specifically, in the light of entry to rural markets as their growth strategy, the firms to be innovative in reaching out consumers with information as well physical distribution. Even in packaging levels, (Low Unit Packs -LUP) or product introduction (introduction of economy brands by biscuit manufacturers to cellular operators in the country) firms to be highly innovative to taste the success. Equally, important issue is how

the firm handles the complaining customers. The findings support that the rural consumers prefer to handle their issues at store levels – an informal complaining handling than a formal procedure. The firms have to develop appropriate mechanisms to handle the complaints, which may not reach the firm at all. Thus, the rural salespersons might be a useful, cost effective source with improved reliability, provided they handle the complaints professionally.

## LIMITATIONS

Rich amount of interpretations might be expected, if the demographic variables are included for analysis, particularly rural-urban divide in terms of per capita income, gender issues. But the analysis is envisaged to bring a macro perspective of rural-urban comparisons demographic variables are not included in the scope of the study. The study area, being adjacent to state capital, certainly an effect of rapid urbanisation is included in the rural areas; but of course, in sample selection, it is tried a maximum extent to include 'pure' rural places. However, the study gives a strong approach for the firms to develop their communication mix for a rural-urban divide.

## FUTURE RESEARCH DIRECTIONS

As mentioned in the limitation, inclusion of demographic variables might strengthen the rural-urban consumers' profile. As a country with strong socio-cultural and economic differences in various geographical places/ parts of the country, replication of the work in other parts of the country will give better understanding of Indian consumers as a whole. The product used to collect the views is based on toilet soap brands usage behaviour and may be, in case of durables, the consumers might demonstrate different behaviour.

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## UZHAVAR SANDHAIS A BOON OR BANE FOR RURAL EMPOWERMENT IN TAMIL NADU

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### ABSTRACT

*The marketing of fruits and vegetables is of extreme complexity in nature when compared to with other counterparts because of the special characters such as perishability, immediate disposal as well as various other factors which need special care. Under such circumstances, the blessing for the rural poor in Tamil Nadu has come in the way of the Uzhavar Sandhais (Farmer's markets) mainly organized to enhance the income of the rural farmer and also to avoid the intermediaries as well as distress selling. As the sale in this market is only against cash, the farmer gets the cash immediately and need not wait for the intermediaries to give them the money. With most of the cultivating land being converted to flats and other multistoreyed buildings, the urban folk are totally dependant on the farmers in the rural areas of Tamil Nadu, who are also depended by the people of Kerala as well. Infact, a sizeable amount of wholesale and retail vegetable and fruit vendors in Kerala too depend on the rural farmers who come to the Uzhavar sandhais in Nagercoil.*

### INTRODUCTION

Over the years, the Government of Tamil Nadu had set up more than hundreds of such sandhais of which seven such Uzhavar sandhais are performing in the districts of Nagercoil, the district

headquarters of Kanyakumari district, Valliyur and Tirunelveli.

This particular study focuses on the various aspects such as

- Decision making made by the rural farmers as to what to produce, what to sell, when to sell, where to sell etc. Infact correct decision has to be taken in the correct time.
- The reason for choosing the Uzhavar sandhais as the place for sale
- The account of average sales per day based on the variety of produces brought in and marketed
- The profitability as well as the marketing methods that they use such as selling vegetables in one "kooru" (not properly weighed but a medium bulk of produces) and Rs. 10 for all these vegetables at the end of the day etc.
- And finally an enquiry as to are the Uzhavar sandhais a boon or bane to the rural farmers in Tamil Nadu.

The study which is based on the data collected from as many as 120 samples from the Uzhavar sandhais at Nagercoil, Kanyakumari and Valliyur also attempts to bring out the way in which the Uzhavar sandhais act as a bridge to eliminate the middlemen and bring the rural farmers closer to the consumers as well as to enable the rural farmer to get more profit.

Marketing of fruits and vegetables is more complex in nature in comparison with the other field crops because of special traits like highly perishable nature, seasonality and bulkiness, which needs special care and immediate disposal. The Uzhavar Sandhai has assumed more relevance and significance especially in respect of marketing fruits and vegetables. The Uzhavar Sandhai is mainly organised to enhance the farmer's income by preventing intermediaries and distress selling. As the sale at the Uzhavar Sandhai is only for cash, the farmers are getting money immediately. This is absent when they sell their produce to the middlemen

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because most of the traders make delayed payment.

The Uzhavar Sandhai revolves around the farmer and raises the position of farmer-to-farmer seller. The farmer is motivated to bring his produce to the Uzhavar Sandhai as he can directly market it to the consumers. Day in and out, they come to the market and the market has become their life breath and in turn, the farmer sellers have become the life breath of the market. Hence an attempt has been made to analyse the farmer sellers in selected Uzhavar Sandhai in the sandhais at Nagercoil, Kanyakumari and Valliyur areas in Tamil Nadu.

### ORIGIN OF UZHAVAR SANDHAI

Uzhavar Sandhai had its birth in the concept of Kal Ghaj in Russia. The former Union agriculture secretary, MS Gill on his visit to this country was impressed by this concept of farmers' market and he replicated this concept by initiating Apna Mandi in Punjab and Haryana in early 1987.

The ruling DMK Government in Tamilnadu subsequently replicated this concept in 1999 in the form of Uzhavar Sandhais. Andhra Pradesh followed suit and started the Rythu Bazar on similar lines. In order to eliminate the involvement of intermediaries the state government introduced Uzhavar Sandhai (Farmers' market) where the farmers and consumers can have direct dealings. The idea of setting the Uzhavar Sandhai exclusively for selling vegetables grown by the local growers was conceived in the early 1990s by former Union Agricultural Secretary, M.S. Gill. It is reported that 'Kal ghaj', a farmers market, was started way back in 1975 exclusively to sell vegetables and spinach in the former Soviet Union. During a visit to United Kingdom, Mr. M.S. Gill noticed that some of the farmers were selling vegetables and fruits at the roadside on a collective basis at a high profit. The market was very busy. After a detailed investigation, he found that the farmers directly sold their produce to the consumers without the help of intermediaries. Immediately on his return to India, he successfully set 'Apna Mandi' or 'Kisan Mandi' in Punjab. The first 'Apna Mandi' was started in Punjab at Chandigarh in 1987, in Haryana at Karnal in 1988. Noticing their success, the Union Ministry of agriculture suggested the idea for starting Uzhavar Sandhais in other states also. Andhra Pradesh took immediate steps to start 'Rythu Bazaar'.

Recently a high-powered European committee visited the largest vegetables market in Tamilnadu, Ottanchatiram for an on the spot assessment of vegetables marketing by the farmers.

The committee found that farmers sold their vegetables not only at throwaway prices but also simply dumped unsold vegetables on the roadside for want of transportation. Some growers reported to the committee that vegetables like tomatoes were left in the field itself as even the labour cost for harvesting was not realized. This kind of situation had arisen even in adjoining states like Karnataka, where the growers registered their protest by dumping truckloads of tomato on the national highways due to a glut in the market. Market surplus, high input cost, lack of transportation and exploitation by the middlemen and wholesalers have made vegetable cultivation an unremunerative activity and made farmers lives miserable. Realizing the distress sale of vegetables and fruits, and the middlemen and wholesale traders role in cheating the farmers the committee suggested providing financial assistance of Rs. 300 crores to help the vegetable growing farmers. Even this was not given proper attention by the government at that time and the farmers continued to be exploited by vegetable traders and commission agents.

When the President of the Tamilnadu unit of the Traders Association visited the 'Rythu Bazaar' in Andhra Pradesh, he realized the importance of the concept of a farmers' market. On his return, he reported his conclusions to the Chief Minister, and he was convinced on the feasibility of a farmers' market. The government then identified the sites for Uzhavar Sandhais.



Illustration : A view of 'Rythu Bazaar'

### REVIEW OF LITERATURE

#### The Study Commissioned by the Oxfam GB in India

Uzhavar Sandhai is in operation in Tamilnadu since 1999 with first such farmers' market being set

up in Madurai. As per 2002 data, there are about 102 Uzhavar Sandhais in various urban centres in Tamil Nadu. "It has survived despite inadequate support from the government, which has focused its energies behind promotion of Self Help Group (SHGs), providing them with infrastructure and soft bank loans. Therefore, the Uzhavar Sandhais have survived purely because of the merits in their unique system of marketing," the study said. Farmers are allotted a space where they can sell their produce. The government has set up marketing committees to identify farmers and give them a permit or identity cards. Farmers do not pay any rent or commission. The marketing committee fixes the prices of fruits and vegetables, which holds good for the whole day.

#### **Study by IIFT, Delhi and KASC, Erode**

The study entitled "Meeting Local demands for vegetable & fruits – The dynamic of Farmers' Market conducted by Murali Kallummal of the centre for WTO studies in the Delhi based Indian Institute of Foreign Trade (IIFT) and K. Sakthi Srinivasan of the Department of Management studies in Kongu Arts and Science College, Erode, TamilNadu urged policymakers to promote such farmers' markets in the interests of livelihood and food security.

#### **Biodiversity Unit, Department of Botany, The American College, Madurai, India**

Monitoring biodiversity of a given geographical territory that supplies a local market is an age – old practice. Due to various reasons our markets have become complex, unorganized structures. Commodities pass a number of middlemen before they reach the customer. Therefore it is difficult to trace and identify the origin of a given commodity. In this context, the authors have identified "Uzhavar Sandhais" as an organization with a high who's potential for participatory monitoring of agro – biodiversity (Vegetable crops). Uzhavar Sandhai is a Fair Trade Organisation (FTO) that is owned by the Tamilnadu Government. Uzhavar Sandhai aims at organizing local farmers and helps them to maximize their income. It does so by providing a bridge between urban customers and rural vegetable growers. In an novel design, tracing the origin of vegetables becomes easy. Within one and half year period since the programme started it has become widely accepted as a small – scale enterprise of traditional farmer communities.

Vijayaraghavan and Subramanyam (1980) also observed that discussion with family members was the useful method of taking decision.<sup>3</sup> The second

rank is given to consultation with village merchants. Outside their family circle, they find it easy to consult with merchants of their own village. Then they consult the marketing officials. The marketing officials are approached to get the particulars regarding the Uzhavar Sandhai.

Bhale Rao et. al (1981), Subramanyam (1981) and S. Chowdhury (2002). Paying rent and establishing a shop is generally out of reach of the small farmers. Getting a place with basic amenities to sell their products without rent is a boon for them. Provision of weighing scales by the marketing committee also relieve them from the botheration of bringing their own scales.

#### **NEED FOR THE STUDY**

The government established hundred Uzhavar Sandhais in various parts of Tamilnadu. In Madurai and Virudhunagar districts eleven Uzhavar Sandhais were established. At present there are as many as five Uzhavar sandhais situated at Kanyakumari, Valliyur, Nagercoil, Tirunelveli and Thovalai which are the most sought after uzhavar sandhais adjacent to the God's own country, Kerala. These are some of the markets from where a large number of traders purchase huge quantities of vegetables for sale in Kerala. The researcher attempts to find out whether Ulavar sandhai is a boon or bane in Tamilnadu. The study highlights the personal profile of farmers with respect to their age, income, type of produced, traded, income and source of information towards Ulavar Sandhai

#### **OBJECTIVES OF THE STUDY**

The main objectives of the study are:

- To study the personal profile of farmers.
- To find out the awareness of Ulavar Sandhai among farmers of Tamilnadu.
- Decision alternatives of the Farmer Sellers in Uzhavar Sandhais.
- To find out the impact of Ulavar Sandhai among farmers in Tamilnadu.
- To Analyse the strength and weakness associated with Ulavar Sandhai.
- To offer valuable suggestions to the government and farmers while trading.

#### **METHODOLOGY**

The study covers both the primary and



secondary data. Descriptive research is most suitable. The data was collected by interview method by using structured questionnaire. For the purpose of study, the data has been collected at a uzhavar sandhai in the above mentioned sandhais at Nagercoil, Valliyur, Thovalai, Kanyakumari and Thirunelveli this year. Data have been collected from a cross section of farmers, consumers, assistant agriculture officers and horticulture officers.

### SOURCES OF DATA COLLECTION

The data was collected from the published records, journals, magazines, web portals, news paper and general discussions with local municipal governmental officials.. Primary data was collected by administering questionnaire cum interview schedule to farmers.

### SAMPLING TECHNIQUE

**Universe:** Farmers of Tamilnadu trading in Uzhavar Sandhai

**Sampling Unit:** The sampling limit was limited to Uzhavar Sandhais in the places of Nagercoil, Valliyur, Thovalai, Kanyakumari and Thirunelveli.

**Sample size:** 120 farmers

**Sampling design:** Convenience sampling method adopted.

The collected data was analyzed by using the percentage analysis, central tendency, and Garrett's Ranking method.

### LIMITATIONS OF THE STUDY

Farmers do not follow what they have stated in their responses. Thus the degree of reliability cannot be taken to be always correct. There are certain constraints.

- The study is limited to the Uzhavar Sandhais situated at Nagercoil, Valliyur, Thovalai, Kanyakumari and Thirunelveli this year.
- The period of the study is limited.
- One more limitation would be that the sample size is too small to come to any conclusion and there may be discrepancies in data due to this.

At this juncture, an objective study of the performance of the farmers' market becomes imperative for judicious policy making. For this purpose an empirical study has been conducted. Based on the field work a SWOT analysis has been

made in the following section.

SWOT analysis consists of systematic evaluation of an organization's strengths and weaknesses and the opportunities and threats which it faces, It provides a general framework for understanding and managing the environment under which an organization operates.

### SWOT ANALYSIS

#### Strengths of Uzhavar Sandhai

Fair price is determined by the officers of the Agriculture Marketing Committee and representatives of farmers for the vegetables and fruits everyday. Generally the price fixed is 20% higher than the wholesale price and 15% less than the retail price. Fresh vegetables are weighed correctly and are available at lower price (15% less than retail shops) for the consumers. The price fixed is uniform in all farmers' markets in these markets. About 4000 to 5000 consumers visit the farmers' market everyday.

About 20 to 25 tons of vegetables of the value of about 1.5 lakhs to 2 lakhs are sold every day. About 125 farmers sell their produce in week days and 175 farmers sell their produce during the weekend in the farmers market. Administrative officers and three assistants under the authority of Commissioner of Agriculture Marketing regulate the functioning of the farmers' market. Facilities for disposal of garbage to the tune of five to six tons per day has been provided by Exonora, an environment conscious NGO.

Government support is extended in terms of construction of shops, free supply of weighing 3 machines and free transport of vegetables to the farmers' market in selected State run buses. The farmers' market functions from 5A.M. to 2P.M. everyday with longer working hours. Bulk purchases for marriage and other functions are allowed with prior intimation and production of proof as it enables higher turnover in the market. The sale is only for cash and so there is no problem of delayed payment or bad debts.

#### Weaknesses

Lack of cold storage facilities to preserve unsold vegetables of the previous day affects the quality of the vegetables. The normal functioning of the farmers' market has been much affected due to the termination of the services of welfare workers who used to issue tokens to the farmers at the time of arrival, issue weighing machines and enquire the price in the wholesale market. Approximately 750 workers

were employed in the Uzhavar Sandhais and they are removed from services now. Shortage of manpower affects its operational efficiency.

Inadequate roofing facilities adversely affects trade during rainy season.

It is widely alleged that traders enter the farmers' market with fake identity cards.

The farmers' markets face stiff competition from wholesale market. The bulk buyers prefer to buy the from the wholesale market as the price fixed is 20% higher than that of the wholesale market.

### Opportunities

The farmers are educated on modern methods of farming by the Agriculture and Horticulture departments in the farmers' market itself. High yielding seeds, bio-fertilizers and the like are sold for the benefit of farmers. Such supports are likely to bring more hectares of land under vegetable cultivation. At present nine percent of the total cultivated land is under vegetable cultivation. It is expected to grow with active government support.

The farmers have learnt the nuances of salesmanship such as courteous and polite manners and have succeeded in getting patronage of large number of consumers.

The spirit of co-operation and togetherness has emerged among the growers resulting in collective responsibility.

It is observed that the vegetable growers are willing to contribute in the form of entry fee to sustain and improve the present marketing system.

### Threats

The powerful lobby of wholesalers and commission agents influence the political stand on uzhavar sandhai. The present government has proposed weekly market in lieu of farmers' market which may not benefit marginal and small farmers. The present government's attitude is not favourable towards uzhavar sandhais.

The above SWOT analysis shows that the strengths are highly significant and the opportunities offer tremendous scope for growth. Majority of the findings relating to strengths, weaknesses, opportunities and threats can be generalized to all markets functioning in Tamilnadu. Hence it is suggested that the Government of Tamilnadu should take steps to strengthen the present system of

uzhavar sandhais in the interest of consumers and the farmers at large.

### SALIENT FEATURES

The government started uzhavar sandhais (farmers' market) in 103 places in the State. The Salient 16 features of the Uzhavar sandhais in Tamilnadu are as follows:

- Approximately 200 shops are built in each market center.
- The shops are rent free and weighing machines are provided to the farmers free of cost.
- Prices are fixed by the officers based on wholesale and retail prices.
- Branches of banks, cold storage facilities and provision for garbage disposal are provided in the farmers' market.
- Free transportation of vegetables from nearby villages to the farmers' market through State run kale buses is extended.

Since its inception in October 1999 till May 2001, 103 uzhavar sandhais in Tamilnadu have done a total 25 business of Rs. 225.52 crores. About 3.5 lakh tons of vegetables, fruits and flowers have been sold benefiting about 28.13 lakh farmers and 9.2 crore consumers.

The farmers' market in Hosur near Bangalore has been identified as a model, market by the Agriculture Marketing Society. This market has an average arrival of 42,940 kg of vegetables per day and caters to the farmers of 208 villages nearby. Agriculture experts deputed by Kamataka State recently visited Hosur market ID Study the possibilities of introducing such a set up in Tamil Nadu.

The sales volume of vegetables in other farmers' markets is also quite significant. In eight uzhavarsandhais daily sale varies between 20 and 40 tons, in 33 farmers' markets daily sale varies between 10 and 20 tons, in 31 farmers markets it is between 5 and 10 tons and in 30 markets the sale ranges from one to four tons per day.

### GARRETT'S RANKING METHOD

To find out the most significant factors which influence the respondents while arranging tour, Garrett's ranking technique was used. As per this method, respondents have been asked to assign the rank for all the factors and outcome of such ranking have been converted into score value with the help of

the following formula :

$$\text{Percent Position} = 100(R_{ij}-0.5)/ N_j$$

Where,

$R_{ij}$  = Rank given for the  $i$ th factor by the  $j$ th respondents

$N_j$  = Number of factors ranked by the  $j$ th respondents.

By referring the Garrett's Table, the percent position estimated is converted into scores. Then for each factor the scores of each individual are added and then mean values is considered to be the most important

### Source of Information

Any new concept needs to be communicated to the group concerned. Successful results can be obtained through proper communication. The communication must reach the right persons, at right time, at the right place and through the right means. The establishment of Uzhavar Sandhai reached the farmers through various media such as All India Radio, newspapers, marketing officials, fellow farmers, pamphlets issued by Uzhavar Sandhais and Television. The sources of information were given to the farmers for ranking. The orders of merit assigned by the farmer sellers were converted into ranks by using the formula. The results of ranking are shown in Table 1.1.

The Table 1.2 exhibits Garrett's ranking and scores. The Table 1.2 highlights Garrett's scores which help to decide the most important factors adopted by the farmers for source of information is Uzhavar Sandhai. The highest score is 54.66, 1 rank for Uzhavar Sandhais, and the lowest rank is 30.85, the last rank selected by the respondent is through television. It is inferred from these table that an individual chooses the factor based on his own perceptions in order to satisfy their routine needs.

### Decision Making

Decision-making is crucial in marketing. Decision regarding what to sell, when to sell, where to sell, whom to sell must be taken by the farmer sellers. Correct decision must be taken at correct time. Correct decision depends upon the marketing experience and knowledge possessed by the farmer sellers. Some persons may take self-decision; some others may take decision after having consultation with others. In order to find out how they select Uzhavar Sandhai, various decision-making alternatives were given to the farmer sellers for ranking. The alternatives

were ranked with the help of Garrete's ranking techniques and are given in Table 1.3.

The Table 1.4 exhibits Garrett's ranking and scores. The Table highlights Garrett's scores which help to decide the most important factors adopted by the farmers for trading in Uzhavar Sandhai. The highest score is 61.07, 1 rank for consulting family members, and the lowest rank is 44.98, the last rank selected by the respondent is consulting commission agents. It is inferred from these table that an individual chooses the factor based on his own perceptions in order to satisfy their routine needs.

Instead of taking self decision, the farmer sellers give due consideration to their family members. The results presented in Table 1.4 revealed that most of the farmer sellers are taking decision regarding marketing their produces in Uzhavar Sandhai, after having consultation with their family members accompany and assist the farmer sellers in marketing their produces in Uzhavar Sandhais and thus marketing the agricultural produce becomes a family venture in the study area. Hence, consultation with them counts.

### Reason for Choosing Uzhavar Sandhais

Uzhavar Sandhais provide a place for the marketers of vegetables and fruits to sell their produces directly to the people without recourses to the middlemen. These sandhais are started to establish a direct link between the farmer sellers and the consumers. By eliminating the middlemen, this scheme aims at benefiting both the farmers as well as the consumers. The farmer sellers need not pay rent of the shop allotted to them or commission for selling their goods at the market. The market committee appointed by the state government fixes the prices for the same. The prices are fixed for different commodities on the basis of previous day prices of that commodity in the wholesale market. Garrete's ranking technique is used to find out the primary reason for choosing the Uzhavar Sandhais by the sample farmer sellers. The various reasons are listed in Table 1.3 along with Garette Ranking.

The table 1.5 and 1.6 exhibits Garrett's ranking and scores. The table highlights Garrett's scores which help to decide the most important factors adopted by the farmers for trading in Ulavar Sandhai. The highest score is 62.2, 1 rank for avoidance of middle men, and the lowest rank is 41.47, the last rank selected by the respondent is reasonable rates. It is inferred from these table that an individual chooses the factor based on his own perceptions in

order to satisfy their routine needs.

### Sales per Day

The sales per day of the farmer sellers differ from each other. The sales value depends upon the nature of the vegetables sold by the farmer sellers. The details about the sales per day and the nature of vegetables are presented in table 1.4.

Table 1.7 clearly discloses that, 35 (74.5 percent) local vegetable sellers earn less than Rs. 100/- per day. There are 6 (15.8 percent) hill vegetable sellers whose earning ranges from Rs. 101-200/- per day. There are 16 (45.7 percent) fruit sellers who earn more than Rs. 200/- per day. It is evident from this table that the sales of the fruit sellers in Uzhavar Sandhais are higher compared to the sales of other farmer sellers.

### Variety of Produce Sold in Uzhavar Sandhais

The varieties of produce sold in Uzhavar Sandhais are classified into three categories such as local vegetables, hill vegetables and fruits. Local vegetables category consists brinjal, tomato, lady's finger, small onion and greens which are grown locally. These vegetables are highly marketed by the farmer sellers in Uzhavar Sandhais. These vegetables are considered as short duration crops grown by the farmer sellers who depend on the sale of these vegetables for livelihood in this study area. During the hot humid rainy season, brinjal is one of the few vegetables available to urban and rural poor at reasonable prices ranging from Rs. 4 to 8/- per kg. Vegetables such as cabbage, cauliflower, beans potato and carrot are considered as hill vegetables. The climatic condition needed for these vegetables is different from that of local vegetables. Farmer sellers of Kodaikanal market these vegetables. Fruits such as banana, guava, lime, mango and papaya are locally grown and marketed by local growers. The summary statistics regarding the sales per day of these categories of vegetables are given in Table 1.8.

It is evident from Table 1.8 that, majority of the farmer sellers (58.3 percent) is selling only local vegetables. Hill vegetables are sold by only 16 (13.3 percent) farmer sellers. The average sale of fruits is the highest (193.7) compared to vegetables and hill vegetables. The coefficient of variation is more or less similar in the case of vegetables and hill vegetables.

### Vegetable Cultivation

Vegetable cultivation is made on the basis of soil condition of the agricultural land. Seasonality is

on the wane in vegetable cultivation. It has become a common phenomenon to see many vegetables like tomato, brinjal, lady's finger and cabbage being available throughout the year in vegetable markets. This has become possible because of the development of improved varieties/hybrids. In order to increase returns from per unit area of land, and to shorten the period of return to investment intercropping of vegetables is also followed by vegetable growers. Some varieties of greens are grown by the local vegetable growers by adopting intercropping. In fruit orchards especially vegetables are grown to utilize the space available in the initial stage. The important vegetables sold in Uzhavar Sandhais are selected and the details about the number of farmers growing those vegetables are given in table.

It may be seen from table 1.9 that out of the total sample farmer sellers, 77.5 percent reported the cultivation of tomato followed by 75 percent in case of brinjal, 51.7 percent in lady's finger and 37.5 percent in onion. Tomato is widely cultivated because of its demand, because it is profusely used in the Southern Indian cuisine. Among the sample respondents guava cultivators are lesser in number.

### Profitability

Profit is the main motivating factor behind any business. Agriculture is not an exception to this. In Uzhavar Sandhais the prices are always higher than the wholesale rate and lesser than the retail rate which benefited the farmers and consumers because of direct selling, zero market margin and nil price spread. (Dharmarajan, 2000, Shanmugam and Kempuchetty, 2000). Rent free shops, free weighing scales and transportation facilities with the elimination of middlemen enables the farmer sellers to get more profit. Information is collected regarding the percentage of profit gained through selling products in Uzhavar Sandhais and presented in Table.

It is clear from Table 1.10 that 70 (58.3 percent) farmer sellers are getting more than 30 percent as profit in selling their produce in Uzhavar Sandhais. Out of 120 sample farmer sellers 10 (8.3 percent) farmer sellers started that their profit is less than 10 percent.

## RESULTS AND RECOMMENDATIONS

- Irrespective of the age, sex, educational qualifications, occupation, level of income and family size, there is no significant difference in the satisfaction level of consumers towards the

price, variety of produces, quality, and relationship with traders etc which prevail in the uzhar sandhais.

- As many as 60% of the respondents were satisfied about the prices, quality and variety of the produces marketed in these sandhais.
- The farmers here expect the Government to support them with additional facilities such as extension of working hours and providing special bus services at odd hours as well as to bring the produces to the sandhais
- The farmers feel that there needs to be a need for an orientation programme on modern methods of farming and selling methods for them to keep themselves aware of the latest trends in the field rather than sticking on to the traditional methods.
- The study also revealed that the setting up of the sandhais in various parts of the State had paved way for the eradication of poverty to a good extent as the farmers are able to sell off their produces at the earliest within a short span of time rather than keeping them as dead stock or selling it a low price when the vegetables and fruits start to decay.
- Farmers are expecting Tiffin centre and drinking water facilities.
- Farmers are expecting small godown facilities to store their products like onions, coconuts etc.
- Concerned authority of the uzhar Sandhai should take necessary steps to implement Aavin milk stall in uzhar Sandhai for milk, butter, ghee etc.
- Suggestion boxes may be kept in uzhar Sandhai at right place and necessary action should be initiated upon those suggestions.
- Municipal Corporation Commissioner must create awareness about uzhar Sandhai through local advertisements media( like announcement, hoardings, scrolling).
- Avoidance of middlemen domination in uzhar Sandhai.
- Extending the working hours of sandhai in the evening time for office goers.
- Regular maintenance should be carried out.
- Concerned Officers should make surprise visits at the uzhar Sandhai to inspect and regulate

the activities.

Several measures are recommended for improving the marketing of fruits and vegetables in the sandhais. The following major recommendations emerge from the study reported here on improving the marketing efficiency of fruits and vegetables. First, it is important to bring more markets under regulation and put them under the supervision of a well represented market committee.

Second it is important to promote, and perhaps even enforce through rules or laws, the practice of open auction in the markets. Third, it is important to bring more numbers of buyers and sellers to the wholesale markets so as to encourage healthy competition close to perfect market conditions and better price realisation to the producer farmers.

Besides above measures, improvements in market infrastructure such as storage (godown) facilities, cold storage, better loading and weighing facilities, proper stalls, better road links etc. would also be helpful in improving the marketing efficiency. Improvement in cold chain facilities, marketing of fruits and vegetables are obviously important and do not need any special mention. Efforts to improve the transparency in the market operations through better supervision by the market committee would be another important factor in improving the marketing efficiency. Finally there is substantial scope for improving the marketing efficiency by improving the market information system by making available latest and extensive market information to all market participants through the use of internet facilities and other means of communication.

## CONCLUSION

The farmers who brave the vagaries of monsoon to produce vegetables and fruits, find it difficult to sell the produce at a profitable price. Establishment of U.S. has helped them to overcome the hardships posed by the middlemen. The direct contact with the consumers has enhanced their income. Like any other industry, diversification of products i.e. selling more than two products has resulted in high average sales per day. The Uzhar Sandhais in general, has done a laudable job in making the marketing easy for the farmers.

**Table 1.1: Source of Information**

Sino	Factors	1	2	3	4	5	6	Total
1	All India Radio	15	18	30	10	26	21	120
2	Local Newspapers	10	33	13	8	20	36	120
3	Fellow Farmers	18	25	11	10	30	26	120
4	UzhavarSandhais	33	34	10	9	10	24	120
5	Marketing Officials	20	27	14	12	14	33	120
6	Television	67	12	9	10	11	11	120
Garret Table value		77	63	54	46	37	23	

Source: Primary data

**Table : 1.2 Garret ranking selection factor results**

Factors	1	2	3	4	5	6	Garret score	Average	Garret Rank
All India Radio	1155	1134	1620	460	962	483	5814	48.45	5
Local Newspapers	770	2079	702	368	740	828	5487	45.72	2
Fellow Farmers	1386	1575	594	460	1110	598	5723	47.69	3
UzhavarSandhais	2541	2142	540	414	370	552	6559	54.66	1
Marketing Officials	1540	1701	756	552	518	759	5826	48.55	4
Television	1340	756	486	460	407	253	3702	30.85	6

**Table 1.3 : Decision alternatives of the Farmer Sellers in Uzhavar Sandhais**

Sino	Factors	1	2	3	4	5	6	Total
1	Self decision	20	25	20	25	18	12	120
2	Consulting friends	10	20	16	17	38	19	120
3	Consulting family members	50	27	9	13	15	6	120
4	Consulting village merchants	25	34	25	13	13	10	120
5	Consulting the commission agents	8	15	23	23	26	25	120
6	Consulting marketing officials	10	40	26	24	13	7	120
Garret Table value		77	63	54	46	37	23	

Source : Primary data

**Table: 1.4 Garret ranking selection factor results**

Factors	1	2	3	4	5	6	Garret Score	Average	Garret Rank
Self decision	1540	1575	1080	1150	666	276	6287	52.59	4
Consulting friends	770	1260	864	782	1406	437	5519	45.99	5
Consulting family members	3850	1701	486	598	555	138	7328	61.07	1
Consulting village merchants	1925	2142	1350	598	481	230	6726	56.05	2
Consulting the commission agents	616	945	1242	1058	962	575	5398	44.98	6
Consulting marketing officials	770	2520	1404	1104	481	161	6440	53.67	3

**Table 1.5 : Reasons for Choosing Uzhavar Sandhais by Sample Farmer Sellers**

Sino	Factors	1	2	3	4	Total
1	Direct contact with consumer	8	46	29	37	120
2	Avoidance of middlemen	78	16	14	12	120
3	Reasonable price	16	24	15	65	120
4	No rent for shop and no charge for weighing machine	21	35	56	8	120
Garret Table value		72	56	44	28	

Source: Primary Data

**Table :1.6 Garret ranking selection factor results**

Factors	1	2	3	4	Garret score	Average	Garret Rank
Direct contact with consumer	576	2576	1276	1036	5464	45.53	3
Avoidance of middlemen	5616	896	616	336	7464	62.2	1
Reasonable price	1152	1344	660	1820	4976	41.47	4
No rent for shop and no charge for weighing machine	1512	1960	2464	224	6160	51.33	2

**Table 1.7 : Sales per day of the Farmer Sellers**

Sales per day	Number of Farmers			Total
	Local vegetables	Hill vegetables	Fruits	
Less than Rs. 100/-	35 (74.5)	5 (10.6)	7 (14.9)	47 (100)
Rs. 101-200/-	21 (55.3)	6 (15.8)	11 (28.9)	38 (100)
Above s. 200/-	14 (4)	5 (14.3)	16 (45.7)	35 (100)

Figures in the parenthesis are percentages.

**Table 1.8 : Varieties of Produce sold in Uzhavar Sandhais**

Varieties	Number of Farmers	Mean Sales	$\sigma$ (S.D)	C.V
Small	47	83.46	12.67	15.18
Medium	38	163.70	22.12	13.51
Large	35	287.36	54.35	18.91

**Table 1.9 : Number of Farmer Sellers Growing Selected Vegetables in Uzhavar Sandhais**

Vegetables! Fruits	Number of small farmers	Number of medium farmers	Number of large farmers	Number	Total number of farmers Percentage
Tomato	42	26	25	93	77.5
Brinjal	39	28	23	90	75.0
Lady's finger	25	24	13	62	51.7
Onion	20	10	15	45	37.5
Potato	18	9	4	31	25.8
Carrot	16	7	6	29	24.2
Banana	6	5	4	15	12.5
Guava	4	6	3	13	10.8
Chillies/Greens	5	4	7	16	13.3

Percentage is calculated out of the total number of farmers.

**Table 1.10: Percentage of Profit of Farmer Sellers**

Sl. No.	Percentage of Profit	Number of Farmers	Percentage
1.	Below 10	10	8.3
2.	11-20	14	11.7
3.	21-30	26	21.7
4.	Above 30	70	58.3
	Total	120	100.0

Source: Primary Data.

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## BANKING WITH INFORMATION TECHNOLOGY—EMERGING CHALLENGES AND POTENTIALS

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### ABSTRACT

*The severe crises of 1991 gave birth to the new economic thought in the country. A bundle of measures were taken to remove the various deficiencies and rigidities in the Indian economy. Hence, new economic policy was introduced to mould the Indian economy to the right path. Financial sector reforms and banking sector reforms are the part and parcel of economic reforms, which strengthen the economic reforms. Under the regime of banking sector reforms, IT Act of 1999 gave new dimensions to the Indian banking sector. IT (ATMs, Smart Cards, Internet-Banking, Tele-Banking, Mobile-Banking, EFTs etc.) has created transformation in banking structure, business process, work culture and human resource development. It has affected the productivity, profitability and efficiency of the banks to a large extent.*

*The present paper analyzes the performance of major banks in terms of productivity and profitability in the pre and post e-banking period. The paper concludes that performance of all the banks under study is much better in post-e-banking period and further foreign banks are at the top position, whereas the performance of the public sector banks is comparatively very poor. The paper suggests some measures to tackle the challenges faced by the banks particularly public sector banks. At the end, paper suggests how public sector banks can convert the emerging challenges into opportunities?*

### INTRODUCTION

In the beginning of 90's, there were so many deficiencies were prevailing in the Indian economy, particularly in the financial sector and also in the banking sector. The major deficiencies prevailing at the time of early 90's:

- productivity and efficiency of the system has suffered;
- its profitability has been eroded;
- several public sector banks and financial institutions have become weak financially;
- some public sector banks have been incurring losses year after year;
- their customer service was poor;
- their work technology was outdated;
- they were unable to meet the challenges of a competitive environment.

Keeping in mind all the above said distortions in the economic, financial and banking sectors, the government of India and the RBI thought it was necessary to introduce reforms in the financial and banking sector also, so as to promote rapid economic growth and development with stability through the process of globalization, liberalization and privatization in the financial system so that the financial system becomes more competitive and gets integrated with the world economy through internationalizations of financial markets in the world.

### NARASIMHAM COMMITTEE - RECOMMENDATIONS FOR BANKING SECTOR REFORMS

The government of India, under the chairmanship of Sh. M. Narasimham, an Ex-Governor of RBI, appointed the Narasimham Committee-I (NC-I) in April 1991. The committee examined all the aspects relating to the structural organization, functions and procedures of financial system and submitted its report on November 16, 1991. The NC-I had proposed wide ranging reforms for:

- improving the financial viability of the banks;

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- increasing their autonomy from government directions;
- restructuring unviable banks;
- allowing a greater entry of the private sector in banking;
- liberalizing the capital market;
- further improving the operational flexibility and competition among the financial institutions;
- setting up of proper supervisory system.

### **FIRST PHASE OF BANKING SECTOR REFORMS (1991)**

A number of reform initiations have been taken to improve or minimize the distortions impinging upon the efficient and profitable functioning of banks, especially:

- Reduction in SLR & CRR
- Transparent guidelines or norms for entry and exit of private sector banks
- Public sector banks allowed to direct access to capital markets
- Deregulation of interest rates
- Branch licensing policy has been liberalized
- Setting up of Debt Recovery Tribunals
- Asset classification and provisioning
- Income recognition
- Asset Reconstruction Fund (ARF)

These and other measures that have been taken would help the highly regulated and directed banking system to transform itself into one characterized by openness, competition, prudential and supervisory discipline.

### **SECOND PHASE OF BANKING SECTOR REFORMS (1998)**

The recommendations of the NC-I in 1991 provided the blueprint for the first generation reforms of the financial sector. The period 1992-97 witnessed the laying of foundations for reforms in the banking system.

Cataclysmic changes were taking place in the world economy, coinciding with the movement towards global integration of financial services.

Against such backdrop, the committee NC-II, appointed for the said purpose generated its report in 1998, provided the roadmap for the second-generation reform process.

The NC-II with Mr. M. Narasimham as the chairman was constituted on December 26, 1997 to review the banking sector reforms since 1991 and to suggest measures of further strengthening the banking sector of India. The NC-II examined the second-generation of reforms in terms of three broad interrelated issues:

- action that should be taken to strengthen the foundation of the banking system
- strengthening procedures, upgrading technology and HRD and
- structural changes in the system

These cover the aspects of banking policy, institutional, supervisory and legislative documents. The major recommendations of the committee were:

- Strengthening banking system
- Systems and methods of banking
- Structural issues
- Integration of financial markets
- Rural and small scale industrial credit
- Regulation and supervision

### **OBJECTIVES**

The present paper analyzes the impact of IT on the transformation of banks during the second phase of banking sector reforms. The specific objectives of the paper are:

- To study the process and contents of bank transformation in the regime of post-second banking sector reforms.
- To analyze the comparative performance of public sector banks, new private sector banks and foreign banks in pre and post e-banking period.
- To study the challenges and opportunities for the banking industry particularly to the public sector banks.

### **HYPOTHESIS**

- The performance of all the banks under study is significantly better in post-e-banking period than pre-e-banking period.

- The performance of foreign banks is significantly better than new private sector banks and public sector banks.
- The performance of new private sector banks is significantly better than public sector banks.

### RESEARCH METHODOLOGY

The present paper is concerned with the Indian banking industry. Total nine banks have been selected on the basis of their market share in business in 2003-04, three banks from each bank group i.e. public sector banks, new private sector banks and foreign banks.

#### Public Sector Banks

- State Bank of India (SBI)
- Bank of Baroda (BOB)
- Canara Bank (CB)

#### New Private Sector Banks

- HDFC Bank
- ICICI Bank
- UTI Bank

#### Foreign Banks

- Citibank
- Standard Chartered Bank (SCB)
- The Hongkong and Shanghai Banking Corporation (HSBC)

To compare the performance of selected banks in pre and post e-banking period, ratio analysis method is used.

The following ratios are analyzed to examine the performance of the selected banks.

#### Labour Productivity Ratios

- Deposits per Employee
- Credits per Employee
- Business per Employee

#### Branch Productivity Ratios

- Deposits per Branch
- Credits per Branch
- Business per Branch

#### Profitability Ratios

- Spread as Percentage of Working Funds
- Burden as Percentage of Working Funds
- Net Profit as Percentage of Working Funds

The universe for the study is Indian banking industry. The study is concerned with the second-post banking reforms period i.e. 1998-99 to 2003-04. The time period is further divided into two parts i.e. pre-e-banking period (1998-2001) and post-e-banking period (2001-04). Before the IT Act, there was very limited computerization and there were no e-delivery channels and that is why we are considering this period as pre-e-banking period (1998-2001). After the IT Act, almost all the banks less or more, started to use e-delivery channels that is why we are considering this period as post/e-banking period (2001-2004).

#### REVIEW OF LITERATURE

Arora, K. (2003) highlighted the significance of bank transformation. Technology has a definitive role in facilitating transactions in the banking sector and the impact of technology implementation has resulted in the introduction of new products and services by various banks in India.

Bakshi, S. (2003) said that good governance is of interest not only to an individual bank but also to the society in which it operates—the basic objectives being protection of depositors and safeguarding the integrity and soundness of the system.

Brett (1997) studied the changing in old money structure into E-Money. Now days the banks are providing different cards (Smart Card, Credit & Debit Cards) to their customers.

Clifford (2002) studied the impact of IT on the financial services. The dimensions of banking business are changing in the new economy. In many banks, transformation is managed by IT.

Federick & Phil. (2000) analyzed the E-Loyalty. According to them, the unique economics of e-business make customers loyalty more important than ever.

Jalan, B. (2003) rightly expressed his view in the Bank Economists' Conference - (2003), a forward-looking approach to our long-term vision must focus on building human resources in a continuous cycle of competency and development.

Mohan, R. (2003) expressed his views regarding the transformation in Indian Banking that if

Indian Banks are to compete globally, the time is opportune for them to institute sound and robust risk management practices.

Sankarn, S. (2001) concluded that in the era of transformation banks should go for mergers and acquisitions to improve their size, skills and services. He suggested that Indian Banking has to operate with a global mindset even while fulfilling local banking requirements.

Sandhu, H.S. (2003) the paper analysis the impact of IT and particularly e-delivery channels on the performance of Indian banking system. The paper also highlights that ATM is a major e-delivery channels, which is used mostly in the metropolitan and urban cities. The paper concludes that those banks, which are using e-delivery channels, they are providing better services than the other banks.

Shapiro, (2002) studied the affects of cyberspace on efficiency and productivity of banks. He also analyzed the nature of bank transformation.

Trivedi, A.K. (2003) has rightly said that Indian Banks have always proved beyond doubt their adaptability to change and it would be possible for them to mould themselves into agile and resilient organizations by adopting fine-tuned CRM strategies, operations based on asset-liability and risk management systems, the required technological capabilities and developing human resources to meet the challenges of the paradigm shift.

Because in India, IT is in infant stage and very less comprehensive studies are conducted. Some articles or research papers are appeared in different journals. The review of literature on various aspects of bank transformation concludes that transformation is taking place and IT is playing vital role in bringing this transformation and it is need of the hour to manage this transformation with IT.

## **INFORMATION TECHNOLOGY AND BANK TRANSFORMATION**

The second banking sector reforms gave much importance to the modernization and technology up gradation. The IT Act, 1999 started the speedy process of e-banking.

### **E-Banking**

Delivery of bank's services to a customer at his office or home by using electronic technology can be termed as e-banking. The quality, range and price of these e-services decide a bank's competitive position in the industry. The virtual financial services

can be largely categorized as follows:

#### **Automated Teller Machines:**

- Cash withdrawals
- Details of most recent balance of account
- Mini-statement
- Statement ordering facility
- Deposit facility
- Payments to third parties

#### **EFTPoS:** EFTPoS card used to initiate transactions:

- Authorization and transaction capture processes take place electronically.
- Transaction confirmed manually.
- Funds not debited electronically.

#### **Remote Banking Services:**

- Balance enquiry
- Statement ordering
- Funds transfer (payment) to third parties
- Funds transfer between customer's different accounts
- Order traveler's cheques and other financial instruments.

#### **Services Not Available Through Remote Banking:**

- Cash withdrawal
- Cash/ cherub deposit
- Sale of the more complex types of financial services such as life insurance mortgages and (pensions).

#### **Smart Cards:**

- (i) Stored value cards
- (ii) As a replacement for all types of magnetic stripes cards like ATM Cards, Debit/Credit Cards, Charge Cards etc.
  - One smart card to carry out all these functions
  - One smart card can contain the functionality of several different types of cards issued by different banks while running different types of networks.
  - Smart card a truly powerful financial token, giving user access

- STM
- Debit facility
- Charge facilities
- Credit facilities
- Electronic purse facilities at national and international level.

### Internet Banking

The latest wave in IT is Internet banking. It is becoming more obvious that the Internet has unleashed a revolution that is affecting every sphere of life. Internet is an interconnection of computer communication networks spanning the entire globe, crossing all geographical boundaries. Touching lifestyles in every sphere the Net has redefined methods of communication, work, study, education interaction, health, trade and commerce. The Net is changing everything, from the way we conduct commerce, to the way we distribute information. Being an interactive two-way medium, the Net, through innumerable websites, enables participation by individual in B2B and B2C commerce, visits to shopping malls, books-stores, entertainment sides, and so on cyberspace.

### Bank Transformation

1. The term transformation in Indian Banking Industry relates to intermediately stage when the industry is passing from the earlier social banking era to the newly conceived technology based customer - centric and competitive banking. The activities of banks have grown in multi-directional as well as in multi-dimensional manners.
2. During transformation, all known parameters of the earlier regime continuously change.
3. The current transformation process in the Indian Banking has many aspects. They pertain to:
  - (i) Capital Restructuring
  - (ii) Financial Re-engineering
  - (iii) Information Technology
  - (iv) Human Resource Development

## RESULTS AND DISCUSSION

### LABOUR PRODUCTIVITY

#### (a) Public Sector Banks

Labour productivity brings in light employee's

capacity to produce. Table-I shows that the productivity in terms of business per employee of all the three public sector banks is increasing in all the years.

**Table I: Labour Productivity of Public Sector Banks**

(Rs. In Lacs)

Years	SBI			BOB			CB		
	D/E	C/E	BUS/E	D/E	C/E	BUS/E	D/E	C/E	BUS/E
(A) Pre – E-Banking Period									
1998-99	0.71	0.35	1.06	0.97	0.46	1.43	0.76	0.55	1.11
1999-2000	0.84	0.42	1.26	0.97	0.52	1.49	0.87	0.43	1.30
2000-01	1.13	0.53	1.66	1.09	0.59	1.68	1.22	0.58	1.80
Average	0.89	0.43	1.32	1.01	0.52	1.53	0.95	0.45	1.40
S.D.	0.22	0.02	0.31	0.02	0.02	0.13	0.24	0.12	0.36
C.V.(%)	24.72	4.65	23.48	1.98	3.85	8.50	25.26	26.67	25.71
(B) Partially – E-Banking Period									
2001-02	1.29	0.58	1.87	1.59	0.87	2.46	1.34	0.69	2.03
2002-03	1.42	0.66	2.08	1.65	0.85	2.53	1.52	0.85	2.37
2003-04	1.54	0.74	2.30	1.83	0.89	2.72	1.81	1.00	2.81
Average	1.42	0.66	2.08	1.69	0.88	2.57	1.56	0.85	2.40
S.D.	0.13	0.02	0.22	0.12	0.02	0.13	0.24	0.16	0.39
C.V.(%)	9.15	3.03	10.58	7.10	2.27	5.06	15.38	18.82	16.25

Source: Performance Highlights, Various Issues, 1998-2004, IBA, Mumbai

It shows that productivity is increased almost double time in all the three banks during partially e-banking period i.e. 2001-04 as compared to that in pre-e-banking period i.e. 1998-2001, whereas variations in terms of co-efficient of variations are maximum in pre-e-banking period. From all the three public sector banks, Bank of Baroda shows the highest productivity in both the durations i.e. Rs.1.53 lakhs during 1998-2001 and Rs.2.57 lakhs during 2001-04 as compared to that of other two banks.

#### (b) New Private Sector Banks

From Table-II, we conclude that all the three new private sector banks show increase in their productivity in e-banking period from pre-e-banking period except UTI Bank, which shows decrease in its productivity. Variations are maximum in pre-e-banking period in all the selected banks. Although, productivity of UTI Bank is decreased, even it shows the highest labour productivity in both the durations i.e. Rs.11.41 lakhs during 1998-2001 and Rs.9.79 lakhs during 2001-04 whereas ICICI Bank is following UTI Bank with labour productivity of Rs.7.83 lakhs and Rs.9.53 lakhs respectively during both the durations.

**Table II: Labour Productivity of New Private Sector Banks**

Years	HDFC Bank			ICICI Bank			UTI Bank		
	D/E	C/E	BUS/E	D/E	C/E	BUS/E	D/E	C/E	BUS/E
(A) Pre – E-Banking Period									
1998-99	2.96	1.42	4.38	6.83	2.37	9.20	5.84	4.17	10.01
1999-2000	4.21	1.73	5.94	7.34	2.72	9.06	7.74	4.75	12.49
2000-01	4.24	1.89	5.93	3.65	1.57	5.22	7.67	4.07	11.74
Average	3.80	1.61	5.42	5.94	2.22	7.85	7.08	4.33	11.41
S.D.	0.73	0.17	0.90	2.00	0.59	2.26	1.08	0.37	1.27
C.V.(%)	19.21	10.56	16.61	33.67	26.58	28.86	15.25	8.55	11.13
(B) E-Banking Period									
2001-02	4.72	1.82	6.54	4.15	6.09	10.24	7.14	3.11	10.25
2002-03	4.67	2.45	7.12	4.17	4.61	8.78	7.26	3.07	10.33
2003-04	5.36	3.13	8.49	5.00	4.56	9.56	6.08	2.72	8.80
Average	4.92	2.47	7.38	4.44	5.09	9.53	6.83	2.97	9.79
S.D.	0.38	0.99	1.00	0.49	0.87	0.73	0.65	0.21	0.86
C.V.(%)	7.72	26.72	13.55	11.04	17.09	7.66	9.52	7.07	8.78

Source: Same as Table I

**(c) Foreign Banks**

Table-III shows that labour productivity is increased in all the selected foreign banks in all the years under study and variations are maximum in pre-e-banking period. It shows increase almost of Rs.2-3 lakhs during the e-banking period as compared to that during pre-e-banking period. It is the highest in Citibank i.e. Rs.12.70 lakhs during 1998-2001 and Rs.17.32 lakhs during 2001-04 with the major difference from the other banks whereas SCB shows Rs.8.05 lakhs and HSBC Rs.6.86 lakhs during 2001-04, which is far behind the productivity of Citibank.

**Table III: Labour Productivity of Foreign Banks**

(Rs. In Lacs)

Years	Citibank			Standard Chartered Bank			HSBC		
	D/E	C/E	BUS/E	D/E	C/E	BUS/E	D/E	C/E	BUS/E
(A) Pre – E-Banking Period									
1998-99	6.14	3.26	9.40	2.01	1.27	3.28	2.35	1.03	3.38
1999-2000	7.80	5.06	12.86	3.09	2.66	5.75	3.15	1.60	4.75
2000-01	9.52	6.32	15.84	3.08	3.14	6.22	3.28	2.06	5.34
Average	7.82	4.80	12.70	2.73	2.36	5.05	2.93	1.56	4.49
S.D.	1.69	1.54	3.22	0.62	0.97	1.58	0.50	0.52	1.11
C.V.(%)	21.61	32.08	25.35	22.71	41.10	31.10	17.06	33.33	22.49
(B) E-Banking Period									
2001-02	10.37	7.74	18.11	3.38	4.22	7.60	3.68	2.34	6.02
2002-03	10.99	7.82	18.81	4.90	3.55	8.45	3.83	2.46	6.29
2003-04	8.61	6.42	15.03	4.47	3.62	8.09	5.20	3.08	8.28
Average	9.99	7.33	17.32	4.25	3.80	8.05	4.24	2.62	6.86
S.D.	1.23	0.79	2.01	0.78	0.37	0.43	0.84	0.40	1.23
C.V.(%)	12.31	10.78	11.61	18.35	9.74	5.34	19.81	15.27	17.93

Source: Same as Table I

**Branch Productivity:****(a) Public Sector Banks**

Table-IV highlights the branch productivity of SBI, Bank of Baroda & Canara Bank, which depicts the capacity of a branch to produce. Branch productivity is also more in partially e-banking period in all the banks as compared to pre-e-banking period, whereas variations are maximum in pre-e-banking period in all the banks under study. It is the highest in SBI i.e. Rs.33.29 cr. during 1998-2001 and Rs.47.93 cr. during 2001-04 and Canara Bank is following the

SBI with Rs.47.01 cr. business per branch during 2001-04 where Bank of Baroda shows Rs.37.65 cr. productivity ratio.

**Table IV: Branch Productivity of Public Sector Banks**

(Rs. In Lacs)

Years	SBI			BOB			CB		
	D/B	C/B	BUS/B	D/B	C/B	BUS/B	D/B	C/B	BUS/B
(A) Pre – E-Banking Period									
1998-99	18.92	9.17	27.99	17.34	8.20	25.54	17.64	8.21	25.85
1999-2000	21.77	10.95	32.61	19.35	9.20	28.54	20.03	9.82	29.95
2000-01	26.75	12.51	39.26	20.26	10.27	30.53	24.53	11.57	36.13
Average	22.45	10.84	33.29	18.98	9.22	28.20	20.74	9.87	30.61
S.D.	4.01	1.67	5.67	1.49	1.04	2.51	3.51	1.68	5.18
C.V.(%)	17.86	15.41	17.03	7.85	11.28	8.90	16.92	17.02	16.92
(B) Partially – E-Banking Period									
2001-02	29.78	13.30	43.08	23.07	12.57	35.64	26.58	13.75	40.33
2002-03	32.76	15.24	48.00	24.13	12.84	36.97	29.74	16.70	46.44
2003-04	35.25	17.47	52.72	27.11	13.22	40.33	34.97	19.29	54.26
Average	32.60	15.34	47.93	24.77	12.88	37.65	30.43	16.58	47.01
S.D.	2.74	2.09	4.82	2.09	0.33	2.42	4.24	2.77	6.98
C.V.(%)	8.40	13.62	10.06	8.44	2.56	6.43	13.93	16.71	14.85

Source: Same as Table I

**(b) New Private Sector Banks**

Table-V shows the branch productivity of new private sector banks. It is examined that branch productivity is more in e-banking period as compared to pre-e-banking period in case of HDFC Bank i.e. Rs.148.39 cr. during 2001-04 that comes up from Rs.102.42 cr. during 1998-2001, where ICICI Bank shows increase from Rs.127.22 cr. to Rs.242.03 cr. almost double, but UTI Bank shows decrease in its branch productivity from Rs.166.32 cr. to Rs.164.21 cr. during the pre-e-banking and e-banking period respectively. Overall, branch productivity is the highest in case of UTI Bank during 1998-2001 i.e. Rs.166.32 cr. but during 2001-04 ICICI Bank leads to other banks with Rs.242.03 cr. with an excellent growth in its productivity.

**Table V: Branch Productivity of New Private Sector Banks**

(Rs. In Lacs)

Years	HDFC Bank			ICICI Bank			UTI Bank		
	D/B	C/B	BUS/B	D/B	C/B	BUS/B	D/B	C/B	BUS/B
(A) Pre – E-Banking Period									
1998-99	51.16	24.58	75.74	110.42	38.36	148.78	86.89	62.00	148.89
1999-2000	75.93	31.19	107.12	121.79	45.15	166.94	116.73	71.57	188.30
2000-01	88.99	35.40	124.39	46.14	19.81	65.95	105.72	56.06	161.78
Average	72.03	30.39	102.42	92.78	34.44	127.22	103.11	63.21	166.32
S.D.	19.21	5.45	24.66	40.79	13.12	53.84	15.09	7.82	20.09
C.V.(%)	26.67	17.93	24.08	43.96	38.10	42.32	14.63	12.39	12.08
(B) E-Banking Period									
2001-02	103.23	39.85	143.08	89.62	131.38	221.00	110.89	48.22	158.91
2002-03	96.87	50.89	147.76	108.00	119.46	227.46	121.18	51.25	172.47
2003-04	97.46	56.88	154.34	145.22	132.40	277.62	111.46	49.80	161.26
Average	99.19	49.21	148.39	114.28	127.75	242.03	114.44	49.77	164.21
S.D.	3.51	8.64	5.66	28.33	7.19	30.99	5.85	1.54	7.25
C.V.(%)	3.54	17.56	3.81	24.79	5.63	12.80	5.11	3.09	4.42

Source: Same as Table I

**(c) Foreign Banks**

From Table-VI, it is examined that branch productivity shows fluctuations in all the three foreign banks in all the years but in case of Citibank it is decreased from Rs.1631.34 cr. during 1998-2001 to Rs.1396.22 cr. during 2001-04 with 12.82 pc fluctuations in terms of co-efficient of variations.

**Table VI: Branch Productivity of Foreign Banks**  
(Rs. In Lacs)

Years	Citibank			Standard Chartered Bank			HSBC		
	D/B	C/B	BUS/B	D/B	C/B	BUS/B	D/B	C/B	BUS/B
<b>(A) Pre – E-Banking Period</b>									
1998-99	1179.63	626.63	1806.26	223.04	140.88	363.92	256.44	111.80	367.24
1999-2000	927.55	601.82	1529.37	278.69	239.94	518.55	336.73	170.58	507.31
2000-01	936.73	621.67	1558.40	267.79	273.68	541.47	355.68	223.03	578.75
Average	1014.64	616.71	1631.34	256.48	218.17	476.31	315.95	168.48	484.43
S.D.	142.96	13.13	152.18	29.46	69.03	93.71	53.25	55.66	107.51
C.V. (%)	14.09	2.13	9.33	11.49	31.64	19.67	16.85	33.04	22.21
<b>(B) E-Banking Period</b>									
2001-02	846.78	632.50	1479.28	402.44	501.83	904.27	411.37	261.20	672.57
2002-03	887.1	631.45	1518.55	276.97	200.34	477.51	387.94	248.55	636.49
2003-04	682.2	508.63	1190.83	302.26	244.73	548.99	451.92	267.44	719.36
Average	805.36	590.86	1396.22	327.22	315.63	642.88	417.08	259.06	676.14
S.D.	108.55	71.22	178.95	66.36	162.77	229.03	32.37	9.62	41.55
C.V. (%)	13.48	12.05	12.82	20.28	51.57	35.63	7.76	3.71	6.15

Source: Same as Table I

SCB shows increase from Rs.476.31 cr. to Rs.642.88 cr., where HSBC also shows increase from Rs.484.43 cr. to Rs.676.14 cr. from 1998-2001 to 2001-04 respectively. Overall, it is the highest in both the durations in Citibank i.e. Rs.1396.22 cr. in 2001-04 even it shows decrease in its productivity, both the other banks followed this bank.

Overall, at the end it can be concluded that labour productivity and branch productivity is better, showing excellent growth during the e-banking period as compare to pre-e-banking period. New electronic techniques are used to attract more and more customers especially; e-channels are used to meet the increasing expectations of the customer. On the other hand, labour and branch productivity is the highest in all the foreign banks with Citibank at the top position, new private sector banks are following foreign banks even in case of ICICI Bank & UTI Bank, and labour productivity is more as compared to that of SCB & HSBC. Public sector banks are far behind the foreign banks and new private sector banks with large extent of difference, which cannot be ignored, mainly due to their pre-electronic work culture.

**PROFITABILITY****(a) Public Sector Banks**

Table-VII shows that profitability of public sector banks i.e. SBI, Bank of Baroda & Canara Bank is decreasing during 1998-2001 i.e. pre-e-banking period.

**Table VII: Profitability of Public Sector Banks**  
(Percent)

Years	SBI			BOB			CB		
	S/WFs	B/WFs	NP/WFs	S/WFs	B/WFs	NP/WFs	S/WFs	B/WFs	NP/WFs
<b>(A) Pre- E-Banking Period</b>									
1998-99	2.73	2.26	0.47	3.01	2.20	0.81	3.17	2.70	0.47
1999-2000	2.65	1.86	0.79	2.65	1.99	0.86	2.64	2.21	0.43
2000-01	2.66	2.15	0.51	3.06	2.62	0.44	2.83	2.40	0.43
Average	2.70	2.09	0.59	2.97	2.27	0.70	2.88	2.44	0.44
S.D.	0.02	0.21	0.17	0.11	0.32	0.23	0.27	0.25	0.02
C.V. (%)	0.74	10.05	28.81	3.70	14.10	32.86	9.38	10.25	4.65
<b>(B) Partially – E-Banking Period</b>									
2001-02	2.61	1.91	0.70	2.65	1.88	0.77	2.52	1.50	1.02
2002-03	2.65	1.83	0.82	2.75	1.74	1.01	2.76	1.52	1.24
2003-04	2.74	1.84	0.90	3.02	1.89	1.13	2.69	1.35	1.34
Average	2.67	1.86	0.81	2.81	1.84	0.97	2.66	1.46	1.20
S.D.	0.02	0.02	0.10	0.19	0.02	0.18	0.12	0.02	0.16
C.V. (%)	0.75	1.08	12.35	6.76	1.09	18.56	4.51	1.37	13.33

But it shows increasing trend in the partially e-banking period i.e. 2001-04, resulting more profitability in partially e-banking period as compared to that in pre-e-banking period. But profitability of Canara Bank is increased almost three times, it shows the highest profitability during 2001-04 i.e. 1.20 pc, even it is the least during 1998-2001 i.e. 0.44 pc, one reason is decrease in its burden, where Bank of Baroda shows the highest 0.70 pc during 1998-2001 following Canara Bank with 0.97 pc profitability ratio in 2001-04. Overall, Canara Bank shows much better profits having positive impact of technology.

**(b) New Private Sector Banks**

From Table-VIII, it is concluded that profitability of all the three new private sector banks shows fluctuating trend, it is more in e-banking period in ICICI Bank & UTI Bank but lesser in case of HDFC Bank as compared to the profitability during pre-e-banking period. Profitability variations are the highest during pre-e-banking period. Profitability of HDFC Bank is decreased during e-banking period i.e. from 1.42 pc to 1.24 pc mainly due to decrease in spread which is further witnessed by falling interest income, but even shows the highest profitability as compared to ICICI Bank i.e. 0.90 pc and UTI Bank i.e. 1.02 pc during 2001-04. Overall, it shows good profitability during 2001-04 in all the banks as compared to that in 1998-2001 indulging with more fluctuations.

**Table VIII: Profitability of New Private Sector Banks****(Percent)**

Years	HDFC Bank			ICICI Bank			UTI Bank		
	S/WFs	B/WFs	NP/WFs	S/WFs	B/WFs	NP/WFs	S/WFs	B/WFs	NP/WFs
<b>(A) Pre – E-Banking Period</b>									
1998-99	3.38	1.49	1.89	1.69	0.79	0.90	1.84	1.05	0.79
1999-2000	2.61	1.59	1.02	1.54	0.67	0.87	1.35	0.60	0.75
2000-01	3.23	1.89	1.34	2.05	1.23	0.82	0.92	0.12	0.80
<b>Average</b>	<b>3.07</b>	<b>1.66</b>	<b>1.42</b>	<b>1.76</b>	<b>0.90</b>	<b>0.86</b>	<b>1.37</b>	<b>0.59</b>	<b>0.78</b>
<b>S.D.</b>	<b>0.41</b>	<b>0.21</b>	<b>0.44</b>	<b>0.26</b>	<b>0.29</b>	<b>0.02</b>	<b>0.46</b>	<b>0.47</b>	<b>0.02</b>
<b>C.V. (%)</b>	<b>13.36</b>	<b>12.65</b>	<b>30.99</b>	<b>14.77</b>	<b>32.22</b>	<b>2.33</b>	<b>33.58</b>	<b>79.66</b>	<b>2.56</b>
<b>(B) E-Banking Period</b>									
2001-02	2.64	1.40	1.24	0.57	0.32	0.25	1.38	0.45	0.93
2002-03	2.70	1.43	1.27	1.33	0.20	1.13	1.65	0.67	0.98
2003-04	3.16	1.96	1.20	1.50	0.19	1.31	2.34	1.19	1.15
<b>Average</b>	<b>2.83</b>	<b>1.60</b>	<b>1.24</b>	<b>1.13</b>	<b>0.24</b>	<b>0.90</b>	<b>1.79</b>	<b>0.77</b>	<b>1.02</b>
<b>S.D.</b>	<b>0.28</b>	<b>0.32</b>	<b>0.02</b>	<b>0.50</b>	<b>0.02</b>	<b>0.57</b>	<b>0.50</b>	<b>0.38</b>	<b>0.12</b>
<b>C.V. (%)</b>	<b>9.89</b>	<b>20.00</b>	<b>1.61</b>	<b>44.25</b>	<b>8.33</b>	<b>63.33</b>	<b>27.93</b>	<b>49.35</b>	<b>11.76</b>

Source: Same as Table I

**(c) Foreign Banks**

Table-IX shows that profitability of all the three foreign banks in all the years under study, shows fluctuating trend but with tremendous increase in their profitability during e-banking period. Profitability of all the three banks is more during 2001-04 as compared to that during 1998-2001. Fluctuations are maximum during pre-e-banking period in Citibank but these are the highest during 2001-04 in case of other banks. Profitability of SCB is the highest during 1998-2001 i.e. 1.84 pc and during 2001-04 i.e. 2.22 pc followed by Citibank with 1.37 pc and 1.66 pc profitability respectively during both time periods. Overall, profitability of all the foreign banks is increased mainly due to their check on burden.

**Table IX: Profitability of Foreign Banks****(Percent)**

Years	Citibank			Standard Chartered Bank			HSBC		
	S/WFs	B/WFs	NP/WFs	S/WFs	B/WFs	NP/WFs	S/WFs	B/WFs	NP/WFs
<b>(A) Pre – E-Banking Period</b>									
1998-99	3.44	2.52	0.92	3.57	1.50	2.07	2.69	2.10	0.59
1999-2000	4.56	2.77	1.79	4.24	2.22	2.02	2.75	1.78	0.97
2000-01	3.78	2.39	1.39	3.59	2.15	1.44	2.79	1.60	1.19
<b>Average</b>	<b>3.93</b>	<b>2.56</b>	<b>1.37</b>	<b>3.80</b>	<b>1.96</b>	<b>1.84</b>	<b>2.74</b>	<b>1.83</b>	<b>0.92</b>
<b>S.D.</b>	<b>0.57</b>	<b>0.19</b>	<b>0.44</b>	<b>0.38</b>	<b>0.40</b>	<b>0.35</b>	<b>0.02</b>	<b>0.25</b>	<b>0.30</b>
<b>C.V. (%)</b>	<b>14.50</b>	<b>7.42</b>	<b>32.12</b>	<b>10.00</b>	<b>20.41</b>	<b>19.02</b>	<b>0.73</b>	<b>13.66</b>	<b>32.61</b>
<b>(B) E-Banking Period</b>									
2001-02	3.75	2.24	1.51	3.51	1.49	2.02	2.62	1.75	0.87
2002-03	3.76	2.21	1.55	3.87	0.96	2.91	2.88	2.16	0.72
2003-04	4.58	2.65	1.93	4.23	2.49	1.74	2.73	1.18	1.55
<b>Average</b>	<b>4.03</b>	<b>2.37</b>	<b>1.66</b>	<b>3.88</b>	<b>1.65</b>	<b>2.22</b>	<b>2.74</b>	<b>1.70</b>	<b>1.05</b>
<b>S.D.</b>	<b>0.48</b>	<b>0.25</b>	<b>0.23</b>	<b>0.34</b>	<b>0.78</b>	<b>0.61</b>	<b>0.13</b>	<b>0.49</b>	<b>0.44</b>
<b>C.V. (%)</b>	<b>11.91</b>	<b>10.55</b>	<b>13.86</b>	<b>8.76</b>	<b>47.27</b>	<b>27.48</b>	<b>4.74</b>	<b>28.82</b>	<b>41.90</b>

Source: Same as Table I

It can be concluded that profitability of foreign banks is the highest with SCB at the top position, where new private sector banks are following foreign banks, initiated to fill this gap but profitability of public sector banks is far behind the profitability of foreign banks and new private sector banks. Even then all the three bank groups show increase in their profitability during e-banking period.

**TESTING OF HYPOTHESES**

- The performance of all the banks is significantly better in e-banking period than pre-e-banking period.
- The performance of foreign banks is significantly better than new private sector banks and also from the public sector banks.
- Similarly, the performance of new private sector banks is significantly better than public sector banks

**CHALLENGES OF E-BANKING – PARTICULARLY FOR THE PUBLIC SECTOR BANKS****Psychological**

- Conservative
- Hesitation
- Frustration due to lack of technical knowledge

**Technological**

- Less awareness regarding technology
- Insufficient technology
- Lack of proper infrastructure for the installation of e-delivery channels
- Poor network
- Flaws in design, implementation and monitoring bank's information system

**Socio-Economic**

- Cost factor
- Vast rural branch network
- Concept of social banking
- Lack of CRM
- Low profitability

**Problem of Security in E-Banking**

- Loss of data due to technical defaults
- Lack of security measures
- Lack of Strong Trust Environment
- Slowness in Adoption of Net by the 40+age Group

**OPPORTUNITIES**

Although a lot of reforms have been made in public sector banks, still there is a need to modify the

policies of public sector banks. At present they are facing many internal and external challenges, which are hindering their performance, but these banks can convert these challenges into opportunities with care and some modifications. With globalization and changes in the technology, financial markets, world over have become closely integrated. Customers can access their accounts anywhere and banks' customer base is also spread across the world. Deregulation and liberalization has opened up new opportunities for banks but at the same time the pressure of competition have led to narrowing spreads, shrinking margins, consolidation and restructuring.

Increasingly, banks are focusing on core competencies, synchronizing strengths and shedding activities that are not remunerative. The winds of change sweeping across global markets will impact India also, and the Indian financial sector is set to see tremendous transformation in the coming millennium. The face of banking is set to change as banks adopt technology to reduce costs, widen product range for customer convenience and to manage risks. Greater market access to foreign banks, post-WTO will increase competition and as we move towards full capital account convertibility, banks will need to be equipped to handle large and sensitive volatile-capital flows.

**Competition:** Due to LPG banks are facing a severe competition. To stay ahead in the race, therefore, banks will have to leverage technology for innovative product development including developing sophisticated financial products. While some banks have taken lead in developing new tech-savvy products to beat the competition, also the public sector banks in particular will have to speed up their efforts in this area.

**Greater customer-Oriented:** Greater customer-orientation is the only way to retain customer loyalty and stay ahead of competition. In a market-driven strategy of development, consumer preference is paramount. Gone are the days when customers used to come to the doors of the banks and now banks are required to chase the customers. Thus, only banks that are customer-centric and extremely focused on the needs of their clients will succeed and there is need to change the mindset of banks at all levels on this issue.

Public sector banks in particular need to bring about total customer-orientation not only in their products/services but their policies and strategies should also be customer-focused. In fact, they must realize that customer is the only profit center and all

others are overheads. Identification of profitable customers, understanding their needs and preferences, improving the delivery systems and reducing the transaction costs for them should become important strategic issues for banks, if they want to survive in the fiercely competitive environment. Enhancing the customer base, cross selling of products/services and strengthening the customer relationship management will be the most important aspect.

**Technology:** In the deregulated environment, managing a wide range of products on shrinking margins in a fiercely competitive environment and offering top class customer services will create new challenges. In this context, technology will be the key to reduce transaction cost, offering customized products and managing risks. Growing consumer acceptance of e-channels is compelling banks to provide Internet-banking facilities and increasingly, customers are demanding fast, convenient and glitch-free banking services.

However, as banks expand into virtual banking, they will need to pay greater attention to foolproof security arrangements and systems to safeguard against frauds. Supervision and audit of e-banking will have to be strengthened and vigilance against hackers stepped up. Our public sector banks are lagging behind in technology when we compare them with their counterparts. There is a need for vision, strategy, planning and coordination at all levels of the organization.

**New Credit Assessment Skills:** So far the focus of attention in the Indian banking industry has largely been extending finance to agriculture and manufacturing sectors covering small, medium and large industries. But now banks should capture service class also. Through IT, banks therefore, have to sharpen their credit assessment skills and lay more emphasis in providing finance to the wide range of activities in the services sector.

**Management of NPAs:** the level of NPAs in the Indian banking industry is a greater concern and thus urgent cleaning up of banks balance that has become a crucial issue. NPAs will have to be reduced drastically and adequate provisioning for bad and doubtful debts will have to be made.

There is a need to have long-term solutions for overcoming this challenge. The internal control systems, risk management systems and systems of catch early warning signals for timely detection of NPAs have to be strengthened by banks. In addition,



the role of legal reforms in bringing down the level of NPAs is crucial for speedy settlement of disputes and realization of banks' dues. Also, strengthening the Debt Recovery Tribunals and empowering banks to enforce their change without court intervention will result in expedition recovery of bad debts.

**New Basel Capital Accord:** The new Basel Accord to modify the existing capital adequacy framework is currently under discussion. Under the revised capital adequacy framework, banks will have to provide for market risk and operational risk besides credit risk. Against the background of government decisions to reduce its shareholding in nationalized banks to 33 pc, maintaining the required level of capital adequacy by the banks could come under strain.

Strong banks will be able to access the capital markets for raising additional equity, but weak banks could face sever problems. But in any case, there will be tremendous pressure on banks to improve their financial performance if they have to attract additional capital.

Profitability will thus have to be improved so that higher dividends are paid to shareholders, capital market perception about public sector banks changes and there is a positive impact on the valuation of shares so that the shares of public sector banks fetch attractive market prices.

**WTO and Indian Banking Industry:** As WTO provisions came into force, countries including India have to provide greater market access to other countries by eliminating Quantitative Restrictions (QR), regarding tariff barriers and liberalizing the market for financial services. The impact of these developments on various sectors of the Indian economy would be critical.

The banks will have to keep themselves updated on sector specific developments taking place in the world, particularly in countries that are India's major trading partners and advise their corporate clients to help them to prepare for competition with multinational companies.

**Corporate Governance:** Deregulation and self-regulation go hand-in-hand. RBI has also asked banks to set up specialized committees like Risk Management Committee, Audit Committee, Compensation Committee, Narasimham Committee etc., to ensure the uppermost standards of corporate governance and development of best practices.

A good fiscal management and clear-cut policies affecting various sectors of the economy, can

promote corporate governance. The public sector banks, new private sector banks & foreign banks should ensure corporate governance in all the activities and to win the heart of shareholders.

**Issue of HRM:** Training, development and retaining talented and committed staff is a major emerging challenge before the public sector banks. Today, our employee performance review systems are neither objective nor transparent. They do not differentiate high performers, risk takers and innovators lot from amongst the total staff. Time has come to measure the value of human capital and take urgent steps to ensure it to its optimum level.

**Lack of Risk Management:** Today, instead of banks managing the risk, risk is managing the banks. A clear understanding of the risk-return profile of each activity of the bank is crucial to ensure the soundness and solvency of the organization. Skill up gradation and preparing a cadre for the risk organization is a major challenge for public sector banks particularly in the wake of high labor turnover.

**Lack of Actionable Planning:** Lack of planning or ineffective planning is very relevant to public sector banks. Though all the banks have established elaborate performance budgeting system and created MIS, it does not meet the management's present requirements. Basically, the entire planning process is still deposit and credit oriented, that too, without any cost and yield linkages.

To tackle this challenge an actionable strategic plans which are systematically broken-up into annual plans and performance is strictly reviewed in terms of the targets and accountability is fixed for non-performances.

**Non-Accountability:** In case of public sector banks, there is non-accountability of profits. No one is responsible. Every bank should fix the responsibility and good performer employees should be honored.

**Public Perception:** In the ultimate analysis it is the public perception that will decide the future of public sector banks. The perception of customers regarding public sector banks is very poor. Public sector banks should improve their perception by all means to remain competitive in the market.

**Customers Expectations:** In the era of e-banking and severe competition, the expectations of the bank customers have increased. Due to this banks should offer a broad range of deposits, investment and credit products through diverse distribution channels including upgraded branches, ATMs, telephone and

Internet. For this banks should:

- Become more customer centric, offering a wide range of products through multiple delivery channels
- Become proficient in managing assets and liabilities according to risk and return
- Pay greater attention to profitability including cost-reduction and increasing fee-based income.

All these changes require vision, determination and extensive communication across all levels in the organization so that the vision and mission of the banks is communicated and understood down the line and receiver unqualified support.

**Mergers and Acquisitions:** Today 'size' has become an important issue in financial market world over. Merger on commercial considerations and strategic mergers are the order of the day. One of the possible ways to remain in competition would be mergers and acquisitions. The privately/foreign banks have already set in the trend.

We can say that a constructive and serious measure should be initiated for:

- better and cheaper access to basic infrastructure requirements such as power, telecommunications i.e. VSAT, leased lines etc.
- creation of customers awareness and education for technology adoption are imperative.
- The IT, Act 2000 should be implemented in totality to handle legal issues.
- Converting branches into boutiques catering to the requirements of clients and re-engineering the functions of branch banking using technology and delivery channels.
- Setting up an e-banking group to provide grid principles for risk management of e-banking activities.

## CONCLUSION

- The paper concludes that transformation is taking place almost in all categories of the banks. This transformation will helpful to cope with new economic and financial policies of the banks.
- IT is playing a crucial role to create the drastic changes in the banking industry particularly in the new private sector and foreign banks.

- The private banks take a big share of cake; our public sector banks are still lagging behind regarding the various financial parameters.
- The immense opportunities are also available for the public sector banks if they change/modify and adopt new policies to combat the different recent challenges.
- It can be concluded that mere introduction of IT alone will no be sufficient to bring necessary performance improvement and to get the competitive edge.
- Intelligent people are required to use such intelligent tools. Thus, even though IT management is a challenge flow in future banking scenario, marketing not technology is going to be the challenge.

## AREAS OF FUTURE RESEARCH

### Reorienting Structure

- Issues and solutions in implementing Corporate Governance in banking
- Reforming capital structure, aspects to be covered are:
  - Disinvestments of PSBs
  - Raising capital from the market
  - Foreign direct investment (FDI)
- An appropriate banking model for India:
  - Universal banking Vs. Narrow banking
  - Adopting international best practices i.e. Basel - II

### Re-engineering Operations

- Marketing of financial services: Product, Process and Pricing
- Retail Banking
- Risk Management including regulatory and environmental risks
- Legal challenges

### Harnessing Facilitators

- Technology
- Issues in identification and cost-benefit analysis of appropriate technology – Case Studies

- Disaster Recovery Management
- Human Resource Development
- Preparing for the cultural transformation
- Knowledge management

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# SECURITIZATION: THE CONCEPT AND ITS RELEVANCE TO INDIAN BANKS

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## ABSTRACT

*The recent past has seen financial innovation in the international and the domestic market. Products and techniques like factoring, Value at Risk (VaR) is becoming common in view of the changing needs of borrowers and lenders. The liberalization led to the integration of capital market, money market and debt market to the global financial market. The deepened and widened integrated financial market solely cannot rely on the conventional ways and means of financing that is why there is continuous innovations in terms of Instruments, Intermediation and Institutions. One of the most discussed about and sought after innovation is Securitization. Assets Securitization is gaining more popularity as a result of expansion of financial market. This present paper is an attempt to find out how the securitization could be instrumental to transform illiquid assets into liquid or marketable assets and how it is useful to Indian banks in the era of consolidation and cut throat competition.*

## INTRODUCTION

After liberalization, innovative financial techniques and new financial instruments in the financial market may facilitate better channelisation of domestic as well as foreign savings. As a result, the capital market and money market get wide and deep. In fact, the development of a debt market increases the efficiency of a capital market to greater extent. Therefore, along with the equity market, there is bound to be natural growth in the debt market also. Thus, it is obvious that a debt market should also have

both primary and secondary market. That way asset securitization assumes a significant role and is one of the exemplary financial innovations. Asset securitization is an important financial innovation which stands out not only as important in itself, but also as the spring head of many innovative and techniques in the debt market increases to achieve above objective.

Securitization is a process by which financial assets are pooled and the cash flows are used to guarantee and service a security. Virtually any kind of asset, which can generate a stream of cash flows, can be securitized. These securities are subsequently subscribed to and traded among the investors. These financial assets can be residential mortgages, auto loans, credit card receivables, leases, consumer loans, trade credits, corporate bonds etc. If the asset is a mortgage, the instruments are called mortgage-backed securities and the other instruments are known as non – mortgage asset backed securities.

According to John Henderson & Jonathon Scott, securitization is defined as the process which takes place when a lending institution's assets are removed in one way or the other from its balance sheet and are funded instead by the investors who purchase a negotiable financial instrument evidencing this indebtedness, without recourse to the original lender.

The securitization of debt originated as a response to the twin problems of liquidity crunch and concentration of risks faced by financial institutions. Asset securitization is a product of financial engineering which enables the structuring and selling of negotiable instrument in order to spread risk over a large group of investors, a risk which would normally have been taken by a lender or a consortium and thereby make funds available to borrowers which would otherwise not have been possible. This is the risk management aspect of banking which securitization deals with.

Securitization can also be used as a tool for fund management. In case of financial institutions large funds are locked up in loans and advances given for development projects. The cash flows from these assets come over an extended period and in small

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quantum. By resorting to securitization, financial institutions can convert these illiquid assets into cash and use these funds for making further investments thus increasing the profitability of the organization as a whole.

### ORIGINATION OF SECURITIZATION

Formally, Securitization, originated in the US during the 1970s when the Government National Mortgage Association (GNMA) started the trading in securities backed up pools of mortgage loans. It was followed by Federal National Mortgage Association and similar organizations. It is in March 1985 that non-mortgage collaterals started getting securitized in the USA. The First offering of \$192 mn of leased backed notes for Sperry Lease Finance Corporation was underwritten by First Boston. Since then concept has grown enormously, today the total Asset backed securities in USA is estimated at over \$ 1000 bn. In the UK, Bank of England has issued various guidelines and helped in developing the product. Securitized debt instrument is now popular in Italy, Spain, Austria, France, Canada, Japan and many other countries and most of countries have passed legislation to facilitate the process of securitization and it is enabling the banks to divert their debt to the capital market. According to estimates, 35 per cent of all securitization deals between 1992 and 1998 related to hire purchase receivables of trucks and the rest towards other auto/transport segment receivables.

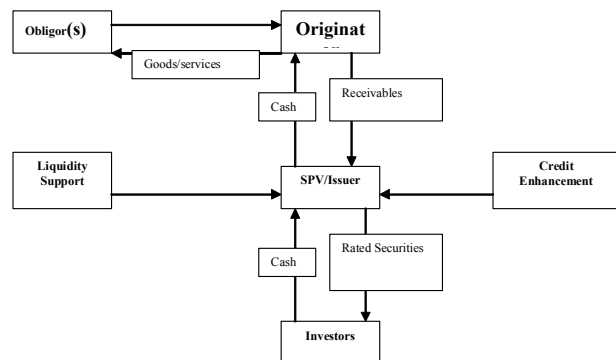
The technique of securitization is a recent development in India and the pace of growth is not encouraging. One of the reasons may be lukewarm response of the investing community. The securitization process in India has come a long way since the widely reported first deal in 1990 when Citibank securitized auto loans and placed a paper with GIC mutual fund. Following this, the Hire-Purchase portfolio of TELCO was securitized by the Citibank. Since then, a variety of deals have been undertaken. Recently it was announced that HDFC will securitize housing loans receivables of around Rs.50 Crores through Infrastructure Leasing and Financial Services. The driving force for NBFCs to go for securitization has been to unlock the investment in all liquid assets, recycle the cash and exploit the new business opportunities.

### SECURITIZATION PROCESS

The process begins when the lender (or originator) segregates loans/lease/receivables into pools which are relatively homogenous in regard to types of credit, maturity and interest rate risk. The

pools of assets are then transferred to a Special Purpose Vehicle (SPV) usually constituted as a trust. The originator may float the SPV as a subsidiary in the form of a limited company. Another option could be for the SPV to be floated jointly by the originator/individuals/banks/institutions who are interested in the securitization deal. Based on these, the SPV issues asset backed securities in the form of debt, certificates of beneficial ownership and other instruments. The securities issued may be with or without recourse. Interest and principal payments on the loans, leases and receivables in the underlying pool of assets are collected by the servicer (who could also be the originator) and transmitted to the investors.

The SPV finances the purchase of receivables by issuing securities (usually notes, commercial paper, bills, bonds, or preferred stock) to investors. Legal agreements delineate the rights and obligations of all parties to the transaction, including the appointment of an administrator to manage the receivables where necessary. One or more financial institutions are usually involved in structuring and marketing the securities issued by the SPV. To facilitate investor demand, credit rating agencies assess the likelihood that the SPV will default on its obligations and assign an appropriate credit rating. Credit enhancement and liquidity support is usually obtained by the SPV to ensure a high rating for the securities. The concept of securitization is best understood by considering a typical transaction.



Securitization takes place when a lending institutions asset are removed in one way or another from the balance sheet of that lending institution and are funded instead, by investors who purchase a negotiable instruments evidencing this its indebtedness without recourse, or in some cases with limited recourse, to the original lender. Following are the steps involved in the securitization process:

**(i) IDENTIFICATION STAGE**

It's the stage where banks or financial institution decides that which asset should be securitized depending upon the classification based upon the homogeneity of interest rate, maturity and frequency of repayments etc.

**(ii) TRANSFER STAGE**

The classified assets are then passed through to another institution which is ready to help organization to convert those assets into marketable securities. This institution is called "Special Purpose Vehicle" by way of a trust.

**(iii) ISSUE STAGE**

Once the transfer process is over, the SPV splits the pool into individual shares and reimburses itself by selling these to investors. These securities are known as "pass-through-certificate" (PTC). These securities are predominantly without recourse to the originator.

**(iv) REDEMPTION STAGE**

The redemption and payment of interest on these securities are facilitated by the collections received by the SPV from the securitized assets. The task of collection of dues is generally on the part of originator or a special serving agent can be appointed for this purpose for which certain commission is paid to the agency.

**(v) CREDIT RATING**

To increase the marketability of the securitised assets in the form of securities, credit rating may be obtained by some reputed credit rating agency. It enhances the trading potential (liquidity) of the certificate. The investor's confidence is heightened owing to the third party objectivity of the rating agency.

**Case : ADC Bank**

Consider a bank, ADC Bank. The loans given out by this bank are its assets. Thus, the bank has a pool of these assets on its balance sheet and so the funds of the bank are locked up in these loans. The bank gives loans to its customers. The customers who have taken a loan from the ADC bank are known as obligors. To free these blocked funds the assets are transferred by the originator (the person who holds the assets, ADC Bank in this case) to a special purpose vehicle (SPV). The SPV is a separate entity formed exclusively for the facilitation of the securitization process and providing funds to the

originator. The assets being transferred to the SPV need to be homogenous in terms of the underlying asset, maturity and risk profile. What this means is that only one type of asset (eg: consumer loans) of similar maturity (eg: 24 to 36 months) will be classified together for creating the securitized instrument. The SPV will act as an intermediary which divides the assets of the originator into marketable securities. These securities issued by the SPV to the investors and are known as pass-through-certificates (PTCs). The cash flows (which will include principal repayment, interest and prepayments received) received from the obligors are passed onto the investors (investors who have invested in the PTCs) on a pro rata basis once the service fees has been deducted. The difference between rate of interest payable by the obligor and return promised to the investor investing in PTCs is the servicing fee for the SPV.

**OBJECTIVES OF SECURITIZATION**

Securitization is designed to offer a number of advantages to the seller, investor and debt markets. From the originator's perspective, securitisation provides benefits such as:

- The receivables are moved "off balance sheet" and replaced by cash equivalent, thus improving the originator's liquidity, and balance sheet;
- The originator does not have to wait till it receives payment of the receivables to obtain funds to continue its business and generate new receivables. This is more significant when the receivables are relatively long term, such as with real property mortgages, auto loans, student loans, etc.,
- Securitisation lowers the firm's financing costs since the securities issued in the securitisation are more highly rated by rating agencies. This results into a lower interest rate for the originator, as investors do not demand the same risk premium.
- Better assets liability management by reducing market risks resulting from interest rates mismatches.
- To create room in the balance sheet to meet the capital adequacy norms prescribed by the regulatory authority
- To increase return on equity by redeployment of the capital in higher yielding assets

- Finally, transparency may be improved since securitization results in identifiable assets in the balance sheet.

For investor, securitization essentially provides an avenue for relatively risk-free investment. The credit enhancement provides an opportunity to investors to acquire good quality assets and to diversify their portfolios.

It also provides opportunity for matching cash flows and managing ALM since a securitized instrument carries regular monthly cash flows and has varying maturities. The prevalence of secondary markets would offer liquidity.

From the point of view of the financial system as a whole, securitization increases the number of debt instruments in the market, and provides additional liquidity in the market. It also facilitates unbundling, better allocation and management of project risks. It could widen the market by attracting new players on account of superior quality assets being available.

#### **SECURITIZATION: AS A FUNDING STRATEGY FOR BANKS**

The pressure on capital in the Indian banking system continues on account of rapid credit growth over the last few years. Banks have responded to these challenges by issuing equity and hybrid capital, but room for raising additional capital is reducing rapidly. There are limits on the amount of hybrid capital that can be raised, and banks cannot continuously dilute their equity given the high cost of equity, and the issue of majority government ownership in public sector banks. The pressure on liquidity in the present economic scenario, coupled with increased provisioning and capital requirements, also gives rise to a need for a cost-effective and capital-efficient funding tool. The securitization offers an ideal solution to this difficult problem. It allows banks to churn their asset portfolios, reduce capital requirements, and gain access to more cost-effective funding. The capital requirements for securitization transactions too can be halved through efficient structuring. This would mean that a bank will be able to undertake larger volumes of business using the same amount of capital.

The assets of financial institutions include loans, bills receivables, trade receivables etc. These assets are financed through debt and equity. Securitization is a funding strategy that involves funding based on asset value and cash flow

characteristics of the asset pool which are not supported by the firm's equity. A company generally raises funds through debt or equity and is shown on the liability side of the balance sheet. This method of raising funds is also termed as the left hand side of the balance sheet approach. Securitization is a right hand side of the balance sheet approach of raising funds based on the specific asset pool's cash flow and values. Usually funding is from new creditors whose recourse is restricted to the assets being financed. Intense competition, balance sheet management and high funding costs make exclusive reliance on the left hand side funding strategies both risky and costly. Firms can improve their liquidity position and improve certain key ratios like ROE and ROA through securitization. Securitization enables banks and institutions to borrow at a lower cost. An improvement in the liquidity position will lower working capital requirements and thus reduce the interest burden. The proceeds from securitization can also be invested in projects that give a higher rate of return, thus improving the overall performance of the institution.

#### **BANKS EMPOWERED WITH SECURITIZATION ACT**

As we know the financial sector is essential to the growth of a nation and this sector has been one of the keys to the India's efforts to achieve success in rapidly developing its economy. The banking sector has been striving to achieve international standards and is progressively complying with the international prudential norms and standards. Despite all this we have various areas where we don't enjoy level playing fields with the international banks and one of them has been the Menace of NPAs.

To fight the menace of the NPAs the Indian banks required more teeth. With an object to give the banks more powers and skill the government decided to bring in the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002. The Securitization Act empowers the banks and FIs to move on its own against a borrower whose assets are secured, and who has made some kind of default in repayment of the same. The provisions of this Act shall have effect notwithstanding anything inconsistent therewith contained in any other law for the time being in force or any instrument having effect by virtue of any such law. Thus after complying with the statutory provisions in the said Act the banks can

- Take possession of the secured assets of the borrower. This includes the right to transfer by

way of lease, assignment or sale of the same for realization of the secured debt.

- Take over the management of the secured asset including the right to transfer by way of lease, assignment or sale of the same for realization of the secured debt.
- Appoint any person to manage the secured asset.

Not only this, securitization also helps banks to sell off their bad loans (NPAs or non performing assets) to asset reconstruction companies (ARCs). ARCs, which are typically publicly/government owned, act as debt aggregators and are engaged in acquiring bad loans from the banks at a discounted price, thereby helping banks to focus on core activities. On acquiring bad loans ARCs restructure them and sell them to other investors as PTCs, thereby freeing the banking system to focus on normal banking activities.

Asset Reconstruction Company of India Limited (ARCIL) was the first (till date remains the only ARC) to commence business in India. ICICI Bank, Karur Vyasya Bank, Karnataka Bank, Citicorp (I) Finance, SBI, IDBI, PNB, HDFC, HDFC Bank and some other banks have shareholding in ARCIL. A lot of banks have been selling off their NPAs to ARCIL. ICICI bank- the second largest bank in India, has been the largest seller of bad loans to ARCIL last year. It sold 134 cases worth Rs.8450 Crore. SBI and IDBI hold second and third positions. ARCIL is keen to see cash flush foreign funds enter the distressed debt markets to help deepen it. What is happening right now is that banks and FIs have been selling their NPAs to ARCIL and the same banks and FIs are picking up the PTCs being issued by ARCIL and thus helping ARCIL to finance the purchase.

Securitization is expected to become more popular in the near future in the banking sector. Banks are expected to sell off a greater amount of NPAs to ARCIL by 2007, when they have to shift to Basel-II norms. Blocking too much capital in NPAs can reduce the capital adequacy of banks and can be a hindrance for banks to meet the Basel-II norms.

#### **SECURITIZATION A WAY TO INFUSE LIQUIDITY**

Other than freeing up the blocked assets of banks, securitization can transform banking in other ways as well. The growth in credit off take of banks has been the highest in the last 55 years. But at the same time the incremental credit deposit ratio for the past one-year has been greater than one. What this means in simple terms is that for every Rs 100 worth

of deposit coming into the system more than Rs 100 is being disbursed as credit. The growth of credit off take though has not been matched with a growth in deposits. Banks essentially have been selling their investments in government securities. By selling their investments and giving out that money as loans, the banks have been able to cater to the credit boom. This form of funding credit growth cannot continue forever, primarily because banks have to maintain an investment to the tune of 25 per cent of the net bank deposits in Statutory Liquidity Ratio (SLR) Instruments (government and semi government securities). The fact that they have been selling government paper to fund credit off take means that their investment in government paper has been declining. Once the banks reach this level of 25 per cent, they cannot sell any more government securities to generate liquidity. However with the excess SLR investments in the banking system decreasing to 28% of net demand and time liabilities (NDTL) by January 2007 (around 40% three years ago) as compared with the regulatory minimum of 25%, the banks will have to find alternate source of funds in order to meet the credit growth.

One way is obviously to increase interest rates. Another way is Securitization. Banks can securitize the loans they have given out and use the money brought in by this to give out more credit. A.K. Purwar, in a recent interview to a business daily remarked that bank might securitize some of its loans to generate funds to keep supporting the high credit off take instead of raising interest rates. To serve as a source of liquidity for the bank and to maximize the benefits, securitization should be carried out on a continuous basis. Through securitization the bank is provided with the additional liquidity when it is needed and this source may be tapped into when the demand for cash increases.

In both cases, securitization firstly offers the benefit that the bank's profitability may improve due to the additional service income earned from servicing the securitized assets. Secondly, the bank's access to a liability source makes it less dependent on assets for liquidity. Thirdly, having a successful securitization programme, where assets can be sold on a continuous basis to the SPV to obtain funds, improves the bank's access to liquidity sources and the market's perception regarding the liquidity position of the bank. This may again, increase the bank's accessibility to other sources of liquidity that were previously not available to the bank. Finally, the cost of other sources of liquidity may decrease due to changing perceptions regarding the liquidity position of the bank.



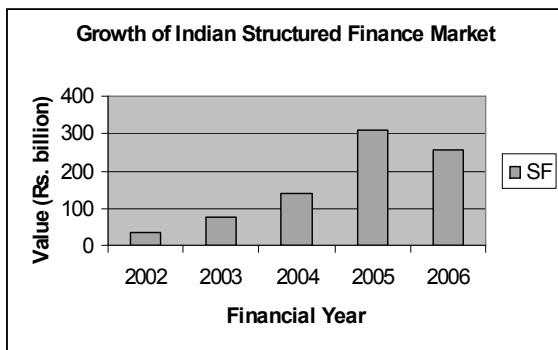
## SECURITIZATION ENVIRONMENT IN INDIA

Securitization began in India in the early nineties. CRISIL rated the first securitization programme in 1991-92 when Citibank securitized a pool from its auto loan portfolio and placed the paper with GIC Mutual Fund. The volume involved was about Rs. 160 million. Since then, several structured transactions aggregating to a volume of over Rs. 123,000 million have been rated by CRISIL alone in India, of which transactions having rated, amounts of over Rs. 70,000 million are still in existence.

The market for securitization zoomed from 2002 to 2005, with a cumulative growth rate of nearly 100%. The following graphic (1.1), taken from an ICRA report, shows the growth path of structured finance in India. Sometime back, Standard and Poor's reported the Asian securitization data for 2003, and it was a pleasant surprise to note that India was no. 2 in ex-Japan Asia in terms of volumes, next only after Korea. Though the gap between India and Korea is huge, but the Indian market continues to zoom through 2004. Data for the first half of 2004-05 (up to Sept 2004) revealed that the market has already crossed a volume of Rs. 10,000 crores in the half year, which is nearly 4 times the volume for the same period last year.

### Statistics of Indian structured Finance (Table 1.1)

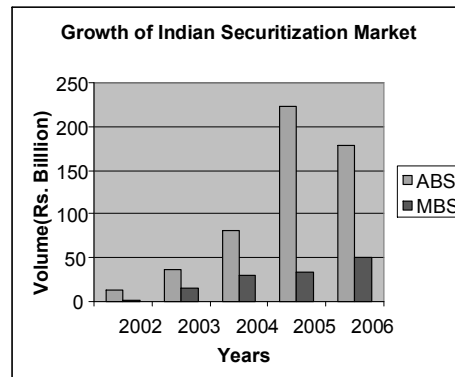
Year	2002	2003	2004	2005	2006
Volume(Rs Billion)	36.8	77.7	139.2	308.2	256.5
Number of Transaction	25	73	88	127	130



Graph 1.1

### Volumes (Rs. In billions) (Table 1.2)

Year	2002	2003	2004	2005	2006
ABS	12.9	36.4	80.9	222.9	178.5
MBS	0.8	14.8	29.6	33.4	50.1



Graph 1.2

During Financial Year 2005 the market for the structured finance transactions in India grew by 121% over the previous year, in value terms. The increase in the number of transactions, however, was more modest at 41%, which points to a significant rise in the average deal size. The graphic(1.2) shows the segregated market of ABS and MBS market. The ABS market showed the maximum growth on the back of a robust increase in retail lending by banks and non-banking finance companies (NBFCs). ABS continued to be the largest product class, accounting for 72% of the structured finance market in the year 2005. In the financial year 2005, relatively newer asset classes such as loans for financing used cars, three wheelers and two-wheelers also got securitized in a big way. The average ABS deal size almost doubled from Rs. 1.5 billion in 2004 to Rs.2.9 billion in 2005. This increase was caused mainly by the large pools securitized by leading vehicle financiers like ICICI Bank and HDFC Bank.

The MBS market was relatively slow during financial year 2005; reported issuances of Rs.33.4 billion reflect a 13% growth over the previous year. This was despite the largest ever MBS transaction in India – a RS. 12 billion mortgage backed pool of ICICI Bank, which was rated by ICRA. Overall, growth in corporate loan securitization in India has been far lower than that in retail securitization.

### Securitization of receivables in banks

The banks (especially the private sector banks and non bank finance companies) have been using securitization as an effective tool in booking upfront profits and also managing their liquidity. The issuance volume in the Indian structured finance (SF) market declined year-on-year by 17% to Rs. 256 billion during 2005-06 (since doubling each year since 2002-03) as the originators slowed down to weigh the implications of the draft guidelines on securitization issued by the RBI in April 2005. The tight liquidity conditions and the resulting rise in interest rates during the second half also contributed to the slowdown in securitization issuances. ICRA expects the final guidelines (issued in February 2006) to have a salutary effect on the domestic securitization market over the medium to long term. ICRA believes that strong growth and increasing capital adequacy requirements will continue to prompt retail finance players to securitize their assets. With the market appetite increasing for securitized debt, this can become an important avenue for all players in the Indian financial system to augment their funding base while also helping in managing the asset liability matters, liquidity

### CONCLUSION

Among the various innovations in financial markets, Securitization is among the best. It has arrived in a developing country like India much faster than expected. The generic benefits of securitization for originators and investors have been discussed earlier. These Benefits are possible but there are views that the securitization process, if not carried out prudentially, can leave risks with the originating bank without allocating capital to back them. While all banking activity entails operational and legal risks, these may be greater, the more complex the activity. It is felt that the main risk a bank may face in a securitization scheme arises if a true sale has not been achieved and the selling bank is forced to recognize some or all of the losses if the assets subsequently cease to perform. Also, funding risks and constraints on liquidity may arise if assets designed to be securitized have been originated, but because of disturbances in the market, the securities cannot be placed. There is also a view that there is at least a potential conflict of interest if a bank originates, sells, services and underwrites the same issue of securities.

In the Indian context, securitization is the only ray of hope for funding resource starved infrastructure sectors like power. For power utilities burdened with

delinquent receivables from state electricity boards (SEBs), securitization seems to be the only hope of meeting resource requirements. Securitization can help Indian borrowers with international assets in pricing the sovereign rating and placing an investment grade structure.

A market for Mortgage backed Securities (MBS) in India can help large Indian housing finance companies (HFCs) in churning their portfolios and focus on what they know best fresh asset origination. Indian HFCs have traditionally relied on bond finance and loans from the National Housing Bank (NHB). MBS can provide a vital source of funds for the HFCs. There is large untapped market in housing loan portfolios, vehicle loans, credit card receivables, student loans, infrastructure projects, public utilities, tax deferrals etc, which can now be tapped.

Major hindrances in the form of unclear taxation, accounting, legal and regulatory framework have also restricted the market to achieve its full potential. The success of securitization depends on whether a secondary market can be developed for the debt instruments like certificate of deposits, commercial papers etc. One of the main impediments in development of securitization market in India is the levy of stamp duties. Any securitization deal will have to pay hefty stamp duties thereby increasing the overall cost of the deal.

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# CONSOLIDATION IN THE BANKING INDUSTRY THROUGH MERGERS AND ACQUISITIONS

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- Introduction
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## ABSTRACT

*The bank consolidations undoubtedly strengthen the banking system by eliminating weaker ones and by streamlining operations but due concern should be paid towards the banking concentration and its effect on market competition and stability of the banking industry. This article contains various aspects and advantages of consolidation in banking industry. It also emphasizes the need and importance, problems and suggestions for consolidation in banking industry.*

## INTRODUCTION

Liberalization and deregulation process started in 1991-92 has made a sea change in the banking system. From a totally regulated environment, we have gradually moved into a market driven competitive system. Our move towards global benchmarks has been, by and large, calibrated and regulator driven. Globalization would gain greater speed in coming years particularly on account of expected opening up of financial services under WTO. Four trends changed the banking industry world over, viz.

- Consolidation of players through Mergers and Acquisitions.
- Globalization of operations.
- Development of new technology.
- Universalisation of banking.

Consolidation through Mergers and

Acquisitions (M&A) is considered one of the best ways of restructuring for effectively facing the competitive pressures. The factors inducing consolidation include technological progress, excess retention capacity, emerging opportunities and deregulation of various functional and product restrictions. A strong banking system is critical for sound economic growth so it is natural to improve the comprehensiveness and quality of the banking system to bring efficiency in the performance of the real sectors. Since more than one decade, the banking industry has been transformed throughout the world from a highly protected and regulated industry to a competitive and deregulated one. Especially, globalization coupled with technological development has shrunk the boundaries by which financial services and products are being provided to the customers residing at any part of the globe. Further, due to innovations and improvements in service delivery channels, the trend of global banking has now been marked by twin phenomena of consolidation and convergence. The 21<sup>st</sup> century mantra is to Consolidate, Compete and Converge to enable Public sector Banks to become stronger, bigger and globally competitive. The logic behind is to create a few solid banks capable of operating and competing internationally.

”Consolidation alone will give banks the muscle, size and scale to act like world-class banks. We have to think global and act local and seek new markets, new classes of borrowers. It is heartening to note that the Indian Banks’ Association is working out a strategy for consolidation among banks.” (P. Chidambaram, IBA). In this scenario, if banks are to be made more effective, efficient and comparable with their counterparts functioning abroad, they would need to be more capitalized, automated and technology oriented, even while strengthening their internal operations and systems. Similarly, in order to make them comparable with their competitors from abroad with regard to the size of their capital and asset base, it would be necessary to structure the banks as early as possible. It can be out rightly proclaimed that mergers and acquisitions are the real strategies to achieve the requisite size and financial strength in the shortest possible time.

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### **'CONSOLIDATION': A NEED OF THE HOUR**

Consolidation in the banking industry is crucial from various aspects. The factors inducing consolidation include technological progress, excess retention capacity, emerging opportunities and deregulation of various functional and product restrictions. A strong banking system is critical for sound economic growth so it is natural to improve the comprehensiveness and quality of the banking system to bring efficiency in the performance of the real sectors. It has been of late raised globally that consolidation through Mergers and Acquisitions is the only way to gain critical mass domestically and internationally and as such the whole range of industries are looking to strategic acquisitions within India and abroad. The merger and acquisition can be seen in sectors like- banking, pharmaceutical, information technology, oil and gas, telecom, automobile etc. and some of the visible motives of such consolidation are – to penetrate markets abroad to create opportunities, to build a strong marketing front-end for increased customer comfort and ease of servicing, to leverage expertise in markets, to bring value in terms of branch networks, geographical reach and technology in work processes, to tap newer sources of business, to meet stiff regulatory standards etc.

The past one-decade has seen the transformation of the banking industry throughout the world from a highly protected and regulated industry to a competitive and deregulated one. Especially, globalization coupled with technological development has shrunk the boundaries by which financial services and products are being provided to the customers residing at any part of the globe.

The key argument for consolidation within the banking sector is that it will result in increasing the balance sheet size of the banks, which in turn, would help them to compete internationally. In the process, the objective of creating a few "National Champions" is also sought to be achieved, who while competing internationally, are expected to strongly protect the national economic interests.

Further, due to innovations and improvements in service delivery channels, the trend of global banking has now been marked by twin phenomena of consolidation and convergence. The trend towards consolidation has been driven by the need to attain meaningful balance sheet size and market share in the face of intensified competition, whereas the trend towards convergence is driven across the industry to provide most of the financial services such as banking, insurance, investment, cash

management etc. to the customers under one roof.

Bank Consolidation assumes significance from the point of view of making Indian banking strong and sound apart from its growth and development to become sustainable.

It can also be rightly argued that the Indian market is over banked, but under serviced. The existence of too many banks splitting customer accounts has resulted in the paradox of low profitability per customer for banks and higher pricing for customers. Clearly, therefore, from the point of view of the financial system, we need consolidation. The objective would be strengthening of bank, economies of scale, global competitiveness, cheaper financial services and retraining employees for emerging skill sets.

During 2005-06, two domestic banks and one foreign bank were amalgamated, and one foreign bank was closed reducing the number of scheduled commercial banks from 88 at end-March 2005 to 84 at end-March 2006. On the recommendations of the Reserve Bank, the Central Government placed the Ganesh Bank of Kurundwad Ltd. under a moratorium for a period of 3 months effective January 7, 2006 under Section 45 of the Banking Regulation Act (BRA), 1949 because the net worth of the bank had turned negative, and it failed to augment its capital for several years. The Government on January 24, 2006 sanctioned the scheme of amalgamation of the bank with the Federal Bank Ltd. prepared by the Reserve Bank.

The voluntary amalgamation of the Bank of Punjab Ltd. with the Centurion Bank Ltd. was approved by the Reserve Bank in terms of Section 44A of the B. R. Act, and became effective from October 1, 2005, subsequently changed its name to Centurion Bank of Punjab Ltd. Among foreign banks, while ING Bank NV closed its business in India, UFJ Bank Ltd. merged its banking business globally with Bank of Tokyo-Mitsubishi Ltd. As a result, ING Bank NV and UFJ Bank Ltd. were excluded from the Second Schedule to the Reserve Bank of India Act, 1934 with effect from October 28, 2005 and January 1, 2006, respectively. Besides two amalgamations of domestic banks in 2005-06, another amalgamation took place in 2006-07 (up to October 31, 2006). The United Western Bank Ltd. (UWB) was placed under moratorium by the Central Government under Subsection (2) of Section 45 of the BRA, 1949, for a period of three months effective September 2, 2006 because the CRAR of UWB had turned negative. Subsequently, the Government notified the Scheme for amalgamation of United Western Bank Ltd. with Industrial Development Bank of India Ltd., which came

into effect on October 3, 2006.

### RISK ASSOCIATED WITH CONSOLIDATION

There are several risks associated with consolidation and few of them are as follows:

When two banks merge into one then there is an inevitable increase in the size of the organization. Big size may not always be better. The size may get too widely and go beyond the control of the management. The increased size may become a drag rather than an asset.

Consolidation does not lead to instant results and there is an incubation period before the results arrive. Mergers and acquisitions are sometimes followed by losses and tough intervening periods before the eventual profits pour in. Patience, forbearance and resilience are required in ample measure to make any merger a success story. All may not be up to the plan, which explains why there are high rate of failures in mergers.

Consolidation mainly comes due to the decision taken at the top. It is a top-heavy decision and willingness of the rank and file of both entities may not be forthcoming. This leads to problems of industrial relations, deprivation, depression and demotivation among the employees. Such a work force can never churn out good results. Therefore, personal management at the highest order with humane touch alone can pave the way.

The structure, systems and the procedures followed in two banks may be vastly different, for example, a PSU bank or an old generation bank and that of a technologically superior foreign bank. The erstwhile structures, systems and procedures may not be conducive in the new milieu. A thorough overhauling and systems analysis has to be done to assimilate both the organizations. This is a time consuming process and requires lot of cautions approaches to reduce the frictions.

There is a problem of valuation associated with all mergers. The shareholder of existing entities has to be given new shares. Till now a foolproof valuation system for transfer and compensation is yet to emerge.

### CONSOLIDATION IN THE INDIAN BANKING INDUSTRY

The process of consolidation is not new for India but started from 1969, when the first set of 14 private banks was nationalized. And till now a number of mergers have taken place.

During these years, the banking landscape changed dramatically. So enormous opportunities exist. India's financial sector is going to boom in a growing economy where millions of people will join the workforce and need bank accounts. Banks will, therefore, need to plan for all this and learn basic survival skills. Globalization in the context of financial markets does not mean only acquiring the ability to protect their turfs when foreign banks invade India but also going abroad and competing in other markets. One useful prerequisite for that is size.

The net NPAs of Indian banks have dropped substantially over the last few years not on account of any dramatic improvement in the quality of assets or better credit appraisal and monitoring but because of huge provisioning. So in a rising interest rate scenario, banks will face a double whammy. In the absence of high treasury income, their profitability will be hit and they will not be able to make large provisions to bring down their net NPAs further. If they want to continue to make large provisions for NPAs, their profitability will be squeezed even more. So, the soft underbelly of the Indian banking system may once again be exposed as interest rates rise. By pushing consolidation and merging some of the weak banks with stronger ones the government is trying to create a situation where it does not need to dole out public money to bail out banks.

### MOTIVES BEHIND THE MERGER

The overriding goal for merger or acquisition is the maximization of the owners' wealth. Specific motives of the mergers are as follows: -

- **Growth or Diversification:** One of the fundamental motives that entice mergers is impulsive growth. Organizations that intend to expand need to choose between organic growth and acquisition driven growth. Since the former is very slow, steady and relatively time consuming, firms that are dynamic and ready to capitalize on opportunities prefer the latter.
- **Synergy:** Synergy is a phenomenon where 2+2 = > 5; It implies group efforts are always greater than sum total of individual efforts. This translates into the ability of business combination to be more profitable than the sum of profits of the individual firms that were combined. It may be in the form of revenue enhancement or cost reduction.
- **Managerial efficiency:** Some acquisitions are motivated by the belief that acquirer can better manage the target resources and subsequently the value of target firm will rise.

- **Strategic:** The strategic reasons could vary from one deal to another. At times, if two firms have complimentary business interests, mergers may result in strengthening their position in market.
- **Market entry:** Firms that are cash rich use acquisition as a strategy to enter into new market or new territory on which they can build their platform.
- **Tax shields:** This plays a significant role in acquisition if the distressed firm has accumulated losses and unclaimed depreciation benefits in their books. Such acquisitions can eliminate the acquiring firms liability, hence benefiting from a merger with these firms.
- Imparting training to the employees/ officers. The training will help improving knowledge and developing skills amongst the employees. Their attitude can be changed through training. They can be prepared for change and work in a new environment. They will accept the change for the betterment, better remuneration, better facilities, well furnished and decorated branches and better working conditions.

### CONCLUSION

To end up, the word "MERGER" may be taken as an abbreviation, which means

M	→	Mixing
E	→	Entities
R	→	Resources for
G	→	Growth
E	→	Enrichment and
R	→	Renovation

The factors favoring growth, enrichment and renovation should be taken into due consideration before stepping into the process of M & As so that the abbreviation truly comes out to be fruitful. The success of a bank depends on Profitability. The profitability and marketing of products depends upon low cost of the products and marketing. Mainly large volumes and reduction in operational cost can ensure low cost of products. Large volumes and reduction in cost as well as strong base can be built through Consolidation of banks by merging the banks. The consolidation of banks will be a win-win situation for all the parties as under:

Banks	Sound financial position, large business, large assets, benefits of Core Banking Solution, networking and the state of the art technology, large profits, improved investor confidence.
Customers	Better and competitive pricing of all products including services, better services, improved and upgraded technology.
The Government of India & the Regulatory i.e. RBI	Better Monitoring, interaction with less number of CEOs, easy implementation of policies and convenience in surveillance due to better and updated technology, higher dividends.
Rating Agencies	Better or improved rating of Indian banks
Foreign Institutions Investors/Depositors/NRIs	Ultimate safety of funds, better investment opportunities, negotiable environment, Indian banks of international standards.
All other entities dealing with the Indian Banks	Sound and large Indian Banks, no risk in performance of the contracts and obligations, safer investments and higher dividends and better deal.

Table : Parties associated with Consolidation

**Annexure**

List of banks merged since 1961-1993.

<b>Sr.</b>	<b>Name of Bank Merged</b>	<b>With whom Merged</b>	<b>Date of Merger</b>
01	Prabhat Bank Ltd.	National Bank of Lahore Ltd.	09-03-1961
02	Indo-Commercial Bank Ltd.	Punjab National Bank	25-03-1961
03	Bank of Nagpur Ltd.	Bank of Maharashtra	27-03-1961
04	New Citizen Bank Ltd	Bank of Baroda	29-04-1961
05	Travancore Forward Bank Ltd	State Bank of Travancore	15-05-1961
06	Bank of Kerala Ltd	Canara Bank	20-05-1961
07	Bank of Poona Ltd.	Sangli Bank Ltd.	03-06-1961
08	Bank of New India Ltd.	State Bank of Travancore	17-06-1961
09	Venadu Bank Ltd.	South Indian Bank Ltd.	17-06-1961
10	Wankaner Bank Ltd.	Dena Bank	17-06-1961
11	Seasia Midlan Bank Ltd.	Canara Bank	17-06-1961
12	Kottayam Orient Bank Ltd.	State Bank of Travancore	17-06-1961
13	Bank of Konkan Ltd.	Bank of Maharashtra	19-06-1961
14	Poona Investors Bank Ltd.	Sangli Bank	28-06-1961
15	Bharat Industrial Bank Ltd.	Bank of Maharashtra	01-07-1961
16	Rayalaseema Bank Ltd.	Indian Bank	01-09-1961
17	Cuttack Bank Ltd.	United Bank of India	04-09-1961
18	Pie Money Bank Pvt. Ltd	Syndicate Bank	04-09-1961
19	Moolky Bank Ltd.	Syndicate Bank	04-09-1961
20	Merchants Bank Ltd.	Tanjore Permanent Bank Ltd.	04-09-1961
21	Tezpur Industrial Bank Ltd.	United Bank of India.	04-09-1961
22	G.Raghunathmull Bank Ltd.	Canara Bank	04-09-1961
23	Satara Swadeshi Commercial Bank Ltd.	United Western Bank Ltd.	06-09-1961
24	Catholic Bank Ltd.	Syndicate Bank.	11-09-1961
25	Phaltan Bank	Sangli Bank Ltd.	07-10-1961
26	Jodhpur Commercial Bank Ltd.	Central Bank of India	16-10-1961
27	Bank of Citizen Ltd.	Canara Banking Corporation Ltd.	17-10-1961
28	Karur Mercantile Bank Ltd.	Laxmi Vilas Bank Ltd.	19-10-1961
29	Peoples Bank Ltd.	Syndicate Bank	14-11-1961
30	Pratap Bank Ltd.	Lakshmi Commercial Bank Ltd.	11-12-1961
31	Unity Bank Ltd.	State Bank of India	20-08-1962
32	Bank of Algapuri Ltd.	Indian Bank	14-08-1963
33	Metropolitan Bank Ltd.	United Industrial Bank Ltd.	06-02-1964
34	Cochin Nayar Bank Ltd.	State Bank of Travancore	08-02-1964
35	Salem Shri Kanni kaparameshwari Bank Ltd.	Karur Vysya Bank Ltd.	01-06-1964
36	Unnao Commercial Bank Ltd.	Bareilly Corporation Bank Ltd.	12-08-1964
37	Latin Christian Bank Ltd.	State Bank of Travancore	17-08-1964
38	Southern Bank Ltd.	United Industrial Bank Ltd.	24-08-1964
39	Shri Jadeya Shankarling Bank Ltd.	Belgaum Bank Ltd.	26-10-1964
40	Bareilly Bank Ltd.	Benarus State Bank Ltd.	16-11-1964
41	Thiya Bank Ltd.	Lord Krishna bank Ltd.	16-11-1964
42	Allahabad Trading and Bkg. Corp. Ltd	State Bank of Mysore	25-08-1965
43	Vettaikaran Padur Mahajan Bank Ltd.	Bank of Madura Ltd.	01-09-1965
44	Malnad Bank Ltd.	State Bank of Mysore	06-10-1965
45	Josna Bank Ltd.	Lord Krishna Bank Ltd.	13-10-1965



46	Amrit Bank Ltd.	State Bank of Patiala	03-02-1968
47	Chawla Bank Ltd.	State Bank of India	23-04-1969
48	Bank of Behar Ltd.	State Bank of India	08-11-1969
49	National Bank of Lahore Ltd.	State Bank of India	20-02-1970
50	Miraj State Bank Ltd.	Union Bank of India	20-07-1985
51	Lakshmi Commercial Bank Ltd.	Canara Bank.	24-08-1985
52	Bank of Cochin Ltd.	State Bank of India	26-08-1985
53	Hindustan Commerical Bank Ltd.	Punjab National Bank	19-12-1986
54	TradersBank Ltd.	Bank of Baroda	13-05-1988
55	United Industrial Bank Ltd.	Allahabad Bank	31-10-1989
56	Bank of Tamilnad Ltd.	Indian Overseas Bank	20-02-1990
57	Bank of Thanjavur Ltd.	Indian Bank	20-02-1990
58	Parur Central Bank Ltd.	Bank of India	20-02-1990
59	Purbanchal Bank Ltd.	Central Bank of India	29-08-1990
60	Mew Bank of India	Punjab National Bank	04-09-1993
<b>Some of the banks merged after the reform process started, are listed below:</b>			
61	Bank of Karad Ltd.	Bank of India	1993-1994
62	Kashninth Seth Bank	State Bank of India	1995-1996
63	Punjab Co-op. Bank Ltd	Oriental Bank of Commerce	1996-1997
64	Bari Doab Bank Ltd.	Oriental Bank of Commerce	1996-1997
65	Bareilly Corp. Bank Ltd.	Bank of Baroda	03-06-1999
66	Sikkim Bank Ltd.	Union Bank of India	22-12-1999
67	TimesBank Ltd.	HDFC Bank Ltd.	26-02-2000
68	Benaras State Bank Ltd.	Bank of Baroda	20-07-2002
69	Nedungadi Bank Ltd.	Punjab National Bank	01-02-2003
70	Bank of Madura	ICICI Bank	March, 2001
71	Global Trust Bank Ltd.	Oriental Bank of Commerce	14-08-2004
72	IDBI Bank Ltd.	IDBI Ltd.	02-04-2005
72	Bank of Punjab	Centurion Bank	01-10-2005
73	Ganesh Bank of Kerundwad	Federal Bank Ltd	24-01-2006
74	United Western Bank Ltd	Industrial Development Bank	03-10-2006

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## ORGANISATIONAL EXCELLENCE THROUGH TALENT MANAGEMENT

Sandhya Mehta\*

### Table of Contents

- Abstract
- Introduction
- Recruiting for Talent
- Training & Developing Talent
- Retaining Talent
- CEO's Role
- References

### ABSTRACT

*A 'star performer' submits his resignation through an SMS, another e-mails it. The HR head reads both the messages simultaneously. The search starts once again! The focus shifts once from recruitment to retention and once again to recruitment. A vicious circle indeed! In a scenario when the organizations are talking of HR's role as a strategic business partner and are trying to measure employees' ROI, the HR head gets sleepless nights! Talent is fragile and needs to be handled with care. We are going through a period where exceptional talent gets exceptional results for the organization. The heroes are head hunted and sought after with vengeance. While earlier the companies hired consultants for top positions only, the trend is slowly emerging to seek specialists and niche area professionals through this route. The liberal increments and well negotiated hefty pay packages no longer allure the 'right person' you are targeting. Today, more than ever before, an entrepreneur needs to realize the fragility of Human capital and make thorough strategic plans for retention of talented employees.*

### INTRODUCTION

The paper focuses on how organizational excellence be achieved through retaining the talented employees who can ultimately provide a competitive advantage.

There is a war for talent across companies, geographic and industries. Finding the right talent and nurturing and developing that talent becomes the key differentiator between a successful organization and an ordinary one. In today's expanded economy there are a lot more opportunities for the people.

Though the salary levels are escalating to unrealistic levels that does not assure you that 'your star performer' would not leave. With the growth of the economy, acquisition and retention of the talent have become a key challenge.

According to Mc Kinsey & Co, in next 15 years there will be a 33% rise in the demand for talented employees with a corresponding 15% drop in the supply. The modern organizations are operating in an unprecedented, highly competitive business environment, which is characterized by the world becoming a global village.

'The war for talent' is making it increasingly important for the companies to make itself a talent magnet. The successful companies will be those, which would be able to attract, attain, train, and retain the individuals with skills, perspectives and experience necessary to drive a global business.

Talent management is becoming a critical mission and more and more leaders are coming to realize that building a strong pool of talent is central to their company's success. And more and more they are coming to realize that they have a critical role to play in making that happen. The change today is that the companies will have to move from being the best employer for all employees to be a better employer for the better performers. Today global workforce is more mobile than ever before hence the organization will have not only to recruit but also cultivate & retain talents that ultimately provide an edge.

Bharti has a process of identifying the people who are high performers with huge potential. They are the key talent pool for the Company. At Infosys, the Infosys leadership Institute is the platform to identify the leaders who can be inducted with top management.

"To manage people we create effective mechanisms - Reward: money, reorganization and training – to motivate and retain. One thing is certain. You need stars to win, and I have always advocated identifying your stars – that top twenty percent – and stroking and rewarding them in an outsize way". Says Jack Welch. In the present era when HR has shed its reactive 'fire fighting' role and is striving to get a 'seat on the table' by becoming a strategic business partner

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it has to ensure that with the help of effective HRD mechanisms like coaching, mentoring, career planning and succession planning it, connects the corporate strategy with quality and quantity of talent required to execute it.

A talent management process should aim to identify key individuals and positions needed with the focus on retaining the true “value creators” in the organization, not just top management players. For effective talent management assess employees against key competencies required for key positions. Use these to objectively assess talents you will retain to meet important business needs.

Whether HR champions the process or it percolates from the CEO’s vision and philosophy it indeed is important for the organization to identify leadership talent at every level and if the need be adopt ‘catch them young’ approach.

The leadership capability needs to be mapped on a broader scale. The talent acts as a magnet for all the performance levers and leaders with talent mindset should imbibe it in the subordinate development processes.

The CEO should be able to articulate with HR and senior management team as to what are the values, vision and should try to fit the people into frames who can translate vision into reality.

At times the leaders don’t realize that they are the ones with their hands on the talent building levers; they think that building a talent pool is the job of HR. Talent management is not just all about having good instructions about people; every leader can and should learn how to manage talent effectively. In order to become a talent magnet, the company needs to have a two-pronged approach.

- a) Developing the existing
- b) Hunting for new

Some of the strategies which may prove useful in case of talent management are as follows.

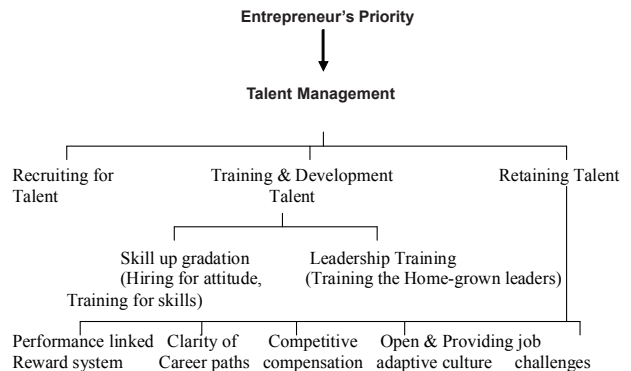
It shall need to focus on two major areas.

- Building a talent mindset / making talent a top priority.
- A action plan for leaders / entrepreneurs.

Talent management comes mostly from having managers and leaders at all levels who embrace a talent mindset a talent mindset is a deep seated belief that having better talent at all levels

allows your company to outperform its competitors. Every leader should strengthen the talent in the positions at all levels, Leaders of the large organization have an additional responsibility to make sure that the entire organizations talent pool is continually replenished and strengthened.

## TALENT MANAGEMENT PROCESS



The entrepreneur along with the HR head needs to build an organization in which talent management needs to be a systematic process of handling the ‘star’ aspirations hence providing them with opportunities to realize their quest to learn, grow and contribute.

## RECRUITING FOR TALENT

Since compatibility is the key to long term employment relationships, cultural issues need to be addressed throughout the selection process, beginning with recruitment. To determine the cultural fitness the companies must look beyond the information provided in job descriptions while assessing potential candidates and making hiring decisions.

Recruiting and selecting the talent from premium institute or your competitor may require you make alterations in your company policies and may be the existing employees may get demotivated by the healthy pay packages which the new talented employee may negotiate? But since there is a cost attached with every thing and depending upon your business requirement for the niche performer / employee necessary adjustments and alterations may have to be done else you don’t get the talent. Creating employer branding is a powerful competitive edge in the knowledge economy.

## TRAINING AND DEVELOPING TALENT

The role of training needs to extend to development and competency up gradation.

Mentoring clubbed with career pathing and performance counseling at every level with focus on 'value creator' positions is required.

While the training focuses on skill up gradation on the one hand leadership training to identify and train the homegrown leaders at every level needs to be emphasized.

### RETAINING TALENT

There is a little doubt today that the performance of organizations is critically linked to the quality and performance of its human resources and retaining it Talent has to be the top most priority for any organization. A successful company will have to focus on the following areas for retaining talent.

- Providing Job challenges: some of the key elements of creating job challenges include a conscious focus on job enrichment, clarity of expectations of results, proactively encouraging innovations and creativity and empowering professionals to take decisions and risks. A regular job rotation and multi tasking many have to be introduced for making the jobs challenging and exciting. Providing higher responsibilities early in the career can prove to be highly motivating.
- Open and adaptive culture: having a genuine effort to understand the needs to the employees can only create it. The organization should openly share its vision, philosophy and values with the employees at every level and hence create a shared vision for the talented employees. The company with a strong and adaptive culture shall need t have a deep seated, powerful ideology or set of core beliefs in which employees are thoroughly in discriminated where the boss; believes in 'walking the talk'. The need is to build a culture, which focuses on the ability to embrace change and encourages 'purposeful failures'.
- Competitive compensation: Money matters. A good competitive compensation is often ranked as an important retainer. In order to retain talent the compensation has to innovatively manage.
- Performance hiked reward system: "The vitality curve must be supported by the reward system, salary increase, stock options and promotions. The A's should be getting raises that are two to three times the given sizes of B's" says Jack Welch in 'Straight from Gut.'

- Clarity of career paths: Today every talented employee expects complete clarity and understanding of the job responsibilities and management expectations of performance and results. The organizations need to focus on spelling out jobs and career paths for all. The KRA's need to be redefined periodically and continual counseling and performance feedback needs to be given. There is a need to look for employees who can shoulder responsibilities and then provide opportunities to upgrade their skills, encouraging innovation and ingenuity.

### CEO'S ROLE

The CEO should use all the support the strategic HR leader can offer in designing a strategy, synchronize the timing and focus of the people plans with the business planning process and outcomes and retain personal ownership of executions. Above all stay involved. In order to focus on the talent management he should lay emphasis on the following areas.

- Champion a 'Learning culture' that prepares people to handle each major transition, assignment and career more. Identity major value creating roles in the organization.
- Look beyond the usual; get out into the field and on to the floor, looking for 'stars'.
- Let the 'best player for the play' be also the 'best player for the team'.
- Insist that HR has a system to develop talent management skills at all levels.

The CEO should make sure that the entire organizations talent pool is continually replenished and strengthened. In fact talent management has to be seen as a central and critical part of their role. A new talent mindset should have deep conviction that the better talent leads to better corporate performance and all managers are accountable for strengthening their talent pool. An entrepreneur needs to focus his approach towards the following areas:

Identifying the talent → Expanding the existing → Enhancing the → Retaining the  
Existing pool of talent      competencies of talent  
the existing pool

The CEO needs to act as a chief talent scout working beyond the usual performance, getting out to the field and out the floor, looking and listening for 'niche performers'. He should make it clear to senior management team that it is their job too, and provide a clear criteria. It should not be confused with the

decisions about readiness for bigger jobs that may be based on the performance appraisals. It is the first step in narrowing the funnel for a differential focus on key players.

In the next step the CEO needs to have a correct assessment of the quality of talent needed. This means determining the 'success profile' for key organizational roles or levels and deciding both on the quality and quantity of leadership required in relation to the current and future business needs. The success profiles need to differ based on the level, role, and criticality of a particular function.

The CEO with assistance of the HR head needs to identify the experience, competencies, personal attributes and the knowledge and skill sets required by the business. Once it has been identified than what kind of leadership talent is being targeted at the quantification of the talent vis-à-vis the future business need shall have to be done.

Identifying the high potential may be like unearthing the diamonds. It is important to assess the effectiveness of a person's performance and behavior in their current role which needs to be followed by the potential assessment of the person.

Sustained high performance in the current position is a pre-requisite for potential.

Many organizations create a pool of organization capability by plotting their top employees on performance / potential matrix.

Once the leadership potential has been identified those meeting the criteria should be admitted with a 'talent pool'. This pool shall provide flexibility and greater organizational self-sufficiency around the organizations current and future talent needs. It provides a forum for emerging leaders to share experiences and learning as well as group development focused on the business.

Once the talent has been identified, a talent audit at the level of the top management/entrepreneur gives a robust evaluation of an organization's capability to execute a desired strategy as well as individual readiness to contribute.

For enhancing the competencies of the identified should lead a talent management strategy, getting involved with leaders further down the organization as a mentor, chief coach and guide. Taking an active role in building the talent pools with require a lot of time and attention but an entrepreneur should remember.

"Attention is like sunshine, whatever we attend to grows and whatever we don't, withers".

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## INDUSTRY ACADEMIA INTERFACE

S.S. Narula\*

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- Abstract
- Introduction
- Industry Academia Association
- Lack of Academic Industry Interface
- Industry Adoption of Institutes
- Entrepreneur Developments
- Conclusion
- References

### ABSTRACT

*As industry struggles to reach out to the growing number of consumers in emerging economics, the biggest challenge for management/professional schools is to catch up with the pace of changes in the professional world. The booming Indian Economy and ever strengthening rupee is throwing open vast investment opportunities in the Industrial & Corporate Sector. Inward money transfers from NRIs are on the increase and India is becoming a favoured destination of MNCs to establish their offices/works. The world map has undergone a sea change over the last decade and the trend continues. The need is to be geared up for tomorrow's challenges. There is a crying need for skilled proficient manpower. Institutions and industry have to join hands to step ahead and a step faster to come out winners in this dynamics of change. This will be a win-win situation for all. It is a golden opportunity to take our industry as well as educational institutions to zenith of glory that we richly deserve.*

### INTRODUCTION

It is not very long ago when MBA was the end of the quest for a job. The graduation ceremony was a smooth glide up the corporate ladder. What follows the ceremony today is not so smooth. Are the MBA graduates prepared for the sunrise industry? Is the Managerial graduate equipped with skills that make him globally competent? Our curricula and teaching methods still subscribe to the days of Nehruvian Socialism. The university departments continue to struggle with red tape to match their curriculum with industry trends. AICTE, the regulatory authority continues with its archaic laws. Does it all suit our higher education system? The answer is

emphatic 'No'. Then let us look within and create an environment of teaching and learning where all our courses are structured in collaboration with industries and professional bodies with emphasis on meeting current and future requirements, insuring balance in theory and practice.

While there is a need to overhaul our curriculum & teaching methods at the academic institutions, Industry also has to come forward and join hands so that corporate do not have to invest time and money to develop industry relevant skills after hiring these management graduates. We can meet the growing demand world wide for management students with industry specific skills. This paper endeavors to analyse reasons for poor industry academic interaction and make some recommendations in these regard for mutual benefit while enhancing quality of higher education in our country.

### INDUSTRY ACADEMIA ASSOCIATION

Teaching, research and extension are known as the trinity of higher education. Teaching is the basic activity of communicating knowledge to students and stimulating their interest in it. Research not only extends the frontiers of knowledge but also lends depth, breadth and a certain authority and authenticity to teaching. This trained, educated man power joins the industry. Extension implies exploitation of existing knowledge by industry for economically and socially beneficial purposes and puts the validity of knowledge to test in real world conditions, raising new questions for research which again feeds back into teaching and extension, and so the cycle goes on. Thus industry and Academia are continuously linked to each other.

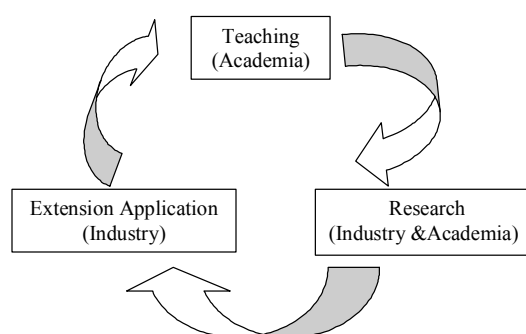


Illustration : Industry – Academia Relationship

\*Director, Bharat Institute of Technology, Meerut.

## LACK OF ACADEMIC INDUSTRY INTERFACE

In the present scenario, there is hardly any interface between Industry and Academia. Even though they are so closely interlinked as explained above, both prefer to work in their own water tight compartments. Consequently, Institutions are producing thousands of management/engineering graduates with overdose of theory and total lack of practical application. No doubt such young pass outs of professional courses fail to come up to the expectations of industry. Thus there is reluctance to absorb such youth in the industry which require to provide them with practical orientation to the training before they become employable. In the process, the industry has to invest precious resources of time and money. A close industry Academia interface is in the interest of the industry but then why do they shy away from each other. Some of the reason which attribute to this lack of interface are-

### INDUSTRY

- Prefer imported know how/technology and high profile consultants with greater degree of performance assurance.
- Academia lack facilities of well equipped labs. Hence, they are not considered capable of desired level of research and development.
- Past experience of interaction of some of the industries with academia has not been very encouraging.
- There is a lack of understanding in the industry about the vast reservoir of resource among academia.
- Lack of trust between industry and academia is a major reason for poor interface. There is anxiety in the industry regarding confidentiality of their problems and breakthroughs which may result in their losing the competitive edge.

### ACADEMIA

- They consider teaching as a major responsibility and are unwilling to spend their time in other activities like research and consultancy for an industry at the cost of teaching.
- Reluctance to step out of their comfort zone of teaching
- Industry's lack of interest in utilizing research of academicians.
- Lack of research facilities in academic

institutions.

- Inadequate marketing of academia's strengths and vast potential.

Attempts have always been made to achieve productive intersection between academia and industry. Some efforts have been made in this regard wherein students from professional/vocational courses spend 6 weeks to 6 months (Semester) with local industry to get hands on experience of real life situations. This also gives an opportunity to understand strengths and weaknesses of the kind of students academic institutions produce. A concept of science and Technology park' was also introduced in 1982. However, it has not achieved the desired Goals.

### THE WAY FORWARD

It is need of the hour that both the Academia & Industry come out of their self imposed isolation and join hands for a constructive partnership. This will result is not only their mutual benefit but also give a major boost in preparing youth to take their rightful place and help India brake the barriers to become super power in its own right. Some of the recommendations to move forward in this direction are:

### INDUSTRY ADOPTION OF INSTITUTES

- Research centers at Institutes to utilize untapped potential of academia for solving industrial problems and to provide technical solutions to the industry.
- Defining requirements & finalize projects undertaken by students.
- Six months mandatory project work by students with the industry to give shop floor exposure to students & make them industry ready.
- Placements on competition of courses by the students in the industry.
- Conduct of Executive Development Programmes by Institutes.
- Participation of CEOs and other executive in seminars organized by the Institutes.
- Industry sponsored 'Chairs of Excellence' at the institutes.

### COURSE STRUCTURE & TEACHING

- All courses to be structured in collaboration with industry.

- Final semester should be purely field work for students to get on the job training.
- Emphasis on 'case study' method of learning with involvement of qualified professionals from industry/corporate.
- A balanced faculty of academicians and qualified professionals from industry to ensure perfect balance of theory and practice.
- The delivery is taken care with the aid of modern technology like video conferencing, electronic communications and a specialist faculty interface through internet.
- entrepreneurial culture among faculty, students and alumni.
- Business plan/New Venture competitions to develop a business plan on industry/sector of their choice by the students.
- Setup entrepreneurship centre to enable budding businessmen to get financial assistance and provide guidance to new ventures.
- Provide avenue for faculty to interact with industry representatives to explore newer areas and demand for developing young entrepreneurs.

#### **CONTROL & DIRECTION TO HIGHER TECHNICAL EDUCATION**

- The universities need to constantly review the syllabus keeping in tune with Industry Requirements.
- Regulatory bodies like AICTE should adopt a flexible attitude towards Institutions providing Higher Technical Education rather than blindly follow the age old norms.
- The Government should provide liberal financial assistance to private institutions in the field of higher technical education to establish infrastructure and conduct meaningful research.
- The Government must provide incentives to industry for adopting Academic institutions providing higher technical education.
- Recognition and rewards for academicians and students engaged in research work.

#### **INDUSTRY INSTITUTE COLLABORATION**

- Industrial visits by students.
- Alumni Forum. Old students working in industry to discuss their experiences.
- CEO Forum. Seminars where important CEOs share their hands on experience with students.
- Instituting scholarships & Awards by industry for meritorious students.

#### **ENTREPRENEUR DEVELOPMENT**

- Students are put through mandatory entrepreneur development programme.
- Students are encouraged to take up original projects sponsored by industry. The institute must be supported in their drive towards creating

- There is also a scope for encouraging Technocrat – Entrepreneurs to establish pilot projects within university/institute campus to try out promising technical ideas without the risk of full fledged commercial venture.

#### **FACULTY DEVELOPMENT**

- Hardly five percent of revenue of institutions go towards faculty development. This needs encouragement.
- Specialist faculty with reduced work load to change them from generalist primary school teachers to motivated faculty who must devote time to research. It should be mandatory for all faculty members to produce minimum two research papers every year.
- Professor's salaries are low and are a deterrent for competent minds to join this profession. This is mirrored in the learning outcome of students.
- Incorporate industry experienced professionals in the faculty on regular basis or as visiting faculty.

#### **ROLE OF PROFESSIONAL BODIES**

Local Management Associations, Chamber of Indian Industries (CII) Federation of Indian Chamber of Commerce and Industry (FICCI) and such like professional bodies need to play an active role to bring Industry and Academia on a common platform and create an environment of bonhomie wherein they complement each other's strengths. In this regard, some of the initiatives of Delhi Management Associations like Organisation of Industrial visits for students members, Executive Development Programmes for corporate conducted by the Academia & Placement Festivals are a step in the right direction and need to be complemented.



## INFRA STRUCTURE DEVELOPMENT

The private institutions have to invest in creating sound infra structure. Because Industry is shy to invest in fly by night kind of institutions which are unlikely to withstand competition to provide quality education. Everyone wants to bet on a winning horse. Same is true of industry as well.

## CONCLUSION

As industry struggles to reach out to the growing number of consumers in emerging economics, the biggest challenge for management/professional schools is to catch up with the pace of changes in the professional world. The booming Indian Economy and ever strengthening rupee is throwing open vast investment opportunities in the Industrial & Corporate Sector. Inward money transfers from NRIs are on the increase and India is becoming a favoured destination of MNCs to establish their offices/works. The world map has undergone a sea change over the last decade and the trend continues. The need is to be geared up for tomorrow's challenges. There is a crying need for skilled proficient manpower. Institutions and industry have to join hands to step ahead and a step faster to come out winners in this dynamics of change. This will be a win-win situation for all. It is a golden opportunity to take our industry as well as educational institutions to zenith of glory that we richly deserve.

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## HUMAN FACTOR ACROSS CULTURES - VIEW OF BPO SECTOR IN INDIA

Shulgana Sarkar\*

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- Introduction
- Scope in India
- Training in BPO Sector
- SWOT Analysis
- Quality of Service Provided
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- References

*working for US or UK based processes. There are firms, which are working for various other countries and local companies as well. Managing the work force in the BPO sector is quite a difficult task as it is also handling varied people of different culture, language and varying attitude. The basic reason for this is, as most of the BPO Companies that are working for International Clients have to handle a lot of variations in cultural background of the employees and of those of the service takers.*

### INTRODUCTION

“Don’t forget the Human Factor, in creating a culture of innovation, an understanding of human values”. (David Kelley, AO Innovation Summit)

India is currently the most popular offshoring destination on parameters such as macroeconomic stability, regulations, labour costs and skills and is likely to gain more as the scale of outsourcing in the financial services sector which is expected to virtually double by 2008, according to a Price water house Coopers survey. The basic requirements in creating a great BPO company are customer confidentiality, safeguarding the customer, availability to customers 24 X 7, customer security and people security. But these can only be provided to the Clients, if the company efficiently manages the employees providing the varying services. Most of the UK and US process based companies are facing a lot of problem and these companies imply hard effort in training their employees to be able to handle the cases efficiently and let the customers feel that they are in their own land. With such a scenario of the BPO Sector in India, where the customers to be provided services are from a different background and the service providers belonging to a totally opposite culture, it becomes really difficult to manage the human factor. Still companies are overcoming the cultural barriers and providing well-knitted services to the Clienteles where at times the actual customers stay unaware of their service providers land and feel at home. What makes such inevitable circumstances so professionally worked? The answer lies in the hands of the BPO companies those actually handles the Human Factor. It follows that to overcome the tribulation that comes across while handling the Human Factor from varying

### ABSTRACT

*Availability of resources and managing the resources has always been an incessant task. Handling the human factor has been a crucial issue and because of which many companies are facing an assortment of problems because of which the performance of the organization gets affected. An attempt has been made to study the problems that are faced in the BPO sector in relation to human Factor. The key areas of the BPO sector has been identified and analyzed with respect to the current scenario, with the motive to build a high performance organization.*

*When the HR manager is struggling with a deadline or is dealing with crucial decisions of the company, the last thing that a manager would like to deal with is his “people”. Handling the human factor effectively is not an easy task and is becoming difficult day by day. Business Process Outsourcing Companies are facing serious problems with the Human Factor. Most of the fortune five hundred companies are looking forward to outsource more of their jobs mainly because of four reasons.*

- *Outsourcing is cost effective*
- *BPO companies are focused on the core areas of the job*
- *Access to world class solutions*
- *Reducing responsibilities of work that has been outsourced*

*Most of the reputed BPO companies running in India working for the International clients are either*

\*Lecturer, Central Institute of Business Management Research & Development, Nagpur.

cultures, some strategies need to be built.

According to NelsonHall, nearly 60 percent of work done offshore is in customer management services such as technical support for software and hardware products, telemarketing, and basic customer care such as order taking. 64 percent of the overall offshore work is voice-based and among it 85 percent of customer management services are voice-based. Most offshore processes today involve basic data entry or are rules-based. The firm predicts that the offshoring of “judgmental” processes and more complex processes will be requiring agents to make informed decisions to fulfill requests. Along with this the highly complex processes will be requiring specialist knowledge and expert judgment and will increase to around 10 percent of the offshore BPO activity by the end of this year.

### SCOPE IN INDIA

MNC's have been flocking in India since few years and now it has been found that most of the retail companies are also looking forward for India. Indians have become one of the most sought professionals breeds around globe. Call it Silicon Valley or the NASA; Indians represent the majority of the workforce. Two years back the BPO was one of the booming sectors of India. And still now we are no less than any other country. It is the mesmerizing quality of Indians that has made them one of the most sought nationals globally. Nasscom predicts 1.1-million job requirement by the year 2008. India's BPO market has grown at an annual rate of between 40-50 per cent over the past few years. So far offshoring has been centered round a few key cities in India such as Bangalore, Delhi-NCR, Chennai, Hyderabad and Mumbai. AT Kearney's report on the BPO Sector in the year 2004 shows India being ideal with respect to rest of the nation and also reveals the positive factors of India being the destination for the companies and fly down to India for outsourcing.

India is the only country which has a high financial score and with an above average people skills and availability along with the right business environment. No other country can hope to catch up with India in terms of an English-Speaking talent pool, not even China despite its larger population and despite its efforts to train people in English Language Skills. This has been one of the key factors, which has been able to attract foreign companies to make India as one of their outsourcing hub. Apart from software, back-office services like call centers and accountancy services are fanning high growth in the Indian industry powered by English-speaking

knowledge workers who earn a fraction of their counterparts in the U.S.

### HUMAN FACTOR OF BPO SECTOR IN INDIA

India comprises of a combination of an educated, English-speaking population, low costs and highly skilled workforce. Yet handling the human factor in varying culture is a total different ball game. Communication styles vary from more or less direct to the reverse depending on the culture, companies are operating in. People are the same everywhere; it is the habits that differ. When doing business beyond borders, it is this small difference that needs to be most understood. This means one must pay close attention in brushing up CCQ (Cross Cultural Quotient).

A gregarious American accompanies his completely kosher jokes with winks and hearty laughs, in a perfectly acceptable American manner. But the Indian wives would only look down upon this. This would be an usual situation. In American culture, it would be enough to say, “Your name please?” In India, more abrupt usages are seen. For example, “Name?” This would not be meant to offend, but would definitely do so in UK or US. When organizations become cross-border entities, cross-cultural factors start affecting every aspect of the business. When doing business beyond borders, understanding the small differences in the habits and cultures is of prime importance.

With such wide cultural differences handling the Human factor becomes a challenging issue. Though Indians have been referred as English speaking population yet there are differences in words referred, such as ‘Petrol’ in India would be ‘Gas’ in America. Such differences can only be corrected through Training.

One of the crucial issues while handling the human factor is the time slot. Most of the BPO companies are working night shifts, which again is a challenge. As the body cycle of a person brought up in India will vary from a person elsewhere. Thus when working on the floor, managing the human factor working at the graveyard shifts becomes a challenging issue. One of the major issues for the attrition rate being higher is working in the night shifts.

### TRAINING IN BPO SECTOR

Adequate language training is provided to the employees and Indians being very adaptable and comfortable in speaking English gets the hold of the language early. Misinterpretations and misconceptions are common in cross-cultural communication. Trying

to do International business without prior cross-cultural training is a recipe for disaster. Whether in multi-cultural teams or in business interactions, the variants of cultural nuances eventually end up affecting the business. Cross-cultural training is conducted by many Indian IT organizations to equip their employees with skills to do business in a global environment. But there is much more to cross-cultural training than a crash course in etiquette mannerism; it is about a deeper understanding of the values and ethos that defines a culture.

Many a time, it is the little-known cultural nuances that spoil a situation. A case in point is the BPO industry, where thousands of youngsters in India requires to interact with UK or US based customers everyday. While searching for the answer to a query, the agents normally keep the call on hold; this is considered rude by the clients, because the call center agents are expected to keep chatting. As silence is considered an insult in some cultures, else a show of respect in another. Even small practices such as addressing people as “Sir” and “Ma’am” in the US, and not addressing them in Britain, can turn people off.

In an Accenture study, two-thirds of 200 US business executives said that miscommunication is likely to arise from cultural differences and this has been one of the major drawbacks when outsourcing offshore. Different communication styles have been identified as the key factor causing problems between onshore and offshore workers by over three-quarters (76 per cent) of the managers questioned. Different approaches to completing tasks, different attitudes toward conflict and different decision-making styles are cited as the main cultural factors that frequently cause upsets when managing an offshore outsourcing relationship. Adequate cultural training has become a must.

A SWOT analysis has been performed to understand the issues of the human factor and also identify the core areas along with the loopholes of the sector which acts as factors for the performance of the organization.

**SWOT Analysis**

STRENGTHS	WEAKNESS
<ul style="list-style-type: none"> <li>o Salary Package</li> <li>o Monetary Benefit Schemes</li> <li>o Exclusive Infrastructure</li> <li>o Expertise Training</li> <li>o Fringe Benefits</li> </ul>	<ul style="list-style-type: none"> <li>o Recruitment pattern</li> <li>o Attitude of the employees</li> <li>o Monotonous Job</li> <li>o Culture</li> <li>o Odd working hours</li> </ul>
<ul style="list-style-type: none"> <li>o High employment</li> <li>o Indian youth adopting easy accent</li> <li>o Cost effective Human Capital</li> <li>o Low set-up cost</li> </ul>	<ul style="list-style-type: none"> <li>o Retention</li> <li>o Quality Of Service provided</li> <li>o Work Culture</li> <li>o China- Rise in BPO Sector</li> <li>o Growth of the Employees</li> </ul>
OPPORTUNITIES	THREAT

**STRENGTH**

**Salary Package**

The BPO sector is one most attractive sector in terms of Salary packages. The Customer Care Representatives [CSRs] or Call centre agents, or process executives are drawing a pay scales ranging from Rs.6, 000 -9,000. With 1-2 years experience they move to 8,000 -15,000 bracket. Multinational Call centers are providing with more attractive salary packages along with incentive schemes, thus more enthusiasm is developed in the work and people are readily willing to join the sector. The various profiles of a BPO organization are Team Leaders, Trainers, Managers, Training Managers, Operations Manager, and Operations Head etc. A Team Leaders draws Rs 17,000 - 26,000 per month, Trainers: Rs 200,000 - Rs 500,000 per annum, Managers: Rs. 300,000 - Rs 550,000 per annum.

In India the salary package of the employees working in the BPO sector is quite high compared to other sectors where the workload is higher. As graduation is the minimum criteria, the youth are attracted to this sector. Thus the employees are quite young and energetic which leads to employment of the youth at an early age leading to economic development.

**MONITORY BENEFIT SCHEMES**

The BPO companies are providing ample opportunities to the Employees to earn a high salary with different monetary benefit Schemes where the employees can earn on holidays and can also work extra time for which the companies pays double. These monetary benefit Schemes are very attractive and also motivates for better performance of the employees.

**Exclusive Infrastructure:** Infrastructure cost is a

one-time expense. The recurring costs are basically power, telecommunications and house keeping. The salaries constitute a major part of the cost. Every individual desires to be a part of an office that has a beautiful infrastructure. India has been lucky enough to be able to give platform to companies that has changed the look of the cities and has created a more posh environment. The NCERT region of Delhi like Gurgaon, Noida has changed its face due to the crowding of the BPO companies and now these places where people feared visiting are now looking forward to buy property in such places. DLF has changed the look of the cities with glass buildings everywhere as numerous malls are flocking in. The company's infrastructure also includes the restaurants and café's, which creates the happening environment and lets the employees work more enthusiastically. The companies also provide the fooding facilities, which is a relief to the employees who are working away from home.

**Expertise Training:** "Training is a very important aspect of the ITES-BPO industry" (Arjun Vaznaik).

The candidates go through pre-process training, as already described, where mid term and final assessments are carried out. Those finally selected are offered to the BPO for final interviews before joining the BPO Company.

Most BPO companies make significant investments on training, which remain largely unrealized as the employees leave. On an average, BPO companies incur three types of training costs-voice/accent, soft skills and process training-Jayantika Dave, Director, Agilent, "Training expenses on voice and accent is around Rs 1,000 per day per employee, while soft skills may require expenses of around Rs 2,000 per day per employee".

Approximately, these trainings range between five and 10 days. Process training, which is commonly over a 30-day period, call for additional expenses. The cost of training has shown significant increase in the last couple of years. It is not attrition alone that is playing the villain but also the Training Cost attached to its employees, leads to be a big sore point for the BPO sector.

**Fringe Benefits:** The BPO sector in India provides a number of fringe benefits to its employees, which in a way helps the employees to work better and be attracted to the sector. This plays as a major role in handling and motivating the employees. The fringe benefits that are a part of the BPO Culture are the recreational cafeterias, mediclaim Insurance

schemes, subsidized food and transportation facility, gift vouchers, discount coupons of various shopping malls and eating outlets, provident, gratuity, cellular Phones / laptop. These takes to be a positive factor in attracting the youth, who are the major portion of the working of the BPO firms.

## WEAKNESS

**Recruitment pattern:** There is no fixed pattern of recruitment in BPO Sector. This has arisen due to the scarcity of manpower. Earlier there were a set of parameters fixed for hiring a person and the interview process was consisting of numerous rounds but now who so ever has an average Communication skill can join the sector. Many a times in order to hire, false promises are made by the HR people which results in low retention and employees start resigning as soon as they come across the facts. "Most BPOs short circuit the recruitment process." Varadarajan of Wipro Spectramind, "HR needs to get more strategic".

**Attitude of the employees:** The average crowd of the BPO sector is raging between an age group of 21- 26 yrs. This is due to the fact that to enter into the BPO sector, one just needs to be a graduate. Most of the employees are not matured and their mind set is not stable due to which they tend to leave the organization and has a tendency to change their jobs frequently. Most of the employees join the BPO sector because of the fun and frolic as the work culture is very lively and mostly in all weekends the employees plan out for trips. The attitude of having fun in work hours tends to makes the quality of work deteriorate.

**Monotonous Job:** The work in the BPO sector is very monotonous and especially for them who are actually dealing with the direct customers, working means same routine and same words day after day. There is no thrill or challenge for the employees. This makes the employees dull. Though the companies are working on this issue and providing enthusiastic environment yet it is not of much help to the sector.

**Culture:** People still consider BPO to be "low brow", thus making it difficult to attract the best talent. People prefer joining the sector initially and then finally leaving the sector and join some other field.

**Odd working hours:** Most of the BPO companies are working 24/7. The working hours are artificially created which affects the natural rhythm of the human body. The symptoms of chronic fatigue, gastrointestinal problems, peptic ulcer, insomnia and even depression are caused due to the change of the twenty-four hour biological rhythm of the body. Hence drive

attrition rate shoots up.

### OPPORTUNITIES

**High Employment:** A lot of scope exists in India as we have literate, employable youth to fulfill the need of BPO Sector. The statistics refers:

Population of the Country:	1.073 Billion
Unemployment Rate:	9.1%
Graduates:	2,10,000
Engineering Graduates:	Over 200,000
Post Graduate from	
Non- Engineering Colleges:	Over 300,000

(Source : CMRD, June 2006)

**Indian youth adopting easy accent:** Indian youth comprises of a combination of an educated, English-speaking population who can very easily adopt the accent of both UK and US people. Indians are told to be speaking neutral accent and are easy learner. Thus 'Sarita' from India will sound like 'Suzy' but 'Shimane' from Costa Rica will not be identified as 'Suzy'. Most of the BPO companies in India ask their employees to keep alias and the accent of Indians merge with the customers, which help them to provide better services.

**Cost effective Human Capital:** India is a country where Manpower is available at a very low price. A major cost factor is the human capital, which is quite less compared to other countries. "Salaries represent only 50% of the total costs," says Aggarwal co-founded Evalueserve. "When you add the other expenses, Indian operations would cost about a third of what they would in the U.S.," he says so.

**Low set up Cost:** Setting up a company in India will cost much lower than in US, UK or China. Most of the companies prefer the NCERT regions of Delhi or places like Bangalore, Pune or Mumbai. Expenses in India are comparatively lower and establishing an organization in a metropolitan city with all facilities is still comparatively lower than setting a company in a known city in other developed countries.

### THREAT

**Retention:** India is currently facing backbreaking staff attrition. Best people often quit. The companies prefer to take in fresh talent and train them. Generally it is felt that even though the entry-level salaries are quite good, growth is a matter of concern. But then it is the individual's choice to work where and how long! In

spite of salaries and facilities being high; especially for a graduate who starts his/ her career with a BPO company, the average attrition rate is very high in the industry. This is due numerous reasons -No growth opportunity/lack of promotion, for higher salary, for higher education, misguidance by the company, policies and procedures are not conducive, no personal life, physical strains and stress, uneasy relationship with peers or managers

The BPO service providers must look at the value creation and value enhancement in the process or activity that they do and this would be the one of the best strategy for the firm to control attrition.

### Quality of Service Provided

Several companies have expressed concerns about the quality of service rendered by outsourcing vendors. The companies are looking forward for offshoring and outsourcing, but the issue is all about productivity gains. The core area is quality of service and companies are today quality conscious and look for better service. The quality of the service provided is all depending on the employee's performance.

**Work Culture:** Employees should feel that they work for a company whose products create great value. Mostly the employees working in the BPO Sector are in their early stages of life due to which they are not stable and constantly look for more opportunities. Thus they do not have any concern and dedication for their organization and are ready to leave the moment some other company offers them more. A sense of belongingness to the organization is what is required today. This has lead to be one of the biggest threats.

**China- Rise in BPO Sector:** While many market watchers point to China as the likely big threat to the Indian BPO industry. Kearney's 2004 index is not comparable with its 2003 rankings, because the parameters and methodology vary significantly. Last year's rankings had India leading a group of 11 countries: Canada, Brazil, Mexico, Philippines, Hungary, Ireland, Czech Republic, Australia, Russia and at the very end of that list, China. This year's rankings are in the following order: India, China, Malaysia, Czech Republic, Singapore, Philippines, Brazil, Canada, Chile, Poland, Hungary, and New Zealand. The reasons for the drastic change being its large population and the growing popularity of English as a language. It needs to improve the English language skills of its work force if it wishes to challenge India.

**Growth of the Employees:** Almost all the companies

promote or change the designations every 6 months. But the problem is still 'the growth'. When a twenty years old joins a company as call center representative, becomes a team leader by 24. The hierarchy is not much in call centers. Hence one is expected to have exposure to more than one process so that they can move along horizontally across the domains of knowledge/processes. Every individual looks for growth but there is more stagnancy in this sector.

## CONCLUSION

The concept of business process outsourcing (BPO) typically conjures up images of inexpensively hired college graduates dialing away at call centers in India, Korea or the Malaysia. That picture is now changing, as providers of BPO services move beyond call-centers and routine data-crunching tasks toward higher-end services.

Experts say these new trends are significant, and they will continue to grow over time. "Activities considered for off shoring have moved up the value chain and begun to touch core functions, such as highly analytical processes," says Stefan Spohr, a Principal in the financial institutions group of A. T. Kearney, a global management-consulting firm in Chicago.

Every field has its own Black's and White's yet India stands as the most prioritized country where work can be offshored because of the human factor available in India has high potential to work in the BPO sector.

To have a picture of our nation as beautiful as we dream and to have a real transformation of Indian potential into global performance, we need to put together a holistic approach.

Outsourcing BPO Services to India offers benefits not only in terms of cost reduction, but also a set of qualitative employees. Companies along with their customers benefit can access some of the best talent and expertise in the industry at lower rates.

Handling human factor is not an easy task and to keep a transparency among employee-employer, employees must be clear about the appraisal system, companies expectations from employees/ team members, parameters to measure their performance, consequences of failure in meeting the expectations, rewards awarded if they exceed the expected level of expectation. A conscious effort should be made to change the 'fun place' perception that is commonly attached to a BPO job. An age group

of 25-35 should be hired with an objective that older people are more matured and are more responsible and are less likely to quit at the drop of a hat. There is a high need of well honed consulting practices for the client's specific industry. Identifying positives and negatives of the sector shall certainly enhance the performance and provide quality service to the customers.

To build a high performance organization, handling the crucial issues is not just the solution but identifying both the key areas and the loop holes and implementing the action plans for the betterment shall certainly improve the performance. If the organization identifies the reasons behind the performance and then works out the strategies to enhance the performance is definitely going to improve the performance of the human factor associated with the industry.

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# THE IMPACT OF SERVICE QUALITY DIMENSIONS ON CONSUMERS BEHAVIOURAL INTENTION IN RURAL BANKING

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## ABSTRACT

*Although numerous studies emphasize the importance of service quality in commercial banking, the study on rural consumer behaviour in services marketing has been inadequately captured by previous empirical research. The purpose of this paper is to examine the quality of services in rural banking and its impact on customer satisfaction and their behavioural intention.*

*The study proposes a new model for assessing the impact of quality in rural banking on customer satisfaction and their behavioural intention based on SERVPERF scale. A comprehensive scale will be developed to measure the quality of services, customer satisfaction and behavioural intention. The study reveals that the important discriminant quality factors among lower income and higher income crops in rural banking are service quality and functional quality. The highly influencing quality dimensions on the customer satisfaction and behavioural intention are service quality and personnel quality. Hence the study declares the importance of internal service quality (personnel quality) to deliver the better service quality to their customers and makes them as satisfied. By that customers satisfaction, the bankers can create positive behaviour intention among their customers.*

## INTRODUCTION

India being a largely an agricultural and rural oriented economy, the need for assessing the potential for rural business and studying consumer behaviour in rural market is crucial and thorough understanding of the rural markets has become an important aspect of marketing in the Indian marketing environment. Rural markets are expanding in India at such a rapid pace that they have overtaken the growth in urban markets. The Government polices also largely favourable for rural development programs. The rural market is emerging stronger with a gradual increase in disposable income of people, rising rural communication, life style changes and growth of urbanisation. The rural market of India is large and scattered in the sense that it consists of over 680 million consumers from 6.27 lakhs villages spread throughout the country. Nearly 60 per cent of rural income is generated from agriculture (Pareek, 1999).

In case of service industry like banking, the quality of customer services holds primary significance, particularly in the context of sustained business growth. Unlike the other industries engaged in the production of tangible goods, banks are unique in the sense that they produce and deliver the service instantaneously at the service delivery points. This has an overwhelming impact on customer's behaviour which makes customers hypersensitive to the quality of service. In the competitive environment, the banks are entering to new business. They have entered into share market and introduce new bank products to win the competitive market. But some services are significantly absent in rural branches.

Rural customers are trying to gain more idea as to how much time is required for any type of banking services. The rural customers are aware of the loans and deposits availability at the banks and also how to avail them also. Rural customers are having more knowledge on the banking because of the development of transport and communication facilities in India. But the development of banking activities in rural area is not up to the mark compared to the urban area. It is mainly caused by the lack of interest among

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the bankers to analyse the rural market and the rural consumer behaviour. Customer service is not merely the fulfilment of the government's guidelines or the mechanical adherence to the time frame of service. It is a philosophy and an attitude of professional commitment, which believes in the ultimate satisfaction of rural customers' wants. The characteristics of rural customers in banking industry are highly versatile since they may differ in their behavioural pattern, attitudes, needs and expectations. Therefore, this study attempts to analyse the customer's perception on banking services in rural branches.

### **QUALITY IN SERVICE INDUSTRY**

Quality in service is very important especially for the growth and development of service sector business enterprises (Powell, 1995). It works as an antecedent of customer's satisfaction (Ruyter and Bloemer, 1995). In the past, quality was measured only for the tangible products because of less dominance of service sector in the economy. Due to the increasing importance of service sector in the economy, the measurement of service quality became important. Crosby (1979) defined quality as the 'Conformance to requirements'. The guru of quality movement Juran (1988, 1992) defined quality as 'fitness for use' while Servicing (1986) viewed quality as a process promising to result in products and services.

In late 1980s, Parasuraman et al., (1988) explained quality as a gap between what customers feel to be offered and what is provided. Even though there is no single definition on quality, they all have a single focus on how users look at it (Pijl, 1994; Zeithaml, 1988; Khader, 1997). Ramaswamy (1996) identified three different sets of measures for service quality such as service performance, customer measure and financial measure. The other researchers such as Liljander, (1995). Prakash and Lounsbury (1984) and Swan (1988) suggested many possible comparison standards including predicted service, ideal service, excellent service, desire service, needs and values, adequate service, comparative expectations and fairness. However, SERVQUAL only incorporates a rough aggregated mixture of a selection of these.

### **ESTABLISHING CURRENT UNDERSTANDING OF SERVICE QUALITY**

Throughout the past two decades there has been a distinct devotion to service quality research (Brady and Cronin, 2001; Carman, 2000; Dabholkar,

1996; Klaus, 1985 and; Lewis and Booms, 1983) from which possibly three dominant models of service quality emerged: Gronroos (1984) perceived Service Quality (PSQ) model; Parasuraman et al; (1988, 1985) Gap analysis model; and Boulding et al., (1993) dynamic process model of service Quality.

Gronroos (1984) focuses on modelling total perceived service quality. He emphasizes the importance of understanding what customers are really looking for and what they evaluate. Gronroos thus proposes two dimensions: technical or outcome quality and functional or process quality which were supported by Ruyter and Wetzels (1998); Brown and Swantz, (1989); and Carman (2000).

Parasuraman et al., (1985) developed the Gap analysis model. In his model, he measured the gap between expected service and perception of service among the customers. Later it was refined to SERVQUAL scale (Parasurman et al., 1988). It is designed to measure consumers' perceptions of the identified dimensions of tangibles, empathy, assurance, responsiveness and reliability, relative to consumer's expectations. SERVQUAL critics have voiced their concerns for many years with respect to contextual, dimensional and empirical correctness considerations (Asubonteng et al., 1996; Finn and Lamb, 1991).

Boulding et al., (1993) are among those who consider service quality to be performance-based and hence take perceptions, rather than expectations, as they are of departure in developing their dynamic process model. They see perception of functions of what the consumer's expectations will occur and what should occur during the service encounter. But Boulding et al., also assume service quality as perceived with respect to Parasuraman's et al., (1988) five dimensions.

### **IMPORTANCE OF SERVICE QUALITY IN COMMERCIAL BANKS**

Increased competition, highly educated consumers and increase in standard of living are forcing many businesses to review their customer service strategy. Many business firms are channelling more efforts to retain existing customers rather than to acquire new ones since the cost of acquiring one new customer is greater than cost of retaining existing customers. There is enough evidence that demonstrates the strategic benefits of quality in contributing to market share and return on investment (Adiran, 1995; Bakesm, 1995; Reichhel and Sasser 1990). Maximizing customer satisfaction through

quality customer service has been described as 'the ultimate weapon' by Davidow and Vital (1989). According to them in all industries, when competitors are roughly matched, those with stress on customers' service will win".

In view of the abovementioned facts, an analysis of service quality perceptions from customer's point of view may be sound and interesting at this juncture. Such an analysis will provide banks, a quantitative estimate of their services being perceived with intricate details such as whether banks are meeting or not meeting the customer's expectations. The present paper, therefore attempts to achieve the following objectives.

### OBJECTIVES OF THE STUDY

The study focuses the following precise objectives in view:

1. Identify the relative dimensions of service quality in rural banking markets.
2. Exhibit the customer satisfaction on Rural banking, and
3. Analyse the impact of different dimensions of service quality factors on customer satisfaction in rural banking.

### CONCEPTUAL FRAMEWORK

Actually, the conceptualization and measurement of service quality began in the marketing literature in 1985. Service Quality is a vital antecedent of customer's satisfaction (Cronin and Taylor, 1992). In turn customer satisfaction is believed to affect post-purchase and perception and future decisions. Subsequent works on service quality. (Parasuraman et al., 1993; Cronin and Taylor, 1994; Avkiran, 1994; Teas, 1994; Newman and cowlings, 1996) notwithstanding, the debate has not yet reached a point of solution. In its wake, however, it has raised many issues for both academicians and practitioners by providing important but some what conflicting in rights into the conceptual, the methodological, analytical and practical issues related to the service quality concept. For instance, Cronin and Taylor (1992, 1994) argue the measuring of service quality using a performance-minus-expectation (SERVQUAL) basis inappropriate and suggest the performance-only (SERVPERF) measurement is a better method.

However, Parasuraman, Zeithaml and Berry (1994) contend that the SERVQUAL scale using the expectations/performance gaps method is a much

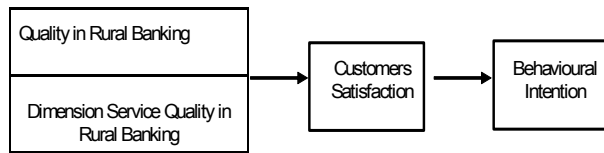
richer approach to measuring service quality and augment their earlier assertion (e.g. parasuraman et al., 1988, 1993) that service quality is a multi dimensional rather than a one-dimensional construct. SERVQUAL has been widely used (Dabholkar et al., 1996; Hursey, 1999; Nielson and Host, 2000; Getz et al., 2001). There have been a few empirical studies that dealt with the application of SERVQUAL instrument in the banking industry such as Kwan and Lee (1994), Natarajan et al., (1999) and Lassar et al., (2000). At the same time, the empirical evidence of using SERVPERF Scale in banking industry are the studies by Howcraft (1991) and Newman and Cowling (1996). In the present study, the performance only measurement (SERVPERF) has been used to analyse the customer's perception in rural banking.

### RELATED REVIEWS

The literature pertaining to relationships among service quality, customer's satisfaction and their behavioural intention can be divided into two groups. The first, service management literature, proposes that the service quality influences the customer satisfaction (Cronin et al., 2000; Dabholkar et al., 2000 and Schemenner 2004). The service quality is identified as the determinants of customer satisfaction in banking (Naceur et al., 2002). The relative importance of service quality attached with customer satisfaction and their behavioural intention is highlighted by Niki et al., (2006). The direct and indirect links between service quality and the customer's satisfaction and their behavioural intention are analysed with the help of structural equation modelling (Festus and Maxwell, 2006). Even though there are so many studies related to the linkage between the service quality and customer satisfaction in banking industry, only limited studies are related to the rural consumer behaviour in the banking industry. Hence the present study has made an attempt to fill up that research gap.

### PROPOSED RESEARCH MODEL

The research model proposed for the present study is measuring the customers' perception on quality of rural banking and also the interrelationship between quality of rural banking, customer's satisfaction and Behavioural intention.

**FIGURE 1****Proposed Research Model****METHODOLOGY****Construct Development**

In order to have a practical utility, a quality construct should not only be operational but also context specific (Lapierres, 1996). The quality construct is developed from the reviews. (Schmenner, 2004; Miller et al., 2000; La and Kandampully, 2004; Sharma and Sharma 2007). The dimensions used to measure the quality in rural banking are shown below.

**TABLE 1****Quality Variables in Rural Banking**

<i>Sl.No.</i>	<i>Variables</i>	<i>Sl.No.</i>	<i>Variables</i>	<i>Sl.No.</i>	<i>Variables</i>
1.	Prompt Service	14.	Enough Space	27.	Effective Media
2.	Simplified formalities	15.	Lesser Paper work	28.	Reliable employees
3.	Availability of loan	16.	Understand customers needs	29.	Quick response on telephone queries
4.	Reasonable interest on overdraft	17.	Correct information	30.	Need based service to customers
5.	Timely Advertisement	18.	Reasonable security to loan	31.	Provision of loan
6.	Competency of employees	19.	Attractive advertisement	32.	Different loan schemes
7.	Empathy	20.	Patient Employees	33.	Easy overdraft facilities
8.	Assured services	21.	Redress of complaints	34.	Availability of drinking water
9.	ATM facilities	22.	Motivating deposit schemes	35.	Effective promotional posters
10.	Customer calls	23.	Reasonable interest on deposits	36.	Approachable manager
11.	Loan amount	24.	Need based deposit schemes	37.	Availability of employee at counter
12.	Proper lighting	25.	Proper sitting arrangement	38.	Courteous employees
13.	Repayment period of loan	26.	Layout of furniture	39.	Personal Care

### Customer's Satisfaction

While customer retention is the goal of the service provider, surrogate measures are typically used owing to the constraints involved in longitudinal studies. These measures relate to attitudes or future intentions towards the service provider. There is sufficient evidence to suggest that customer satisfaction can and should be viewed as an attitude (Yi, (1990); Terrence and Gordon, (1996); Festus and Hsu, (2006); and Vanniarajan and Gurunathan, (2007).

The customer's satisfaction is measured by the following statements.

Sl.No.	Statements
C-S 1	I am satisfied with my decision to use this bank
C-S 2	My choice to use this bank was a nice one
C-S 3	I think I did the right thing when I choose this bank for its service
C-S 4	I feel that my experience with this bank has been enjoyable.

### Behavioural Intention (BI)

The construct of behavioural intention is also developed with the help of review. The used statements are summarised below.

Sl.No.	Statements
B-I 1	I would recommend the bank to someone else.
B-I 2	I would continue to use this bank
B-I 3	I would report any problems I experienced with the bank to the banking industry
B-I 4	I consider the bank fees they charged me are adequate

The variables in quality of banking service and statements in customer satisfaction and Behavioural intention have been measured at five point scale.

### The Sample

The present study has been conducted in Madurai District, Tamilnadu. The study is further limited to thirteen blocks in Madurai district. The study covers two Public and Private Sector banks each from each block. From each bank, ten customers are purposively selected for the present study. The sample size comes to 520 customers. The constructed questionnaire consists of service quality; customer's satisfaction and behavioural intention have been sent to the selected customers by post. In total, three months of time has been given to send their response.

Only 117 usable filled in questionnaires have been received from them. After a reminder was sent to them another 218 filled questionnaires have been received within a span of another 3 months. All 335 usable questionnaires are taken for the analysis. The collected data are processed with the help of factor analysis, multiple regression analysis and discriminant analysis to fulfil the established objectives.

## EMPIRICAL RESULTS

### Descriptive Statistics

A total of 69 per cent of respondents is belonging to Low Income Group (LIG) whereas remaining 31 per cent belong to High Income Group (HIG). Annual income of majority of the respondents is between Rs.36000 to 60,000. Around 62.00 per cent of respondents visit the bank for four times or less per month.

### Results and Discussion

The sample was split into LIGs and HIGs which consist of 234 LIGs (sample-1) and 101 HIGs (Sample -2) Principal Component Analysis (PCA) was employed to identify the underlying dimensionality of quality in rural banking. Specifically, the Scree test and the Kaiser (1960) eigen value one criterion were both used to identify the number of factors. If an item in a proposed dimension shows a significant loading (factor loading higher than +0.4) on more than one factor, such items are deleted because these do not provide pure measures of a unique construct. In the present study, 14 items are deleted. Subsequently, the remaining 25 items were subjected to factor analysis again.

The Kaiser Meyer–Ohlin measure of sampling adequacy and Bartlett's test of sphericity has been conducted to test the validity of data for factor analysis. The resulted KMO measure and the zero per cent level of significance of chi-square justify the data for factor analysis. The factor analysis results in six important quality factors. The eigen value, reliability co-efficient and the per cent of variance explained by the six factors are presented in Table 2.

TABLE 2

## Quality Factors in Rural Banking

Sl.No.	Quality Factors	Number of Service Quality Variables	Eigen Value	Rehability Co-efficient	Per cent of Variation explained
1.	Service Quality	6	3.9697	0.8141	16.44
2.	Product Quality	5	3.2143	0.7892	14.08
3.	Personal Quality	5	2.5891	0.8339	12.11
4.	Functional Quality	4	2.3082	0.7034	10.39
5.	Tangibles Quality	3	1.9234	0.6989	8.56
6.	Promotion Quality	2	1.5086	0.7236	6.71

KMO measures of sampling Adequacy: 0.7891. Bartlett's test of sphericity: Chi-square value: 93.08\*

\*Significant zero per cent level

The narrated six quality factors explain the quality variables in rural banking to the extent of 68.29 per cent. The most important factor is 'service quality' since its eigen value and the per cent of variance explained by this factors are 3.9697 and 16.44 per cent respectively. The second and third important quality factors are product quality and personnel quality since their respective eigen values are 3.2143 and 2.5891. The per cent of variation explained by these two factors are 14.08 and 12.11 per cent respectively. The other factors identified by the factor analysis are functional quality, tangibles quality and promotion quality since their respective eigen values are 2.3082, 1.9234 and 1.5086. The per cent of variation explained by these factors are 10.39, 8.56 and 6.71 respectively.

## Variables in each Quality Factor in Rural Banking

The variables in each quality factor are identified with the help of the factor loading of the variables in each factor. The variables which have more factors loading in a particular factor compared to other factors are declared as the variables in each factor. The identified variables in each quality factor are listed in Table 3.

TABLE 3

## Variables in the Quality Factors

Sl. No.	Variables	1	2	3	4	5	6
1.	Service Quality	Need based service to customers	Prompt service	Assumed services	Understand Customers needs	Empathy	Personal care
2.	Product Quality	Different loan schemes	Availability of loan	Easy over draft facilities	Reasonable security to loan	Motivating deposit schemes	
3.	Personal Quality	Competencies of employees	Reliable employees	Patient employees	Approachable manager	Courteous employees	
4.	Functional Quality	Simplified Formalities	Lesser Paper work	Customers calls	Redress of complaints		
5.	Tangibles Quality	Proper seating arrangements	Proper lighting	Enough space			
6.	Promotion Quality	Timely advertisement	Effective media				

The included six variables in the service quality factor explain it to the extent of 81.41 per cent since its respective reliability co-efficient is 0.8141. The number of variables included in product and personnel quality is five in each with the reliability co-efficients of 0.7892 and 0.8339 respectively. The variables included in the functional and tangibles quality are 4 and 3 variables with the reliability co-efficient 0.7034 and 0.6989 respectively. The included two variables in promotion quality explain it to the extent of 72.36 per cent since their respective reliability co-efficient is 0.7236.

## Customer's Perception on Quality factors in Rural Banking

The factor analysis results in six important quality factors which is also confirmed by various reliability analysis. The highly perceived quality factors among the rural customers have been examined with the help of the mean score of each quality factors in rural banking. The score of each quality factor is drawn from the mean score of the quality variables in each factor. The mean score of each quality factors has been computed among the Lower Income Group (LIG) and Higher Income Group (HIG) separately. The significant differences between the two group of customers have been analysed with the help of 't' test.

**TABLE 4**

**Quality Factors in Rural Banking among the LIG and HIG**

Sl.No.	Quality of Rural Banking	Mean Score Among		T-Statistics
		LIG	HIG	
1.	Service Quality	4.6233	3.5319	2.3917*
2.	Product Quality	4.5234	3.6036	2.2089*
3.	Personnel Quality	3.3941	4.4843	-2.8633*
4.	Functional Quality	3.0849	4.3208	-2.0117*
5.	Tangibles Quality	4.5209	3.8143	2.0029*
6.	Promotion Quality	3.2344	3.6864	1.2334

\* Significant at five per cent level.

The Table 4 explains the mean of perception on various quality factors between two groups of customers and their respective 't' statistics. The highly perceived quality factors among the LIGs are service and product quality factors since their respective mean scores are 4.6233 and 4.5234 whereas the lesser-perceived factors are promotional and functional quality factors since their respective mean scores are 3.2344 and 3.0849. Among the HIGs, the highly perceived quality factors are personnel and functional quality since their respective mean scores are 4.4843 and 4.3308 whereas the lesser-perceived factors are tangibles and service quality. Regarding the perception on various quality factors, the significant differences between the two group of customers have been identified in the perception on service, product, personnel, functional and tangibles quality since the respective 't' statistics are significant at five per cent level.

**Discriminant Quality Factors among the LIGs and HIGs**

It is highly imperative to identify the important discriminant quality factors which discriminate the LIGs and HIGs for some policy implications in rural banking. The banks should know how far their LIGs and HIGs are discriminated from each other regarding their perception on various quality factors. It is good for the strategic planning of the rural banks. Hence, the present study has made an attempt to identify the important discriminant factors with the help of two group discriminant analysis. Initially, the mean of difference between the two groups of customers regarding the quality factors in rural banking has been computed. The discriminant power of the factor is also

examined with the help of Wilk's Lambda.

**TABLE 5**

**Mean Difference and Discriminant Power Quality Factors among Two Group of Customers**

Sl.No.	Quality Factors	Mean Score among		Mean Difference	T-Statistics	Wilks' Lambda
		LIGs	HIGs			
1.	Service Quality	4.6233	3.5319	1.0914	2.3917*	0.1219
2.	Product Quality	4.5234	3.6036	0.9198	2.2089*	0.3015
3.	Personnel Quality	3.3941	4.4843	-1.0902	-2.8633*	0.1844
4.	Functional Quality	3.0849	4.3308	-1.2459	-2.0117*	0.2129
5.	Tangibles Quality	4.5209	3.8143	0.7066	-2.0029*	0.4014
6.	Promotion Quality	3.2344	3.6864	-0.4520	-1.2334	0.5719

\* Significant at five per cent level.

The significant mean differences have been identified in five quality factors in rural banking among the LIGs and HIGs, since the respective 't' statistics are significant at five per cent level. The higher mean differences are noticed in the case of functional quality and service quality factor since their respective mean differences are -1.2459 and -1.0914. In total the HIGs highly perceived than their counterparts. The LIGs highly perceived on service and product quality factors compared to the HIGs. The higher discriminant power of the quality factors has been identified in the case of service and personnel quality since the respective Wilk's Lambda coefficients are 0.1219 and 0.1844. The significant quality factors have been included for the establishment of two group discriminant analysis. The unstandardised procedure has been followed to establish it. The estimated function is

$$Z = 0.9196 + 0.3733x_1 + 0.1514x_2 - 0.2144x_3 - 0.2448x_4 + 0.1813x_5$$

The relative contribution of quality factors in total discriminant score is computed by the product of the unstandardised canonical discriminant co-efficient of the quality factors and their respective mean differences. The results are illustrated in Table 6.

**TABLE 6**  
**Relative Contribution Quality Factors in Total Discriminant Score**

Sl.No.	Quality Factors	Unstandardised Canonical Discriminant Co-efficient	Mean Difference	Product	Relative Contribution in Total Discriminant Score
1.	Service Quality	0.3733	1.0914	0.4074	33.57
2.	Product Quality	0.1514	0.9198	0.1393	11.48
3.	Personnel Quality	-0.2144	-1.0902	0.2337	19.26
4.	Functional Quality	-0.2448	-1.2459	0.3049	25.12
5.	Tangibles Quality	0.1813	0.7066	0.1281	10.57
	Total			1.2136	100.00

Per cent of cases currently classified: 78.13.

The higher discriminant coefficient is identified in the case of service and functional quality factor since the respective discriminant co-efficients are 0.3733 and -0.2448. It infers that the abovesaid two quality factors have more influence on the discriminant function. The higher contribution of discriminant factors to the total discriminant score is identified in the case of service and functional quality factors since their respective relative contributions are 33.57 and 25.12 per cent. The established discriminant function correctly classifies the two group of customers to the extent of 78.13 per cent. The analysis reveals that the important discriminant quality factors among the LIGs and HIGs are service and functional quality factors.

#### IMPACT OF QUALITY FACTORS ON CUSTOMER SATISFACTION

The impact of perception on quality factors in rural banking may have its own impact on customers' satisfaction. It is highly essential for the policy makers to know the degree of impact of quality factors on customers' satisfaction. The multiple regression analysis has been administered to analyse such impact. The included independent variables are score on service, product, personnel, functional, tangibles and promotional quality factors in rural banking whereas the included dependent variable is customer satisfaction. The score of customer satisfaction is derived from the mean scores of the statements related to customer satisfaction. The fitted regression model is

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + e$$

Whereas

$$Y = \text{Score on customer Satisfaction}$$

$X_1$  = Score on Service quality factor

$X_2$  = Score on Product quality factor

$X_3$  = Score on Personnel Quality factor

$X_4$  = Score on Functional Quality factor

$X_5$  = Score on Tangibles Quality factor

$X_6$  = Score on Promotional Quality factor

$b_1, b_2, \dots, b_6$  = Regression coefficient of independent variables

$a$  = Intercept and

$e$  = Error terms

The impact of perception on Quality factor in Rural banking on customer satisfaction has been examined among the LIGs, HIGs and also for pooled data separately. The results are given in Table 7.

**TABLE 7**  
**Impact of Quality Factors on Customer Satisfaction**

Sl.No.	Independent Variables	Regression Co-efficient among		
		LIGs	HIGs	Pooled Data
1.	Service Quality	0.2149*	0.4039*	0.3089*
2.	Product Quality	0.1027	0.2716*	0.1603*
3.	Personnel Quality	0.2916*	0.1816*	0.2244*
4.	Functional Quality	0.0861	0.2149	0.1247*
5.	Tangibles Quality	0.2379*	0.1031	0.1033
6.	Promotion Quality	0.1736*	0.1011	0.0904
	Constant	1.2904	0.9733	1.0415
	R <sup>2</sup>	0.6911	0.7408	0.7706
	F-Statistics	8.1081*	9.2176*	12.3381*

\* Significant at five per cent level.

The significantly influencing quality factors on customers' satisfaction among the LIGs are service, personal, tangibles promotional quality factors. A unit increase in the perception on the above said quality factors result in an increase in customers' satisfaction by 0.2149, 0.2916, 0.2379 and 0.1736 units respectively. Among the HIGs, the significantly influencing quality factors are service, product, personnel and functional quality. A unit increase in the above said quality factors results in an increase in customer satisfaction by 0.4039, 0.2716, 0.1816 and 0.2149 units respectively. The analysis of pooled data reveals that the significantly influencing quality factors on customers' satisfaction are service, product and personal quality since their respective regression

coefficients are 0.4039, 0.2716, 0.1816 and 0.2244. The changes in the perception on quality factors explain the changes in customers' satisfaction among the customers to the extent of 77.06 per cent.

### IMPACT OF QUALITY FACTORS ON BEHAVIOURAL INTENTION

The behavioural intention differs from customers' satisfaction. The customer's satisfaction reveals the attitude of the customers towards the services offered by the banks in rural areas whereas their behavioural intention replicates the level of interest to recommend the customers bank to others. The recommendation to others is possible when the customers are delighted with the services offered by the banks. It infers that mere satisfaction is not essential, and the required aspects from the customers higher satisfaction towards the services offered by banks. Hence, the present study has made attempt to analyse the impact of quality factors on their behavioural intention. The score on behavioural intention among the customers is drawn from the mean score of the three statements related to behavioural intention. The multiple regression analysis has been administered to analyse such impact between two groups of customers and also for pooled data. The fitted regression model is

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + e$$

Whereas

$Y$  – Score on behavioural intention among the customers

$X_1$  = Score on Service quality factor among the customers

$X_2$  = Score on Product Quality factor among the customers

$X_3$  = Score on Personal Quality factor among the customers

$X_4$  = Score on Functional Quality factor among the customers

$X_5$  = Score on Tangibles Quality factor among the customers

$X_6$  = Score on Promotional Quality factor among the customers

The results are summarised in Table 8.

**TABLE 8**  
**Impact of Quality Factors on Behavioural Intention**

Sl.No.	Quality Factors	Regression Co-efficient among		
		LIGs	HIGs	Pooled Data
1.	Service Quality factor	0.1913*	0.2249*	0.2144*
2.	Product Quality factor	0.0844	0.1041	0.0932
3.	Personnel Quality factor	0.1942	0.1517*	0.1643*
4.	Functional Quality factor	0.1046	0.2137*	0.1506*
5.	Tangibles Quality factor	0.1519	0.0793	0.0911
6.	Promotion Quality factor	0.2143*	0.1030	0.1097
	Constant	0.8243	0.6302	0.7863
	R <sup>2</sup>	0.6717	0.6308	0.7408
	F-Statistics	8.5846*	7.5508*	10.3697*

\* Significant at five per cent level.

The significantly influencing quality factors on their behavioural intention among the LIGs are perception on service, personal, tangibles and promotional quality factors since their respective regression coefficients are significant at five per cent level. A unit increase in the perception on the above said factors result in an increase in behavioural intention among the LIGs by 0.1913, 0.1942, 0.1519 and 0.2143 units respectively. Among the HIGs, these significant quality factors are service, personnel and function quality factors. A unit increase in the perception on the above said three quality factors results in an increase in behavioural intention by 0.2249, 0.1517 and 0.2137 units respectively. The analysis of pooled data reveals that the significantly influencing quality factors on the behavioural intention among the customers are service, personnel and functional quality. The change in perception on various quality factors in rural banking explains the changes in behavioural intention among the customers to the extent of 74.08 per cent.

### Discussion and managerial implications

The study set out to investigate the quality factors in rural banking and their relationships with the customer satisfaction (CS) and Behavioural Intention (BI).

### Need to Operational the Quality Construct

Service providers' ability to understand and



respond to customer needs has been identified as a key contributor to quality successes (Blan Chand and Galloway, 1994). In line with this thought, the results of this research point to the need to develop and use only operational items in the quality construct. The results confirm Lapierras (1996) and wang et al., (2003) finding of Service Quality research. According to this research, the construct measurements are as important as the examination of substantive relationships. Thus the relationships of the SQ construct with CS and BI may be affected by whether the construct items are operationalized or not. The current study presented methodology to develop such an operationalized quality construct.

The important criticism on the use of the SERVQUAL scale is that it relates to its global nature. The outcome of administering SERVQUAL scale to the consumers of a service is of little utility value for instituting an operational improvement process for the service. The use of the modified schemener (2004) service process matrix makes it so apparent and improvement to operationalized the SERVPERF scale. The present study is accomplished by moving up toward the SERVPERF scale.

#### **Service typology and the Quality construct**

Using the rural banking as an illustrative example for a banking service, six quality dimensions were captured in the present study. Five of these dimensions were found to be discriminating the LIGs and HIGs regarding their perception on quality of rural banking. These are Service Quality, Product Quality, personal Quality, functional Quality and tangibles quality factors. The significantly influencing quality dimensions on CS and BI among the customers are service quality and product quality factors. The above said findings have been confirmed by the previous research (Jamal and Nasser, 2002; Zhou, 2004).

The promotional quality was found to play little role in the customers mind as they assess the quality of rural banking. One explanation for the 'promotional quality' dimension not being considered 'significant' would be the respondents were experiencing a lack of attractive and promotional schemes at their banks and also their non-recognition of such quality from their banks. Another plausible explanation is that the essence of 'promotional quality' dimension may have been somewhat captured by items in this dimension (Timely advertisement and effective media).

Among the six important quality dimensions identified in this study, some are more important than others. The service quality and product quality dimensions

seem to be relatively more important than the others. Thus efforts should be made to signal current and potential bank customers about the quality of these two dominant quality factors. The bank might focus its marketing programs with high service quality and also product quality. This is possible when the bankers should be highly customers centric. Further, in terms of resource allocation, bank managers may need to concentrate more of their efforts on the service and product quality dimensions which are of more importance to the customers. Since the customers differ in their level of income (LIGs and HIGs), a differentiated service strategy is essential. For example, the significantly influencing quality factors among the HIGs are service, product, personnel and functional quality factors whereas among the LIGs, these are service, personnel, tangibles and promotional quality. Hence, the bank manager might be to explore a 'customers' data base. By that, they have to develop a 'right product and service' and then place it at right time also.

#### **ROLE OF CUSTOMERS' SATISFACTION (CS) AND BEHAVIOURAL INTENTION (BI)**

The results of the present study are in agreement with the service literature. While quality of banking may have a significant direct impact on CS and BI in some service contexts, CS acting as a mediator between quality and BI appears to make the impact of quality on BI even stronger. The present study reveals that the degree of impact of various quality factors on CS is greater than on the BI. It infers that there is a lack of encashment of the BI among the satisfied customers in the rural banking industry. The observation made above reinforces the need for service managers to devise operations strategies that focus on the dimensions of quality factors enhance CS, which in turn can lead to positive BI. This observation indicates that managers need to monitor CS and BI constantly and, by extension, the quality factors that may influence CS and BI.

The headquarters of a National or Regional bank can compare results across the various rural branches they own, or against their competitors. In ranking the branches, the bank can obtain real time feedback on CS of the services they provide. Moreover, the bank can trace the customers who gave the highest and lowest possible rating. Doing so would give the bank an opportunity to identify the main sources of satisfaction dissatisfaction and then act on these factors in a timely manner.

## CONCLUSION

The study concentrated on the quality of rural banking in India. A limitation of the present study is that it focuses only on rural banking and selected blocks in Madurai District of Tamil Nadu. Given the exploratory nature of the research, this approach for several service industries confirms their service dimensions identified in the study or to further fine-tune the functional dimensions that may be applicable to the mass service category. Also it would be beneficial to revisit the Indian Banking quality with foreign Banking Quality; and also with between urban Banking quality with Rural Banking Quality, in which quality dimensions are evaluated from not only the functional dimensions (SERVPERF) but also the technical dimensions and service firms image (Gronroos, 1990; Kang and James, 2004). Finally, further empirical research needs to investigate the effect of service typology on the nature quality construct and its relationship with CS and BI in the settings of service shop, service factory and professional service. As such, a comprehensive set of instruments with a specific focus on each of Schmenner's (2004) classification scheme could be proposed and validated.

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## A STUDY ON KNOWLEDGE MANAGEMENT PRACTICES AMONG VARIOUS IT COMPANIES

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### ABSTRACT

*With the emergence of knowledge economy, organizational knowledge is rapidly being recognized as a critical resource. Knowledge plays a key role in competitive success in any business because creating and using knowledge effectively can be an effective way of deriving a cost based competitive advantage and it can also be an equally potent way of driving differentiation. Since this is the era of IT based industry, the present research paper focuses on assessing the knowledge management practices among various IT companies. Samples for the present study constituted 99 executives in managerial cadre from reputed IT companies like Wipro, Cognizant and Larsen & Toubro InfoTech Limited.*

*The samples were administered with the Knowledge Management Assessment Tool (K-MAT) developed by American Productivity and Quality Circle (APQC) and Arthur Andersen (2001). The obtained data were analyzed using appropriate statistical tools like mean, Chi-square. Percentage analysis was also used. The results showed that there exists a significant difference among IT companies in their Knowledge Management measurement dimension and overall Knowledge Management practice.*

### INTRODUCTION

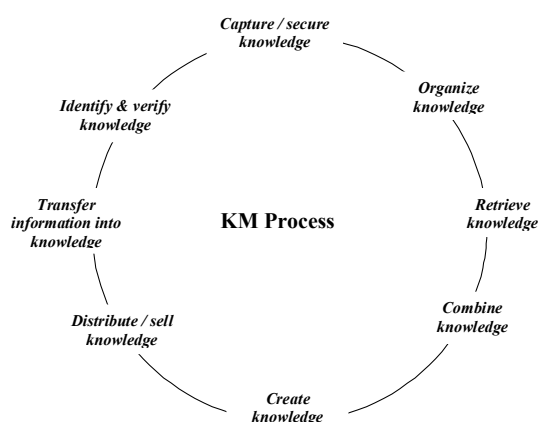
Business success is inextricably tied to the ability to share and leverage knowledge in order to provide predictable high quality business results to

clients. The driving force to become a knowledge-based organization is the distributed nature of all the firms globally. So, Knowledge Management has become a critical initiative for organizations. There is a fundamental law of ecology that for any organism to survive, its rate of learning must be equal or greater than the rate of change in its environment (Garraath, 1987).

**L = C**

Competition through knowledge requires continuous updating of one's learning & knowledge base. Knowledge Management deals with creating, securing, capturing, coordinating, combining, retrieving, and distributing knowledge. Knowledge based industries such as Information Technology, financial services and consultancy are increasingly becoming more important to developed as well as developing economies. In India, the IT industry has grown at the rate of about fifty per cent in the domestic as well as the export market for the last five years. The domestic software industry had a turnover of Rs.40 billion in 1997-98 and is expected to touch Rs.125 billion by the year 2000. Software export from India in 1997-98 had exceeded US \$1 billion and is expected to reach a level of US \$ 4 billion by the year 2000. The phenomenal growth of the IT industry in India has been possible due to the availability of highly competent and cost-competitive IT professionals.

**The Processes involved in KM are as follows**



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In KM process, transforming information into knowledge involves synthesis & conversion of useful data and information into knowledge. The key for success for organizations is the commitment to learning from every aspect of organizational experience. New knowledge should be rapidly generated & made accessible throughout the organization. Thus, KM represents a collection of initiatives rather than a single project. An organization can succeed by developing capabilities to continuously transform itself. But an important element of KM strategy is what knowledge to acquire from outside & what is to be created internally. There are three key challenges to implementing KM in an organization viz.:

- Changing culture of the organization & getting the mind share of the people at all levels
- Using technology in the right combination
- Keeping knowledge growing and alive.

In Knowledge Management the Key foundation areas (KFA's) are:

**People:** people and culture- addresses the 'mindset' and relate to the attributes of assessing people and culture

**Technology:** technology and infrastructure- these are the enablers that help people harness the maximum out of the KM initiative

**Process:** process, policy and strategy- these facilitate and guide the efforts of people to capture and use the knowledge in the organization to achieve business benefits

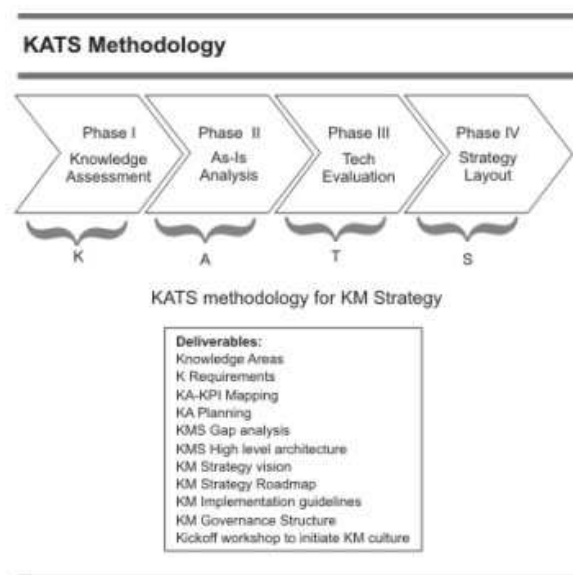
### KM IN HCL TECHNOLOGIES

HCL Technologies is one of India's leading global IT Services companies, providing software-led IT solutions, remote infrastructure management services and BPO. Having made a venture into the global IT landscape in 1999 after its IPO, HCL Technologies focused on Transformational Outsourcing, working with clients in areas that impact and re-define the core of their business. The company leverages an extensive global offshore infrastructure and its global network of offices in 17 countries to deliver solutions across select verticals including Financial Services, Retail & Consumer, Life Sciences & Healthcare, Hi-Tech & Manufacturing, Aerospace and Automotive, Telecom and Media & Entertainment (M&E). For the year ended 30th June 2007, HCL Technologies, along with its subsidiaries had revenues of US\$ 1.4 billion (Rs. 6034 crores) and employed 42,000 professionals.

### Enterprise Transformation Services

In the current competitive environment, creation, management and utilization of knowledge to generate business intelligence is a crucial differentiator. HCL has built capability and robust methodologies to offer knowledge management (KM) services to its customers and enable them to transform into knowledge-enabled enterprises.

HCL follows a four-phased approach (as shown in the Figure below) for preparing the KM strategy of an organization. The KATS methodology provides a framework for assessment of customer's current environment and paves the path for a complete KMS implementation in line with overall business needs.



### KM- THE COGNIZANT WAY

Cognizant, the Chennai-based software firm, is a trendsetter in the use of Knowledge Management. Cognizant believes that KM is all about how everyone could learn from Cognizant's experience.

Most Indian firms aren't exactly global leaders in the use of technology. IT penetration is taking off in Indian firms today, and there are some trendsetters, but these are few and far between take the hot field of Knowledge Management. However, Cognizant is a trendsetter here and is perhaps one of the very few software companies in the country that has a senior position titled as the CKO, exclusively for knowledge management. The Cognizant CKO explains that

organization needs a CKO in the first place who can look at the sheer enormity of requirements of a KM system. CKOs need to spearhead all knowledge efforts; make knowledge visible by ensuring smooth running of knowledge practices and leverage knowledge by ensuring that generated / transferred knowledge delivers for the organization in the form of inputs for innovation, decision-making, etc. So if KM is to be practiced in its truest sense, the organization certainly requires an individual focusing entirely on these efforts and a committed team to support the initiative in order for KM to become a success.

From the way KM is being shaped at Cognizant, it becomes clear that it is not just about creating a culture conducive for knowledge creation, but more importantly, it is also about generating business. ChannelOne is the knowledge management portal developed by Cognizant. Postings on best practices, proposals, estimations and methodologies are created, managed and distributed online via this portal.

The company has around 60 knowledge harvestors, including eight knowledge auditors, whose role is to encourage everyone in the organization to participate in digitizing corporate memory and knowledge management initiatives.

“Earlier, people used to send bulk mail to all employees, whenever they wanted to know some crucial information but had no clue with whom it resided. But now, they can find everything at ChannelOne, which also has a feature called: ‘What one didn’t find,’ enables users to inform the KM team about their knowledge requirements which are not available in the portal’.

### **Communities of Practice (CoP)**

Another important facet of KM at Cognizant is the communities of practice which explores all the ways to share their experiences and knowledge together in creative and free-flowing ways that fostered new approaches for completing a task.

Thus KM is not about a one-time investment. It is, in fact expensive and has a long gestation period. For these reasons, it is crucial to build metrics of the results of KM systems and continually monitor the return on the investment (RoI) made with the infrastructure.

The thinking at Cognizant is that it may be better to carefully select a set of 15-20 metrics to act as an indicator in order to focus on and measure the past, present and future value of investments in KM

simultaneously.

### **LARSEN & TOUBRO INFOTECH LIMITED AND KM**

Larsen & Toubro Infotech Limited (L&T Infotech) is a technology-driven engineering and construction major offering comprehensive, end-to-end software solutions and services. Leveraging the heritage and domain expertise of the parent company, its services encompass a broad technology spectrum, catering to leading international companies across the globe.

L&T Infotech developed a web-based Knowledge Management application using Open Text Livelink as the collaboration tool and Oracle RDBMS as the storage platform. Out of box functionality of Livelink like document management, workflow, discussion, e-mail integration & user workplace was customized to meet specific customer requirements and information categorization. Customer specific user roles like knowledge manager, contributor, compliance officer, legal officer were created. Automated workflows were designed for submitting knowledge artifact, review and approval. Predefined knowledge artifact templates were created to shorten submission time and to get required information about the knowledge artifact.

The application provides a common place for all business communities to share best practices, success stories and case studies. It also provides user intuitive taxonomy, proper categorization of the information & advanced search options for users to quickly and easily access information. This helped in increased system accessibility. The system is used by globally by 23,000 users across 40 business units of client. Approximately 1,500 knowledge documents are uploaded every month in KMS, which has resulted in increased knowledge sharing.

### **Some of the Business Benefits are:**

- Reduction in turn around time for providing solution to customer needs.
- Re-usability of knowledge artifacts leading to productivity increase of knowledge workers.
- Faster response to changing business environment giving an edge over the competitors
- Faster and more accurate answers to queries and needs of clients and prospects resulting in increased retention of clients and acquisition of prospects

## WIPRO AND KNOWLEDGE MANAGEMENT

According to Raghunath Thali, Head of KM, Wipro Technologies, 'Having relevant information and Knowledge easily available to employees on time has enabled Wipro to save significant person days from each project and in turn deliver cost savings to our clients'.

Wipro Technologies is a global information technology major offering world-class solutions to customers from across the globe. Being a vast globe-spanning enterprise itself, Wipro needed a way in which it could collate the knowledge gained by its employees in a way that others could access them easily. Wipro also needed to provide a unified repository of various knowledge artifacts to its sales and support staff. A third objective was to make it easy to search for and find people with the right knowledge and domain expertise when needed. In 2000, Wipro decided to create a centralized knowledge management portal to capture client, project, and process knowledge across the organization. Company executives wanted the solution to help maximize the capture of knowledge and experience gained from previous projects and facilitate their application in future ones. Wipro also setup three key business results that the knowledge management solution had to deliver: decreased cycle time, reduced time-to-market, and increased collaboration. The solution needed to be scalable, given the company's growth rate both in terms of knowledge and people. At the same time, it had to be easy to use and engaging. KM in WIPRO has 3 objectives:

1. Mature the organization to a competency based & knowledge driven organization
2. Enable new technology / practices adoption for diversification and growth
3. Develop competency extension framework to create new business opportunity

## RESEARCH METHODOLOGY

### Objective:

- To assess and understand the knowledge management practices in various IT companies
- To compare the KM practices in various IT companies on the various dimensions

### Samples:

Samples for the present study constituted 99 executives in managerial cadre from reputed IT

companies like Wipro, Cognizant, Larsen & Toubro InfoTech Limited and HCL Technologies.

### Tool used:

The samples were administered with the Knowledge Management Assessment Tool (K-MAT) developed by American Productivity and Quality Circle (APQC) and Arthur Andersen (2001). The K-MAT is divided into five sections: the KM Process, Leadership, Culture, Technology and Measurement.

### Operational definition

**Processes.** - The channels through of which a company identifies the breaches of knowledge and aid to capture, to adopt and to transfer the knowledge necessary to add value to its client and of harnessing the results.

**Leadership.** - how the organization defines its business and the use of the knowledge to reinforce the competitions critics.

**Culture.** - how the organization focuses and favors the learning and the innovation including all those actions that reinforce the behavior opened to the change and the new knowledge.

**Technology.** - how the organization equips its members so that they are possible to be communicated easily and with greater rapidity.

**Measurement.** - It includes the measurement of the intellectual capital and the form in which the resources are distributed to harness the knowledge that feeds the growth.

### Statistics used:

The obtained data were analyzed using appropriate statistical tools like mean, S.D., chi-square.

## RESULTS AND DISCUSSION

The association between Knowledge Management with reference to process, Leadership, Culture, Technology and Measurement in various Companies like Larsen & Toubro Info tech Ltd, Cognizant Technology Solutions, HCL Info Systems Ltd, Wipro Technologies was analyzed in this section. The chi square test is used at 5% level of significance.



**Fig. 1.1 Company showing the scores for Knowledge Management and Process dimension among various IT companies**

	Process Level			Total
	Low	Medium	High	
Larsen & Toubro Info tech Ltd	1	10	7	18
	1.0%	10.1%	7.1%	18.2%
Cognizant Technology Solutions	1	7	3	11
	1.0%	7.1%	3.0%	11.1%
HCL Info systems Ltd	3	23	5	31
	3.0%	23.2%	5.1%	31.3%
Wipro Technologies	1	23	15	39
	1.0%	23.2%	15.2%	39.4%
Total	6	63	30	99
	6.1%	63.6%	30.3%	100.0%

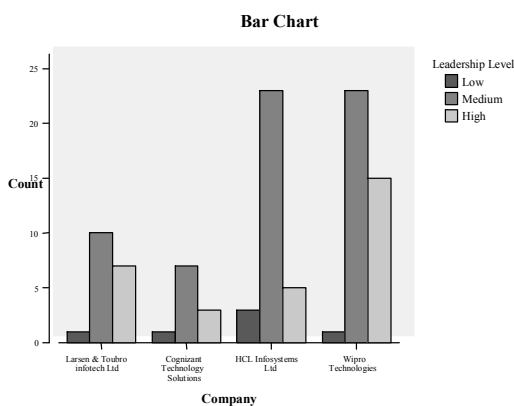
In order to find the relationship between the Knowledge Management process and IT Companies chi-square test was used and result of the test is shown in the following table. 1.1a

**Table 1.1a showing the Chi-Square score in KM Process of various IT companies**

Process	Value	df	p value	Remark
Pearson Chi-Square	5.874	6	.437	Not Significant

It is noted from the above table that the ‘p; value is greater than 0.05 and hence the result is not significant at 5% level. Hence it is concluded that there is not much difference in the Knowledge Management process in these IT companies. It might be due to the companys’ aim to be the industry leader and ability to identify the breaches of knowledge and aid to capture, to adopt and to transfer the knowledge necessary to add value to its client and of harnessing the results.

**Fig. 1.1 Company showing the scores for Knowledge Management and Process among various IT companies**



**1.2 Association between Companies and Knowledge Management with Reference To Leadership**

The Association between Companies and Knowledge Management with Reference To Leadership was analyzed in this section and the results were given in the following Table 1.2

**Null Hypothesis: H<sub>0</sub>** There is no Association between Companies and Knowledge Management with Reference To Leadership

**Table 1.2 showing the scores for Knowledge Management and Leadership among various IT companies**

Company	Culture Level			Total
	Low	Medium	High	
Larsen & Toubro Info tech Ltd	0	6	12	18
	.0%	6.1%	12.1%	18.2%
Cognizant Technology Solutions	2	6	3	11
	2.0%	6.1%	3.0%	11.1%
HCL Info systems Ltd	3	16	12	31
	3.0%	16.2%	12.1%	31.3%
Wipro Technologies	1	19	19	39
	1.0%	19.2%	19.2%	39.4%
Total	6	47	46	99
	6.1%	47.5%	46.5%	100.0%

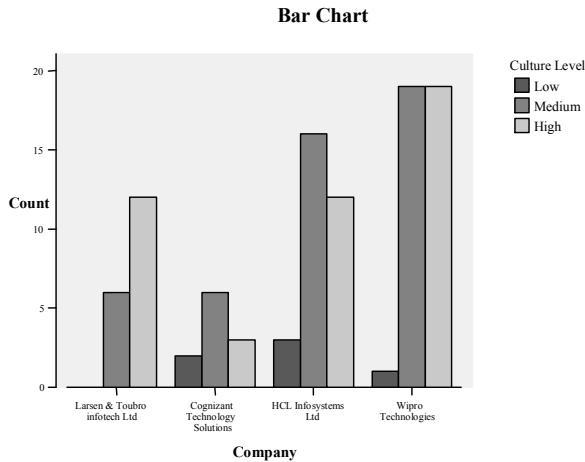
In order to find the relationship between the Companies Knowledge Management with Reference to Leadership a chi-square test was used and result of the test is shown in the following table. 1.2a

**Table 1.2a Company showing the Chi square scores for Knowledge Management and Leadership among various IT companies**

Leadership	Value	df	P value	Remark
Pearson Chi-Square	9.109	6	.168	Not Significant

It is noted from the above table that the ‘p’ value is greater than 0.05 and hence the result is not significant at 5% level. Hence the hypothesis ‘Companies and Knowledge Management with Reference to Leadership are not associated’ does hold well. This might be due to the strong team of top management in these companies and how they define their business. Also it ay be due to their use of the knowledge to reinforce the competitions critics.

**Fig. 1.1 Company showing the scores for Knowledge Management and Process dimension among various IT companies**

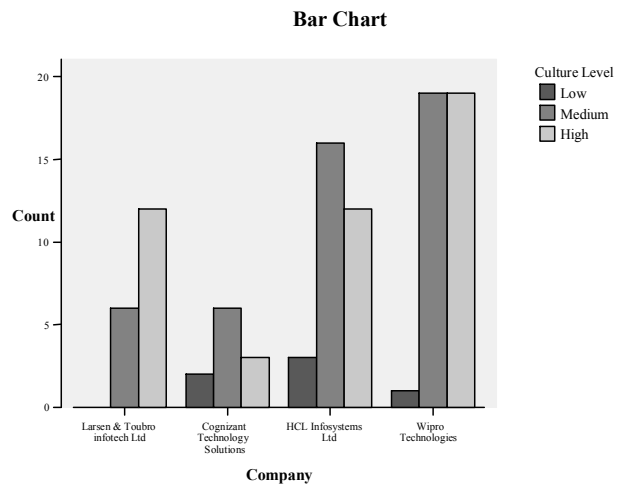


**Table 1.3a showing the Chi square scores of Companies KM and the Culture dimension**

Culture	Value	df	P value	Remark
Pearson Chi-Square	9.109	6	.168	Not Significant

It is noted from the above table that the 'p; value is greater than 0.05 and hence the result is not significant at 5% level. Hence the hypothesis 'Companies and Level of Knowledge with Reference to Culture are not associated' does hold well. This might be due to the reason that these organizations focuses and favors the learning and the innovation including all those actions that reinforce the behavior opened to the change and the new knowledge.

**Fig. 1.3 showing the scores of companies in KM Culture dimension**



**1.3 Association between Companies Knowledge Management with Reference To Culture**

The Association between Companies Knowledge Management with Reference To Culture was analyzed in this section and the results were given in the following Table 1.3

**Null Hypothesis: H<sub>0</sub>:** There is no Association between Companies and Knowledge Management with Reference To Culture

**Table 1.3 showing the scores for Knowledge Management and Culture among various IT companies**

Company	Culture Level			Total
	Low	Medium	High	
Larsen & Toubro Info tech Ltd	0	6	12	18
	.0%	6.1%	12.1%	18.2%
Cognizant Technology Solutions	2	6	3	11
	2.0%	6.1%	3.0%	11.1%
HCL Info systems Ltd	3	16	12	31
	3.0%	16.2%	12.1%	31.3%
Wipro Technologies	1	19	19	39
	1.0%	19.2%	19.2%	39.4%
<b>Total</b>	6	47	46	99
	6.1%	47.5%	46.5%	100.0%

**1.4 Association between Companies Knowledge Management with Reference To Technology**

The Association between Companies Knowledge Management with Reference To Technology was analyzed in this section and the results were given in the following Table 1.4

**Null Hypothesis: H<sub>0</sub>:** There is no Association between Companies Knowledge Management with Reference To Technology

In order to find the relationship between the Companies and Level of Knowledge with Reference to Culture a chi-square test was used and result of the test is shown in the following table.1.3a

**Table 1.4 showing the scores of Companies Knowledge Management with Reference To Technology**

Company	Technology Level			Total
	Low	Medium	High	
Larsen & Toubro Info tech Ltd	1	10	7	18
	1.0%	10.1%	7.1%	18.2%
Cognizant Technology Solutions	0	7	4	11
	.0%	7.1%	4.0%	11.1%
HCL Info systems Ltd	4	17	10	31
	4.0%	17.2%	10.1%	31.3%
Wipro Technologies	1	16	22	39
	1.0%	16.2%	22.2%	39.4%
<b>Total</b>	<b>6</b>	<b>50</b>	<b>43</b>	<b>99</b>
	6.1%	50.5%	43.4%	100.0%

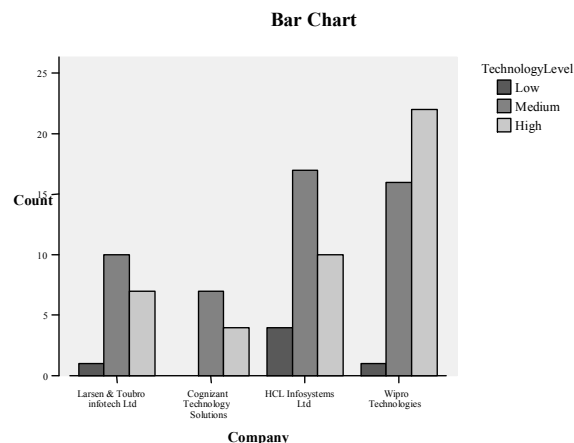
In order to find the relationship between the Companies Knowledge Management with Reference To Technology a chi-square test was used and result of the test is shown in the following table.1.4a

**Table 1.4a showing the Chi Square scores of Companies K M with Reference To Technology**

Technology	Value	df	P value	Remark
Pearson Chi-Square	7.747	6	.257	Not Significant

It is noted from the above table that the ‘p; value is greater than 0.05 and hence the result is not significant at 5% level. Hence the hypothesis ‘Companies Knowledge Management with Reference to Technology are not associated’ does hold well. This might be due to the reason that these organizations equip its members so that they are possible to be communicated easily and with greater rapidity.

**Fig. 1.4 showing the scores of companies KM and Technology dimension**



**1.5 Association between Companies Knowledge Management with Reference To Measurement**

The Association between Companies Knowledge Management with Reference To Measurement was analyzed in this section and the results were given in the following Table 1.5

**Null Hypothesis:H<sub>0</sub>:** There is no Association between Companies Knowledge Management with Reference To Measurement

**Table 1.5 showing Companies Knowledge Management with Reference To Measurement**

Company	Measurement Level			Total
	Low	Medium	High	
Larsen & Toubro Info tech Ltd	0	16	2	18
	0%	16.2%	2.0%	18.2%
Cognizant Technology Solutions	3	7	1	11
	3.0%	7.1%	1.0%	11.1%
HCL Info systems Ltd	3	24	4	31
	3.0%	24.2%	4.0%	31.3%
Wipro Technologies	0	28	11	39
	0%	28.3%	11.1%	39.4%
<b>Total</b>	<b>6</b>	<b>75</b>	<b>18</b>	<b>99</b>
	6.1%	75.8%	18.2%	100.0%

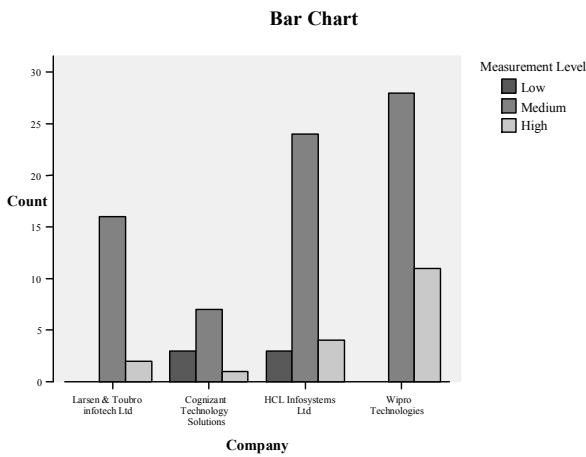
In order to find the relationship between the Companies Knowledge Management with Reference To Measurement a chi-square test was used and result of the test is shown in the following table.1.5a

**Table 1.5a chi square scores Companies Knowledge Management with Reference To Measurement**

Measurement	Value	df	P value	Remark
Pearson Chi-Square	16.631	6	.011	Significant

It is noted from the above table that the ‘p; value is less than 0.05 and hence the result is significant at 5% level. Hence the hypothesis ‘Companies KM with Reference to Measurement are not associated’ does not hold well. This might be due to the reason that these companies include the measurement of the intellectual capital and the form in which the resources are distributed to harness the knowledge that feeds the growth.

**Fig. 1.5 showing the scores of companies KM and Measurement dimension**

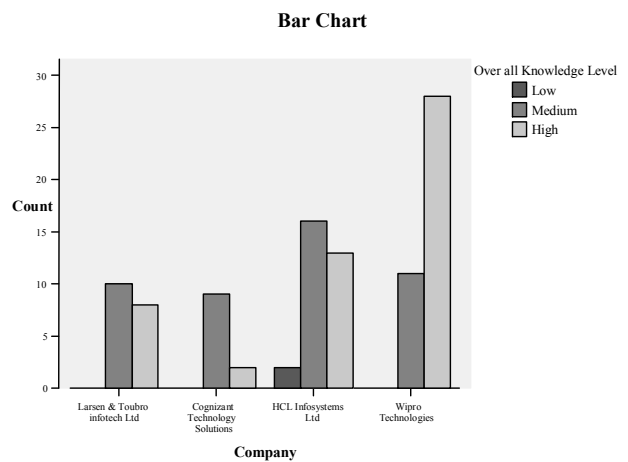


**Table 1.6a showing the chi square scores of companies overall Knowledge Management**

Management Assessment Test	Value	df	p value	Remark
Pearson Chi-Square	16.855	6	.010	Significant

It is noted from the above table that the 'p; value is less than 0.05 and hence the result is significant at 5% level. Hence the hypothesis' companies overall Knowledge Management are not associated' does not hold well. This might be de to the heavy competition in IT industry and the need to managing the intellectual assets.

**Fig. 1.6 Companies' overall Knowledge Management Assessment**



**1.6 Association between Companies overall Knowledge Management**

The Association between Companies overall Knowledge Management was analyzed in this section and the results were given in the following Table 1.6

**Null Hypothesis: H<sub>0</sub>:** There is no Association between Companies overall Knowledge Management

**Table 1.6 Company \* Management Assessment Test Level**

		Over all Knowledge Level			Total
		Low	Medium	High	
Company	Larsen & Toubro Info tech Ltd	0	10	8	18
		.0%	10.1%	8.1%	18.2%
	Cognizant Technology Solutions	0	9	2	11
		.0%	9.1%	2.0%	11.1%
HCL Info systems Ltd		2	16	13	31
		2.0%	16.2%	13.1%	31.3%
Wipro Technologies		0	11	28	39
		.0%	11.1%	28.3%	39.4%
	Total	2	46	51	99
		2.0%	46.5%	51.5%	100.0%

In order to find the relationship between the Companies' overall Knowledge Management a chi-square test was used and result of the test is shown in the following table.1.6a

**CONCLUSION**

Effective KM is about behaviour, in particular, about the way people behave as they carry out their work. The key behaviours include, focusing on performance of the systems, following systematic processes, sharing knowledge & trying new approaches. It is through these behaviours that employees apply existing knowledge & generate new knowledge to solve the problems they face.

Human resources are the valuable assets to any organization, who needs to be managed effectively for an organization to be a better knowledge enterprise. So every manager should be a good relationship manager. To become knowledge enterprise, organizations can reflect upon and work on the following eight criteria's based on which companies are selected for the MAKE (Most Admired Knowledge Enterprise) award, won by IT industry leaders. The criteria's include:

- Success in establishing an enterprise knowledge culture
- Top management support for managing knowledge
- Ability to develop & deliver knowledge based goods / services
- Success in maximizing the value of the enterprise's intellectual capital
- Effectiveness in creating environment of knowledge sharing
- Success in establishing a culture of continuous learning
- Effectiveness of managing customer knowledge to increase loyalty / value
- Ability to manage knowledge to generate shareholder value

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# GREEN MARKETING AND ITS IMPACT ON CONSUMER BEHAVIOUR: A STUDY OF CONSUMERS IN GARHWAL REGION OF UTTARANCHAL STATE

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## ABSTRACT

*The beginning of new century and millenium is witnessing the rapid expansion of industrial activity all over the world. The emergence of multinational and modern technology bought with it the feature which is popularly known as mass production and mass consumption and in turn it has created largo number of problems to the environment. To overcome the problem and to achieve the sustainable development, several non government organizations, manufacturers and government has joined their hand in building the awareness about green products and the ill impact of organic product on human life and on environment as a whole. The present paper is an attempt to identify perceptions of people about green products and its uses in future. The study indicated that majority of consumer are aware with the green marketing. they are willing to purchase eco friendly product and ready to pay extra premium for eco friendly products.*

## INTRODUCTION

The world economy has undergone a radical transformation in last two decades. The geographical and cultural distances have shrunk and the market has widened. With the opening up of Indian economy since mid eighties, the adaptation of liberalization, globalization and privatization have given many opportunities for mass production and mass consumption in India. Much of the marketing has been

carried out to promote production as well as consumption. However it has generated many environmental problem all over the globe. The concept of green marketing calls marketers to focus on Eco friendly marketing and design marketing strategies for promoting the product with protecting the environment. This in short, is the task before the country and in particular before its planner, policy maker and industrialists. Divergent aspects of green marketing include marketing of ecologically safer products, recyclable and biodegradable packaging, energy-efficient operations, and better pollution controls and many other environmentally safe products.

## REVIEW OF PREVIOUS STUDY

The promotion of environmentally safe or beneficial products, green marketing began in Europe in the early 1980s when specific products were identified as being harmful to the earth's atmosphere. As a result, new "green" products were introduced that were less damaging to the environment.

The concept caught on in the United States and has been gaining steadily ever since. Organization perceive green marketing to be an opportunity that can be used to achieve its objective. It appears that all type of consumers , both individual and industrial are becoming concerned about the natural environment. In 1992 study of 16 countries, more than 50 percent of consumers of every country other than Singapore, indicated that they were concern about the environment. According to another study conducted in Australia in 1994, it was found that 84.6 percent of the sample believed that all individual had a responsibility to care for the environment. A further 80% of this sample indicated they had modified their behaviour, including their purchase behaviour due to environment reasons. A study conducted in America indicated that 42 percent American consumer are in favour to pay extra premium for eco friendly or green products. As today's consumers become more

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conscious of the natural environment, businesses are beginning to modify their own thoughts and behavior in an attempt to address the concerns of consumers. Green marketing is becoming more important to businesses because of the consumer's genuine concerns about our limited resources on the earth. Consumer Response to Green Market Opportunities was studied by Anil K Gupta, Shailesh Shukla, Darshit Shah, Pawan Mehra and Murali Krishna with the aim to assess the trade off between quality and value of being organic. It was studied in the consumer survey in 1997 to assess perception of Environment Friendly Product: About one fourth of the respondents considered environment friendly products to be either protective of nature or safe for nature. Nearly one third were concerned with safety to human health and happiness. Concern for future on one hand and cost effectiveness on the other extreme of the spectrum of highly idealistic to highly pragmatic clients were articulated by very few respondents (about 6-7 per cent each). About sixty to seventy per cent respondent were willing to buy most environment friendly products and the same proportion had actually never bought one.

### Present Study

The present study was carried out with the aim to identify perceptions about green products and its uses in future. The following objectives were used to guide the study:

1. To assess the consumer awareness toward green marketing.
2. To assess consumers purchase pattern of eco friendly products.
3. To assess the consumers concern and their level of involvement in adapting green products.

### METHODOLOGY

In order to study the green marketing and its impact on consumer of Garhwal region, primary data was collected from the different consumers of Garhwal region. For this purpose, one hundred and sixty three respondents were selected at random from Garhwal. In case of non-response from any member, it was replaced by next randomly selected respondents. A result thus received was systematically arranged, tabulated and analysis was conducted.

Following statistical techniques were used to analyse the data.

- Percentage Test

- Chi- Square Test

### Assumption of Hypothesis

Following hypothesis was made

H1: Consumers opinion for the responsibility of spreading pollution is independent with the demographic profile of the respondents.

H2: The opinion of consumer about the means of increasing the uses pattern of green products product is independent with the level of education qualification of the respondents.

H3: The extent to pay extra premium for eco friendly products by the respondent is independent with their demographic profile.

### Scope of the Study

Though the study represent the consumers awareness, their adaptability and their concern towards green marketing in the region of Garhwal, due to very small sample size, the finding may not be a true representation and it can not be generalized but it will give a better prospect for future study and may have a wide application in future.

### FINDINGS AND ANALYSIS

**Table No. 1**  
**Age Classification of Respondents**

Sl. No.	Description	Total No. of Respondents	Percentage
1.	Upto 20 years	66	40.49
2.	20 to25 years	55	33.74
3.	25-40 Years	27	16.56
4.	Above 40 Years	15	9.202
	Total	163	100

**Inferences:** Age analysis of respondents indicates that more than one third respondents fall in the age group of 20 years and below as it was indicated by 4.49% respondents in the sample. 33.74% respondents belong to the age group of 20-25 years, 25-40 years age group contributes 16.56 % in the sample. The remaining 9.202% respondents fall in the age group of above 40 years.

**Table No. 2: Sex Classification of Respondents**

Sl. No.	Description	Total No. of Respondents	Percentage
1.	Male	115	70.55
2.	Female	48	29.45
	Total	163	100

**Inferences:** The information pertaining to sex categories reveals that 70.55 percent of the respondents belong to male and 29.45 percent in the female category.

**Table No. 3: Table No. 4:**

**Income wise classification of Respondents**

Sl. No.	Description	Total No. of Respondent	Percentage
1.	Upto Rs.10000PM	57	34.96
2.	From Rs.10000-15000PM	51	31.28
3.	Above Rs15000PM	55	33.74
	Total	163	100

**Inferences:** the information related to income of the respondents indicates that 34.96% respondents fall in the income upto Rs.10000PM. 31.28 % respondents belongs to the income group of Rs10000-Rs15000 PM. Remaining 33.74 % respondent indicated that their monthly income falls in the category of Rs15000PM and above.

**Table No. 5:**

**Education Qualification wise Classification of Respondents**

Sl. No.	Description	Total No. of Respondents	Percentage
1	Upto matric	18	11.04
1.	Upto Intermediate	63	38.65
2.	Graduates	58	35.58
3.	Postgraduate and Others	24	14.72
	Total	163	100

**Inferences:** The information related to educational qualifications of the respondents indicates that 11.04%, 38.65%, 35.58% and 14.72% respondents are educated upto matric, upto intermediate, graduate and post graduate level respectively.

**Table No. 6:**

**Profession wise Classification of Respondents**

Sl. No.	Description	Total No. Of Respondent	Percentage
1.	Service	36	22.08
2.	Business	12	7.36
3.	Professional	33	20.24
4.	Students and others	82	50.306
	Total	163	100

**Inferences:** An attempt was made to classify the respondent on the basis of their profession. The Information pertaining to this indicated that little more

than half of the respondent fall in the students and others category as it was indicated by 50.306 percent respondent in the sample. 22.08 % respondent belongs to service category and 7.36 percent in the business category. Professional category respondent account for 20.24 percent.

**Table No.7:**

**Awareness about environment Friendly product**

Sl. No.	Description	Total No. Of Respondent	Percentage
1.	Aware	154	94.47853
2.	Not aware	09	5.521472
	Total	163	100

**Inference:** an attempt was made to know the consumers awareness about eco friendly products. The data presented in the above table indicates that 94.48 percent respondents were aware with the eco friendly product. On the other hand very few respondents (5.52%) indicated that they were not aware about it.

**Table 8:**

**Consumption pattern and its impact on environment**

Sl. No.	Description	Total No. Of Respondent	Percentage
1.	Consumers with positive response	148	90.79755
2.	Consumers with negative response	15	9.202454
	Total	163	100

**Inference:** An attempt was made to know the consumers opinion about the impact of their consumption pattern of product or services on environment. Study indicates that 90.79 consumers are aware that their consumption pattern effect the environment where as only 9.20% consumer were not aware about it.



Table NO 9:

**Nature of Attention Paid by the Respondents towards New Advertisements**

Sl No.	Description	Number Of Respondents	%
A	More Attention	55	33.74233
B	Indifferent	66	40.4908
C	Start Discussing With The friends	24	14.72393
D	Others	18	11.04294
	Total	163	100

**Inferences:** The information presented in the above table indicates that more than one - third (33.74%) of the respondents indicated that they pay more attention towards a new advertisement. 40.49% indicated that they remain indifferent on appearing a new advertisement. 14.72% of them indicated that they start discussing in the society about the matter on the appearance of advertisements. Remaining 11.04 have given other opinion

Table no 10:

**Main Focus of Consumer while Buying Green Product.**

Sl No.	Description	Number Of Respondents	%
A	Safety Of Their Own	58	35.58282
B	Safety Of Environment	56	34.35583
C	Processing Technique	46	28.22086
D	Others	3	1.840491
	Total	163	100

**Inferences:** The information presented in the above table indicates that there is growing concern about safety of environment and process through which the product is being prepared. Data indicates that as many as 35.58% respondent focuses mainly on the safety of their own while purchasing the product. In comparison to this 34.35% and 28.22 % respondents give more focus on the safety of environment and the processing technique through which it is prepared. Very few respondents indicated other factors while purchasing the green products.

Table No 11:

**Means of Increasing the uses Pattern of Eco Friendly Products**

Sl No.	Description	Number Of Respondents	%
A	By Building awareness in the mind of people	99	60.7362
B	By putting the ban by government	33	20.2454
C	By finding the ecofriendly substitute	31	19.0184
D	Others	Nil	Nil
	Total	163	100

**Inferences:** The information pertaining to the means of increasing the uses pattern of green products indicates that 60.73% respondents in the sample. are in favour that uses pattern can be increased by building the awareness of green products in the mind of consumers. 20.24 respondent are of the opinion that it can be increased by putting the ban on polluting products. 19.01% respondent are of the opinion that its uses pattern can be increased by finding the ecofriendly substitute of the products.

Further an attempt was made to know the relationship between opinion of consumer about the means of increasing the uses pattern of green product with their level of education. The data pertaining to this is presented in the table below:

Table 11-A

**Degree of Association between opinion of consumer about the means of increasing the uses pattern of green product with their level of education.**

		By Building awareness in the mind of people	By putting the ban by the government	By finding the eco friendly substitute	Total
1.	Upto Matric	7(4.085)	4(5.411)	4(4.306)	18
2.	Upto Intermediate	13(14.3006)	20(18.938)	14(15.07362)	63
3.	Graduation	11(13.16564)	22(17.4355)	15(13.877)	58
4.	Post Graduate and others	6(5.44)	3(7.214)	6(5.74)	24
5.	Total	37	49	39	163

$(\chi^2) = 21.6197$

**Inferences:** The calculated value of the Chi-Square test statistics ( $\chi^2$ )=26.38718 at 5 percent level of significant is lesser than the tabulated value (5.992) with 2 degree of freedom . Hence the hypothesis is

accepted indicating that nature of mobile services owned by respondent is not associated with the family income of the respondents

**Table No 12:**  
**Customers Opinion Regarding the Responsibility for Increasing the Pollution**

Sl No.	Description	No Of Respondents	%
A	Government	24	14.72393
B	Industry	60	36.80982
C	Consumer itself	79	48.46626
D	Others	Nil	Nil
	Total	163	100

**Inferences:** The data related to customers opinion regarding the responsibility for increasing the pollution indicates that almost half of the respondents are of the opinion that consumer itself in most responsible for increasing the pollution. More than one third(36.80%) respondent are of the opinion that Industries are more responsible for increasing the pollution. Very few respondent(14.72% ) were of the opinion that government is mainly responsible for increasing the pollution.

Further an attempt was made to assess the degree of association between the customer opinion about responsibility for increasing the pollution with their demographic profile. The result thus received is presented below:

**Table 12-A**

**Degree of Association of consumers perception about responsibility for increasing pollution with their age**

		Government	Industry	Consumer itself	Total
1.	Upto 20 years	3(9.717791)	18(24.29)	45(31.98)	66
2.	From 20-25 years	9(8.09816)	27(20.24)	19(26.65)	55
3.	From 25-40 years	6(3.97546)	9(9.93)	12(13.08)	27
4.	Above 40 years	6(2.20858)	6(5.52)	3(7.26)	15
5.	Total	24	60	79	163

( $\chi^2$ )= 26.38718

(Source: Data from field Survey)

**(Inference:**The calculated value of the Chi-Square test statistics ( $\div^2$ )=26.38718 at 5 percent level of significant is greater than the tabulated value (16.919) with 9 degree of freedom . Hence the hypothesis is rejected that consumer opinion about responsibility for increasing the pollution is associated with their age.

**Table no 12-B**

**Degree of Association of consumers perception about responsibility for increasing pollution with their Sex**

		Government	Industry	Consumer itself	Total
1.	Male	18(16.93252)	45(42.33)	52(55.736)	115
2.	Female	6(7.067)	15(17.6687)	27(23.26)	48
3.	Total	24	60	79	163

( $\chi^2$ )= 1.6503

**Inferences:** The calculated value of the Chi-Square test statistics ( $\div^2$ )=26.38718 at 5 percent level of significant is lesser than the tabulated value (5.992) with 2 degree of freedom . Hence the hypothesis is accepted indicating that nature of mobile services owned by respondent is not associated with the family income of the respondents

**Table No 12-C**

**Degree of Association of consumers perception about responsibility for increasing pollution with their Education Qualification**

		Government	Industry	Consumer itself	Total
1.	Upto Matric	0(2.650307)	6(6.625767)	12(8.723926)	18
2.	Upto Intermediate	6(9.276074)	24(23.19018)	33(30.53374)	63
3.	Graduation	15(8.539877)	15(21.34969)	28(28.11043)	58
4.	Post Graduate and others	3(3.533742)	15(8.834356)	6(11.6319)	24
5.	Total	24	60	79	163

( $\chi^2$ )= 19.21040373

**Inference:** The calculated value of the Chi-Square test statistics ( $\div^2$ )=26.38718 at 5 percent level of significant is lesser than the tabulated value (12.592) with 6 degree of freedom . Hence the hypothesis is accepted indicating that nature of mobile services owned by respondent is not associated with the family income of the respondents

**Table No 12.-D**

**Degree of Association of consumers perception about responsibility for increasing pollution with their Level of Income**

		Government	Industry	Consumer itself	Total
1.	Upto Rs.10000PM	12(8.392638)	18(20.9816)	27(27.62577)	57
2.	Rs10000-15000PM	3(7.509202)	24(18.77301)	24(24.71779)	51
3.	Above Rs. 15000PM	9(8.09816)	18(20.2454)	28(26.65644)	55
5.	Total	24	60	79	163

( $\chi^2$ )= 6.589525053

**Inference:**The calculated value of the Chi-Square test statistics ( $\div^2$ )=26.38718 at 5 percent level of significant is lesser than the tabulated value (12.592) with 6 degree of freedom . Hence the hypothesis is accepted indicating that nature of mobile services

owned by respondent is not associated with the family income of the respondents

**Table NO 12 - E**

**Degree of Association of consumers perception about responsibility for increasing pollution with their Occupation**

		Government	Industry	Consumer itself	Total
1.	Service	6(5.300613)	12(13.25153)	18(17.44785)	36
2.	Business	2(1.766871)	3(4.417178)	7(5.815951)	12
3.	Professional	9(4.858896)	12(12.14724)	12(15.99387)	33
4	Students and others	7(12.07362)	33(30.18405)	42(39.74233)	82
5	Total	24	60	79	163

$(\chi^2) = 8.005911547$

**Inference:** The calculated value of the Chi-Square test statistics  $(\chi^2) = 26.38718$  at 5 percent level of significant is lesser than the tabulated value (12.592) with 6 degree of freedom. Hence the hypothesis is accepted indicating that nature of mobile services owned by respondent is not associated with the family income of the respondents

**Table no 13  
Brand Awareness**

SL NO.	NO OF BRANDSDISC	NO OF RESPONDENTS	%
A	With one Brand	60	36.80982
B	With two Brand	15	9.202454
C	With three	21	12.88344
D	With four	28	17.17791
	More than four brands	39	23.92638

**Inferences:** An attempt was made to assess the brand awareness of eco friendly or green product by the respondents of Garhwal region. Data pertaining to this indicates that more than one third (36.80%) respondents were aware with only one brand of green product. 9.20 percent respondent indicated their awareness with two brand. 12.88% indicated with three brand of green products. 17.17 percent respondents indicated with four brand of green product. 23.92 percent respondents in the sample were aware with more than four brands of green products availability in the market.

**Table No 14**

**Perception about Cost Difference**

SL NO.	DESCRIPTIONT	NO OF RESPONDENTS	%
A	Yes	103	63.19018
B	No	21	12.88344
C	Can not say	39	23.92638
	Total	163	100

**Inferences:** The information pertaining to the perception of consumer regarding the cost difference between the green product and other organic products indicates that almost two third respondents(63.19%) were of opinion that there is significant different of cost between green products and other organic product meeting the same requirement. 12.88 percent respondent say that there is no significant difference between cost. 23.92% respondents in the sample expressed their inability to judge the cost difference.

**Table NO 15**

**Preference over the Product with Similar Price and Quality-**

Sl No	Description	Number Of Respondents	%
a	Green Product	128	78.52761
b	Other products	35	21.47239
	Total	163	100

**Inferences:** The analysis of data presented in above table indicates that in a situation where price and quality of green product are same, than 78.52% respondent prefers to buy the green products. In comparison to this, just 21.48% respondent prefers to buy the other organic product even its prices are same to green products.

**Table no 16**

**Awareness about damage done by non degradable environmental polluting products to environment**

Sl No	Description	Number Of Respondents	%
a	Green Product	146	89.57055
b	Other products	17	10.42945
	Total	163	100

**Inferences:** The information pertaining to awareness

of respondents about the damage done by the non degradable environmental polluting product to the environment indicates that 89.57 % respondents were having awareness about it and only 10.42 % respondents in the sample shown their non awareness about it.

**Table no 17**

**Awareness about ill Impact of Non eco Friendly Products**

SI No	Description	Number Of Respondents	%
a	Aware	142	87.11656
b	Not aware	21	12.88344
	Total	163	100

**Inference:** An attempt was made to know whether the respondents were aware about the ill impact of organic products on their health. The information pertaining to this shows that 87.11 percent respondents were aware to this and only 12.88% respondent were not aware about it.

**Table No 18**

**Willing to Pay Extra for eco Friendly Products**

SI No	Description	Number Of	%
a	Yes	157	96.31902
b	No	6	3.680982
	Total	163	100

**Inference:** An attempt was made to know the intention of respondent whether they were willing to pay extra premium for the eco friendly products. The analysis signifies that 96.31 % respondent were willing to pay extra for eco friendly product. Only 3.68 % respondent in the sample were not willing to pay extra premium for the eco friendly products.

**Table no 19**

**Extent to pay extra for Eco Friendly Products**

SL NO	DESCRIPTION	NUMBER OF RESPONDENTS	%
a	Upto 2%	37	22.69939
b	Upto 5%	49	30.06135
	Upto 10 %	39	23.92638
	More than 10%	38	23.31288
	Total	163	100

**Inference:** An attempt was made to know to what extent a respondent is willing to pay extra for eco friendly product. The analysis signifies that 22.69% respondent were ready to pay extra premium upto 2 % for eco friendly products. 30.06 percent respondent in the sample were ready pay extra premium upto 5%, 23.92 % respondent in the sample were ready to pay upto 10% extra premium for eco friendly products. It is significant to note that almost one fourth respondent in the sample were ready to pay extra premium more than 10% for eco friendly products

Further an attempt was made to assess the degree of association between the extent of willingness to pay extra premium for green product by the customer with their demographic profile. The result thus received is presented below.

**Table 19-A**

**Degree of Association of consumers willing the to pay extra premium for green products with their age**

		Upto 2% extra	Upto 5% extra	Upto 10% extra	More than 10% extra	Total
1.	Upto 20 years	12(14.981)	26(19.84)	11(15.791)	17(15.3865)	66
2.	From 20-25 years	17(12.484)	14(16.533)	15(13.1595)	9(12.822)	55
3.	From 25-40 years	3(6.1288)	9(8.116)	9(6.4601)	6(6.294)	27
4.	Above 40 years	5(3.404)	0(4.509)	4(3.588)	6(3.496)	15
5.	Total	37	49	39	38	163

$\chi^2=12.838$

(Source: Data from field Survey)

(Figures in Bracket indicate expected frequency)

**Inference:** The calculated value of the Chi-Square test statistics ( $\chi^2$ )=12.838 at 5 percent level of significant is lesser than the tabulated value (16.919) with 9degree of freedom . Hence the hypothesis is accepted indicating that consumers' willingness to pay extra for ecofriendly product is not associated with the age of the respondents

**Table no 19 - B**

**Degree of Association of consumers perception about responsibility for increasing pollution with their Sex**

		Upto 2% extra	Upto 5% extra	Upto 10% extra	More than 10% extra	Total
1.	Male	25(26.104)	40(34.57)	26(27.51)	24(26.80)	115
2.	Female	12(10.89)	9(14.42)	13(11.48)	14(11.19)	48
3.	Total	37	49	39	38	163

$\chi^2=4.337$

(Source: Data from field Survey)

(Figures in Bracket indicate expected frequency)

**Inference:** The calculated value of the Chi-Square test statistics ( $\chi^2$ )=4.337 at 5 percent level of significance is lesser than the tabulated value (7.815) with 3 degree of freedom . Hence the hypothesis is accepted indicating that consumers willingness to pay extra for ecofriendly product is not associated with the sex category of the respondents

**Table No 19-C**

**Degree of Association of consumers perception about responsibility for increasing pollution with their Education Qualification**

		Upto 2% extra	Upto 5% extra	Upto 10% extra	More than 10% extra	Total
1.	Upto Matric	7(4.085)	4(5.411)	4(4.306)	3(4.196)	18
2.	Upto Intermediate	13(14.3006)	20(18.938)	14(15.07362)	16(14.68712)	63
3.	Graduation	11(13.16564)	22(17.4355)	15(13.877)	10(13.521)	58
4.	Post Graduate and others	6(5.44)	3(7.214)	6(5.74)	9(5.595)	24
5.	Total	37	49	39	38	163

$\chi^2=6.9708$

(Source: Data from field Survey)

(Figures in Bracket indicate expected frequency)

**Inference:** The calculated value of the Chi-Square test statistics ( $\chi^2$ )=6.9708 at 5 percent level of significance is lesser than the tabulated value (16.919) with 9 degree of freedom . Hence the hypothesis is accepted indicating that consumers willingness to pay extra for ecofriendly product is not associated with their level of education.

**Table No 19. - D**

**Degree of Association of consumers perception about responsibility for increasing pollution with their Level of Income**

		Upto 2% extra	Upto 5% extra	Upto 10% extra	More than 10% extra	Total
1.	Upto Rs.10000PM	16(12.93)	26(17.1349)	11(15.736)	4(11.19)	57
2.	Rs10000-15000PM	7(11.576)	12(15.331)	16(14.07)	16(10.01)	51
3.	Above Rs. 15000PM	14(12.48)	11(16.533)	18(15.184)	12(10.797)	55
5.	Total	37	49	45	32	163

20.42441

(Source: Data from field Survey)

(Figures in Bracket indicate expected frequency)

**Inference:** The calculated value of the Chi-Square test statistics ( $\chi^2$ )=20.42441 at 5 percent level of significance is greater than the tabulated value (12.592) with 6 degree of freedom . Hence the hypothesis is rejected indicating that consumers willingness to pay extra for ecofriendly product is associated with the family income of the respondents

**Table NO 19 - E**

**Degree of Association of consumers perception about responsibility for increasing pollution with their Occupation**

		Upto 2% extra	Upto 5% extra	Upto 10% extra	More than 10% extra	Total
1.	Service	8(8.171)	6(10.822)	13(8.613)	9(8.392)	36
2.	Business	3(2.72)	7(3.607)	0(2.871)	2(2.797)	12
3.	Professional	11(7.4907)	8(9.92)	0(7.89)	14(7.69)	33
4.	Students and others	15(18.61)	28(24.65)	26(19.61)	13(19.11)	82
5.	Total	37	49	39	38	163

$\chi^2=31.01741$

(Source: Data from field Survey)

(Figures in Bracket indicate expected frequency)

**Inference:** The calculated value of the Chi-Square test statistics ( $\chi^2$ )=31.01741 at 5 percent level of significance is greater than the tabulated value (16.919) with 9 degree of freedom . Hence the hypothesis is rejected indicating that consumers willingness to pay extra for ecofriendly product is not associated with their occupational status.

**CONCLUSION**

The concept of green marketing its awareness and its acceptability and adaptability has increased substantially over the last few years. The several non government organisations, manufacturers and government has joined their hand in building the awareness about green products and the ill impact of organic product on human life and on environment as a whole. The study indicated that majority of consumer are aware with the green marketing . they are willing to purchase eco friendly product and ready to pay extra premium for eco friendly products.

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## ASPIRING MANAGEMENT STUDENTS' EXPECTATIONS FROM B-SCHOOLS: AN EMPIRICAL ANALYSIS

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### ABSTRACT

*In many B-schools the students are admitted through screening test, group discussion and interview; still many of the B, C, D and E categorized Business Schools (B-schools) are facing tremendous problems in getting good quality students, as the excellent students get admitted in A categorized B-schools. Only a few B-schools are more concerned about the students' overall expectations. There is a gap between students' expectation from their B-schools and the reality, resulting in increased level frustration amongst them. This paper is aimed at to understand this key issue and suggest some measures to prevent the menace.*

### INTRODUCTION

For the strengthening of economy of a nation in the competitive age, value addition to the human being is one of the important factors; as ultimately they add values to the society and help in upliftment. Value addition to the human beings could be attainable through imparting education at different levels. Education is a continuous process of imparting knowledge, developing skills, including values and more prominently, promoting the overall personality development of human beings. Management education is one of the important vicinity of value creation. Management education started in India in the early 1950s and that was based on the Western model. The Andhra University was the pioneer to start a full time postgraduate management program in 1957 which was pursued by the All India Institute of Management and Social Welfare, Kolkata and Delhi in 1958. Thereafter, other reputed universities, like the Allahabad University, Bombay University, Jodhpur University, Madras University and Punjab University

initiated their Master of Business Administration (MBA) programs in the 1960s. Majority of the other universities began their MBA programs in between 1970 and 1995 (Sinha, D P; 2004, p-45). Indian Institute of Management (IIM) started functioning as mentioned below:

IIM Kolkata in 1961, Ahmedabad from 1962, Bangalore in 1973, Lucknow in 1984, Kozhikode in 1996 and Indore in 1997. In a period of 30 years (1950 to 1980), there were only 118 management institutions and between 1980 and 2000, 626 new management institutions were setup. Over a span of five years (from 1998 to 2003), the All India Council for Technical Education (AICTE) approved 1,829 new institutions (Tandon, B B and Angrish, A K. 2006. p.3). Around 120 universities had initiated full fledged courses in management education either under their commerce faculty or adjunct to their engineering colleges, by the year 1990. Presently, there are more than two thousand B-schools in India which are approved by AICTE, New Delhi; and are offering MBA and equivalent courses. Apart from the AICTE approved programs, around 50 foreign universities are offering management programs in India either independently or as joint venture with Indian B- Schools, side by side with some Indian Private Universities (Sinha, D P. 2004. p.47 and [www.aicte.ernet.in](http://www.aicte.ernet.in)). Since 1990s, there is a rapid growth of B-schools in India. India is the second largest producer of MBA in the world.

### CLASSIFICATION

Based on the present position of working and over all performance, all the management institutions (B-schools) in India can be categorized into five grades, that is, A, B, C,D and E.

#### A Category

A Categorized Business Schools (B-schools) are all-premier B-schools, which cater to about 10% of economy but, as per market demand unable to produce (in quantity).

#### B Category

B categorized B-schools are those various typical autonomous institutes which are offering PGDBM degree and are recognized by AICTE, New

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Delhi. Some foreign universities and some Indian private universities may also be incorporated under this category which are offering MBA degree but are not recognized by AICTE or UGC. Through building their brand equity, these are trying to bridge the demand supply gap.

### **C Category**

C categorized B-schools are Faculty of Management Studies under university departments recognized by AICTE, New Delhi and which are offering MBA degree.

### **D Category**

D categorized B-Schools are many engineering or general colleges affiliated to particular universities, recognized by AICTE, New Delhi and which are also offering MBA degree through their parent universities.

### **E Category**

Numerous PGDBM institutes (recognized by AICTE) are misusing the autonomy. Few university departments (recognized by AICTE) along with some engineering or general colleges, are failing to offer the essential and minimum requisite skills and knowledge to their graduates. Such all B- Schools are categorized under this group.

Irrespective of their category and status, in majority of the B-schools the students are admitted through screening test, group discussion and interview. Still, many of the B,C,D, and E categorized B-schools are facing tremendous problems in getting good quality students, as the excellent students get admitted in A categorized B-schools. Although these A categorized B-schools nurture their students to make them employable through their tailor made programs or exclusively employer's need based programs, but only a few are concerned about the students' overall expectations. There are many B-schools that are emphasizing more on updated course curriculum, qualified and diligent faculty, industry-institute interaction and campus placement, but are ignoring the issues like good infrastructure, academic discipline and governance, extracurricular and co-curricular activities and teaching pedagogy etc. In some cases it is found that they are unable to provide even any one of the above mentioned facilities as per the expectations of the students. However, some B-schools try to provide the above mentioned facilities up to a great extent, but since these are self supporting B-schools so it seems unaffordable for the students to meet heavy expenses in terms of fee. There is a

huge gap between the students' expectations from these and the reality, which result in increased level of frustration amongst them. This gap may be due to the fact that B-schools are unaware about the students' expectations or unable to fulfill these facilities in dearth of sufficient resources or their mission is somewhat else. This paper is aimed at to understand this key issue and suggest some measures to avert the menace.

Now, before discussing further, let us discuss the meaning of B-schools and aspiring management students.

### **B-School**

Business Schools (B-schools) are those management institutions which are offering MBA or two years Post Graduate Diploma in Business Management (PGDBM) with different specialization in the area of management, either sponsored by Government (Central Government or State Government) fully or partially or self financed, managed by some private trust or society.

### **Aspiring Management Students**

Aspiring management students mean those graduate or final year graduate students who are seeking their admission and are also preparing to get admitted in B-schools to pursue their career in the field of management in near future.

Aspiring management students' expectations indicate what they are looking for from various B-schools before, during and after completion of the course.

To find out the aspiring management students' expectations from B-schools a study was conducted in Jharkhand state in India.

## **RESEARCH METHODOLOGY**

### **Data Collection**

The required data was collected from the primary sources by getting the questionnaire filled in by various aspiring management students who were attending various coaching institutes for preparation of MBA admission test in Ranchi, and Jamshedpur in Jarkhand state in India. The respondents were well informed about the present scenario of B-schools in India and also the rationale of every statement was discussed with them for clear understanding.

### **Sample Size**

Primarily, 180 questionnaires were circulated

among respondents. After getting filled in, these were collected from them. 100 respondents were selected randomly and after few days those respondents were also interviewed to check the reliability of their replies. All verbal replies matched their questionnaire preferences. Out of these respondents 40 percent had Commerce background, 25 percent had Science background, 13 percent had Engineering background, 20 percent had Arts background and 2 percent had Medical/ Pharmacy background. The age group was between 20-25 years. Out of the total 100 respondents 28 were female. The annual income of parents of the respondents was in between Rs. 1,50,000 to Rs. 4,00,000.

### Hypothesis

**Alternate Hypothesis:** There is a cleared and marked preference for low fees and maximum benefits

amongst aspiring management (MBA) students.

**Null Hypothesis:** There is no particular preference regarding fees and benefits sort amongst aspiring MBA students.

### ANALYSIS AND INTERPRETATION OF DATA

Measures of the respondents expectations were obtained by using 5 point Likert Scale, which is 1 = strongly agree, 2 = somewhat agree, 3 = neither agree nor disagree, 4 = somewhat disagree, 5 = strongly disagree.

There were 32 questions/variables covering fees (statement 1) and benefits (statement 2 -32). All the statistical parameters and calculation have been done on Statistical Package for Social Sciences (SPSS) version 13.0.

**Table 1**

1 – strongly agree, 2 – somewhat agree, 3 – neither agree nor disagree, 4 – somewhat disagree, 5 – strongly disagree Statement: I am interested to take admission in that Business School (BS)

1. which is charging Rs. 10,000 to Rs. 60,000 as program fees.	80	13	06	01	00	1.28
2. which gets very good support from its alumni for placement.	51	18	17	14	00	1.94
3. which provides more opportunity to face more campus interviews for placement.	66	26	08	00	00	1.42
4. where most of the students get selected through campus interview and the average salary is between Rs. 15,000 to 20,000 per month.	54	25	07	06	08	1.89
5. where if not majority of the students, but at least 30% to 40% students get placement in very reputed organization with lucrative package (i.e. Rs. 50,000 and above per month).	25	52	08	15	00	2.13
6. which has very good relation with various industry in India and places its students for Summer Internship Program easily.	53	46	00	01	00	1.49
7. which invites various professionals from industry very frequently to interact and share their practical experience with students.	58	33	09	00	00	1.51
8. which provides the opportunity to visit any industry at least once in a month.	24	47	00	16	13	2.47
9. which provides the opportunity to participate with faculty in short-term industrial projects.	42	45	13	00	00	1.71
10. which conducts many Management Development Programs for industrial people along with regular teaching to MBA graduates.	35	34	31	00	00	1.96
11. which updates its curriculum atleast once in three years.	49	25	14	12	00	1.89
12. which offers minimum 8-10 subjects (courses) each in all semesters to acquaint with various basic aspects of management field.	17	41	31	00	11	2.47
13. which offers dual specialization, because both the areas will be opened for placement.	52	42	06	00	00	1.54
14. which implements experiential teaching and learning methods (i.e. simulation exercises and games, in-basket exercise, etc) and does not follow traditional teaching methodology i.e. chalk & talk	27	48	14	00	11	2.20
15. which follows case study teaching methods	57	16	12	15	00	1.85
16. which uses various electronic teaching aids like OHP, LCD Projector, Videos, etc.	48	52	00	00	00	1.52
17. which has more number of full time faculties and less number of visiting faculties (out of its total faculty).	43	21	16	20	00	2.13
18. which has good qualified (other master degree+ MBA + NET / SLET + / Ph.D.) teaching faculty.	58	16	08	07	11	1.97



19. which has moderate qualified (only MBA) faculty members with industrial experience.	25	75	00	00	00	1.75
20. where the faculty members are more involved in carrying out research work, consulting work and in writing book along with regular teaching.	33	50	17	00	00	1.84
21. which has its own good campus including hostels (for boys and girls), staff quarters, other required facilities (i.e. PCO, canteen, departmental stores, vehicle parking space, etc.) and well decorated and equipped class room.	62	33	00	00	05	1.53
22. which has good computer lab with internet connectivity.	64	32	00	04	00	1.44
23. which has good library where I can find at least 40-50 journal and magazines along with sufficient number of titles.	58	30	12	00	00	1.54
24. which is having its own indoor and outdoor games and sports complex, where we can develop/ and maintain good health also, along with academic development.	56	44	00	00	00	1.44
25. which provides the opportunity to develop soft skills through conducting various personality development workshops.	58	32	10	00	00	1.52
26. which provides the scope to conduct in self institute various regional or national level programs and also motivates students to participate in various regional or national level contest ( i.e. business quiz contest, management games, seminars, etc.) conducted by other BS.	43	17	40	00	00	1.97
27. which appreciates students to participates in various games and sports activity, conducted by itself or by other BS.	18	58	24	00	00	2.06
28. which practices transparency in its all rules and regulations relating to students and employees.	53	42	05	00	00	1.52
29. which follows ethical practices in most of the cases relating to its all activities	56	44	00	00	00	1.44
30. where outstanding performances are appreciated and unbiased decisions are taken.	47	38	09	00	06	1.80
31. where immediate disciplinary actions are taken against any misconduct of its students and employees	49	42	00	05	04	1.73
32. where there is healthy competition among students and among employees.	67	23	00	10	00	1.53

**Table 2** Chi-Square

	Statemen t 1	Statemen t 2	Statemen t 3	Statemen t 4	Statemen t 5	Statemen t 6	Statemen t 7	Statemen t 8
Chi- Sq.	230.30	70.50	154.80	84.50	80.90	146.30	126.30	60.50
DF	4	4	4	4	4	4	4	4
AS	.00	.00	.00	.00	.00	.00	.00	.00
	Statemen t 9	Statemen t 10	Statemen t 11	Statemen t 12	Statemen t 13	Statemen t 14	Statemen t 15	Statemen t 16
Chi- Sq.	230.30	70.50	154.80	84.50	80.90	146.30	126.30	60.50
DF	4	4	4	4	4	4	4	4
AS	.00	.00	.00	.00	.00	.00	.00	.00
	Statemen t 17	Statemen t 18	Statemen t 19	Statemen t 20	Statemen t 21	Statemen t 22	Statemen t 23	Statemen t 24
Chi- Sq.	230.30	70.50	154.80	84.50	80.90	146.30	126.30	60.50
DF	4	4	4	4	4	4	4	4
AS	.00	.00	.00	.00	.00	.00	.00	.00
	Statemen t 25	Statemen t 26	Statemen t 27	Statemen t 28	Statemen t 29	Statemen t 30	Statemen t 31	Statemen t 32
Chi- - Sq	230.30	70.50	154.80	84.50	80.90	146.30	126.30	60.50
DF	4	4	4	4	4	4	4	4
AS	.00	.00	.00	.00	.00	.00	.00	.00

Chi-sq. = Chi Square, DF = Degree of Freedom, AS= Asymptotic Significance

- a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 20
- b. Chi-square is significant of 0.01% level

**Table 3** Mean, Mode, Skewness and Kurtosis

		State 1	State 2	State 3	State 4	State 5	State 6	State 7	State 8	State 9	State 10		
N	Valid	100	100	100	100	100	100	100	100	100	100		
	Missing	0	0	0	0	0	0	0	0	0	0		
Mean		1.28	1.94	1.42	1.89	2.13	1.49	1.51	2.47	1.71	1.96		
Std. Error of Mean		.062	.112	.064	.125	.096	.056	.066	.136	.069	.082		
Median		1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	2.00	2.00		
Mode		1	1	1	1	2	1	1	2	2	1		
Std. Deviation		.621	1.118	.638	1.254	.960	.559	.659	1.359	.686	.816		
Variance		.385	1.249	.408	1.574	.922	.313	.434	1.848	.471	.665		
Skewness		2.315	.741	1.257	1.402	.782	.923	.935	.766	.446	.074		
Std. Error of Skewness		.241	.241	.241	.241	.241	.241	.241	.241	.241	.241		
Kurtosis		4.942	-.937	.449	.859	-.207	1.930	-.237	-.783	-.816	-1.492		
Std. Error of Kurtosis		.478	.478	.478	.478	.478	.478	.478	.478	.478	.478		
		State 11	State 12	State 13	State 14	State 15	State 16	State 17	State 18	State 19	State 20		
N	Valid	100	100	100	100	100	100	100	100	100	100		
	Missing	0	0	0	0	0	0	0	0	0	0		
Mean		1.89	2.47	1.54	2.20	1.85	1.52	2.13	1.97	1.75	1.84		
Std. Error of Mean		.105	.112	.061	.117	.113	.050	.118	.140	.044	.069		
Median		2.00	2.00	1.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00		
Mode		1	2	1	2	1	2	1	1	2	2		
Std. Deviation		1.053	1.123	.610	1.172	1.132	.502	1.178	1.396	.435	.692		
Variance		1.109	1.262	.372	1.374	1.280	.252	1.387	1.949	.189	.479		
Skewness		.859	.905	.662	1.291	.942	-.081	.500	1.214	1.172	.223		
Std. Error of Skewness		.241	.241	.241	.241	.241	.241	.241	.241	.241	.241		
Kurtosis		-.564	.510	-.492	1.103	-.662	2.034	1.286	.034	-.639	-.885		
Std. Error of Kurtosis		.478	.478	.478	.478	.478	.478	.478	.478	.478	.478		
		State 21	State 22	State 23	State 24	State 25	State 26	State 27	State 28	State 29	State 30	State 31	State 32
N	Valid	100	100	100	100	100	100	100	100	100	100	100	100
	Missing	0	0	0	0	0	0	0	0	0	0	0	0
Mean		1.53	1.44	1.54	1.44	1.52	1.97	2.06	1.52	1.44	1.80	1.73	1.53
Std. Error of Mean		.093	.070	.070	.050	.067	.092	.065	.059	.050	.103	.099	.093
Median		1.00	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00	1.00
Mode		1	1	1	1	1	1	2	1	1	1	1	1
Std. Deviation		.926	.701	.702	.499	.674	.915	.649	.594	.499	1.035	.993	.926
Variance		.858	.491	.493	.249	.454	.837	.421	.353	.249	1.071	.987	.858
Skewness		2.636	2.014	.926	.245	.936	.060	-.057	.658	.245	1.753	1.893	1.857
Std. Error of Skewness		.241	.241	.241	.241	.241	.241	.241	.241	.241	.241	.241	.241
Kurtosis		7.578	4.792	-.412	1.980	-.287	1.822	-.578	-.503	1.980	3.152	3.564	2.431
Std. Error of Kurtosis		.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478

State indicates statement in Table 3.

**Table 4** Spearman's Correlations between statement 1 and statements 2 to 32:

Statement		Statement 1	Statement		Statement 1
1	Correlation coefficient	1.000	17	Correlation coefficient	0.726
	Sig. (2-tailed)	.00		Sig. (2-tailed)	.000
	N	100		N	100
2	Correlation coefficient	0.721	18	Correlation coefficient	0.771
	Sig. (2-tailed)	0.000		Sig. (2-tailed)	.000
	N	100		N	100
3	Correlation coefficient	0.755	19	Correlation coefficient	0.287
	Sig. (2-tailed)	.000		Sig. (2-tailed)	.004
	N	100		N	100
4	Correlation coefficient	0.763	20	Correlation coefficient	0.694
	Sig. (2-tailed)	.000		Sig. (2-tailed)	.000
	N	100		N	100
5	Correlation coefficient	0.748	21	Correlation coefficient	0.685
	Sig. (2-tailed)	.000		Sig. (2-tailed)	.000
	N	100		N	100
6	Correlation coefficient	0.543	22	Correlation coefficient	0.699
	Sig. (2-tailed)	.000		Sig. (2-tailed)	.000
	N	100		N	100
7	Correlation coefficient	0.683	23	Correlation coefficient	0.707
	Sig. (2-tailed)	.000		Sig. (2-tailed)	.000
	N	100		N	100
8	Correlation coefficient	0.713	24	Correlation coefficient	0.561
	Sig. (2-tailed)	.000		Sig. (2-tailed)	.000
	N	100		N	100
9	Correlation coefficient	0.643	25	Correlation coefficient	0.691
	Sig. (2-tailed)	.000		Sig. (2-tailed)	.000
	N	100		N	100
10	Correlation coefficient	0.630	26	Correlation coefficient	0.560
	Sig. (2-tailed)	.000		Sig. (2-tailed)	.000
	N	100		N	100
11	Correlation coefficient	0.726	27	Correlation coefficient	0.738
	Sig. (2-tailed)	.000		Sig. (2-tailed)	.000
	N	100		N	100
12	Correlation coefficient	0.650	28	Correlation coefficient	0.599
	Sig. (2-tailed)	.000		Sig. (2-tailed)	.000
	N	100		N	100
13	Correlation coefficient	0.605	29	Correlation coefficient	0.561
	Sig. (2-tailed)	.000		Sig. (2-tailed)	.000
	N	100		N	100
14	Correlation coefficient	0.727	30	Correlation coefficient	0.687
	Sig. (2-tailed)	.000		Sig. (2-tailed)	.000
	N	100		N	100
15	Correlation coefficient	0.755	31	Correlation coefficient	0.623
	Sig. (2-tailed)	.000		Sig. (2-tailed)	.000
	N	100		N	100
16	Correlation coefficient	0.478	32	Correlation coefficient	0.776
	Sig. (2-tailed)	.000		Sig. (2-tailed)	.000
	N	100		N	100

The critical value of Chi-Square for 4 degree of freedom and significance level of 0.01 is 13.277. As we can see from Table 2 all Chi-Square values for our 32 statements are much higher than the critical values, this can be interpreted as statistical proof, that there is a marked preference towards the 1<sup>st</sup> category (strongly agree) of choice. This is also proved by values of mean, mode, Skewness and Kurtosis, which has also been calculated for every statement and presented in table 3.

Also, Spearman's co-efficient of rank correlation for all statements from 2 to 32 (Table 4) with statement one has been calculated, which

reveals that in almost 70 percent of the cases values are more than 0.65 and almost 95 percent of cases values are more than 0.50. These correlations are significant at 0.01 percent levels. This also proves that respondents prefer categories one & two (strongly agree and somewhat agree) in their choice. Since, the correlations are very strong between fees (statement one) and benefits (statement two to 32), the alternate hypothesis gets proved statistically, that is aspiring MBA students prefer low fees and high benefits and the null hypothesis got rejected.

If various statements are clubbed together, then broad categories will emerge as follows:

**Table 5**

Serial No.	Category	Statements	Mean	Rank of benefits
1	<b>Cost: Fees</b>	1	1.28	
2	<b>Benefits: Placements</b>	2 to 5	1.845	IV
3	Industry institute interface	6 to 10	1.828	III
4	Course curriculum	11 to 13	1.967	VIII
5	Teaching pedagogy	14 to 16	1.857	VI
6	Faculty	17 to 20	1.923	VII
7	Infrastructure	21 to 24	1.488	I
8	Co-curricular and extra curricular activities	25 to 27	1.85	V
9	Governance	28 to 32	1.604	II

Serial number one (Cost: Fees) indicates that the aspiring MBA students would prefer to incur as expenses in the form of fees, and other eight areas are the indicators of facilities which they look forward to get from B-schools. From the above Table 5, it is also evident that these eight categories were preferred differently by the respondents, though the difference is small. As per their preference, infrastructure was found the most important factor which influences the aspiring MBA students in selecting B-schools. The reason may be that students need more assurance that the B-school is a permanent player. The infrastructure is next followed by the governance which indicates that students prefer the system which is more transparent in all aspects and also has certain ethical values. Industry- institute interface, placements and co-curricular and extra curricular activities got the third, fourth and fifth priorities, respectively. The aspiring MBA students were found less bothered about availability of quality faculty members, their teaching pedagogy and the course curriculum. It means that they feel, what the students are taught in classroom is not very much relevant in getting placed in industry after completion of the course. They might have the

notion that to be placed, interaction between institute and industry is more important and the other required knowledge and skills they will be acquired themselves or with the help of others outside the institute. Here, it may be noted that if they feel so, they may be proved wrong to a great extent.

Regarding the fees, other few options were also given to the respondents and the result was as below:

Table 6

Statements	1	2	3	4	5	Mean	Rank
1) which charges Rs. 61,000 to Rs. 1,25,000 as program fees.	00	50	19	08	03	3.04	I
2) which charges Rs. 1, 26,000 to Rs. 2,50,000 as program fees.	10	00	21	08	61	4.10	IV
3) which charges Rs. 2,51,000 to Rs. 3,50,000 as program fees and facilitates for loan, if needed.	17	16	17	32	18	3.18	III
4) which charges Rs. 3, 51,000 to Rs. 5,00,000 as program fees and facilitates for scholarship (for good performance and result) and loan, if needed.	08	38	18	09	27	3.09	II

The above Table 6 reveals that there is less difference as per the priority of the students, between statement one and four, though there was huge difference in fees. It indicates that the students do not hesitate to pay high fees if they get facilities for scholarship, for good performance and loan also, if needed.

#### CONCLUSION

From the above analysis and discussion it is very much evident that aspiring MBA students expect lower fees but at the same time they also look forward to all the facilities. So, the B-schools which are intending to survive in competition with others and also concerned to excel, have to make available to the students the best benefits with least fees or as per their expectations. Otherwise B-schools will be no where in near future as in present scenario the market is being dominated by the consumers. Here, it should also be noted that the expectations of the students in some cases are too high with respect to the fees they would like to pay. The students may not get all facilities at the fullest from many of the B-schools which are especially self-financed and not financially supported by any Government, as to provide all these facilities huge investment is needed.

Here, the conclusion has been drawn based on the data collected only from two mid class cities of one state only, so the result may not be competent of being generalized for all the aspiring MBA students in all over India. Also, the annual income of their parents was between Rs. 1,50,000 to Rs. 4,80,000. For the higher income group, their choices may be different one. Except these short comings, it is convinced that the findings of this study will provide a new panorama to the B-schools to excel in recent competitive scenario.

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# ECONOMETRIC ANALYSIS OF LEAD-LAG RELATIONSHIP IN FINANCIAL DERIVATIVES MARKET IN INDIA

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## ABSTRACT

*The issue of price discovery on futures and spot markets and the lead-lag relationship are topics of interest to traders, financial economists and analysts. Although futures and spot markets react to the same information, the major question is which market reacts first. This paper examines the lead/lag relationships between the NSE Nifty stock market index (in India) and its related futures and options contracts, and also the interrelation between the derivatives markets. The sample period covered is from July 2001 to March 2007. We examine returns at hourly intervals across the trading day taking five hourly sub-periods. The relative rates of price discovery across the cash and derivative markets are assessed with multiple regression models. The study finds that both the index futures and index options contracts lead the cash index. The call options market tends to lead the cash market by up to one hour. A feedback relationship is found between the cash market and the put option market with a lead and lag of up to an hour. A similar but stronger relationship is reported for the linkage between options and futures markets, with call options leading futures but futures leading puts. We hypothesize that informed traders with bullish expectations wishing to gain leverage from the options market will buy calls or, with greater risk, sell puts. As market sentiment was bullish for most of the sample period examined, this could explain the call market leads reported.*

## INTRODUCTION

In an efficient capital market where all available information is fully and instantaneously utilized to determine the market price of securities, prices in the futures and spot market should move simultaneously without any delay. However, due to market frictions such as transaction cost, capital market microstructure effects etc., significant lead-lag relationship between the two markets has been observed. Inter-market linkages are of considerable interest to regulators, practitioners and academics. With no market frictions, the prices of securities and their derivatives must simultaneously reflect new information. If this were not the case then costless arbitrage profits would be possible. However, there are numerous market frictions cited in the literature which can cause prices in one market to lead or lag the other market. The lower trading costs in the derivative markets may induce informed traders to act there first and therefore these markets may lead the cash. Screen based trading systems are argued to allow prices to react to information more quickly than in floor based markets. Chan et al.'s (1993) infrequent trading hypothesis states that a small change in stock prices will not be immediately reflected in the option price if the change in the theoretical price of the option is less than the tick size for the option.

It is very well known that the Indian capital market has witnessed a major transformation and structural change from the past one decade as a result of ongoing financial sector reforms. The Indian capital markets have experienced the launching of derivative products on June 9, 2000 in BSE and on June 12, 2000 in NSE by the introduction of index futures. Just after one year, index options were also introduced to facilitate the investors in managing their risks. Later stock options and stock futures on underlying stocks were also launched in July 2001 and Nov. 2001 respectively. In India, derivatives were mainly introduced with view to curb the increasing volatility of the asset prices in financial markets and to introduce sophisticated risk management tools

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leading to higher returns by reducing risk and transaction costs as compared to individual financial assets. Though the onset of derivative trading has significantly altered the movement of stock prices in Indian spot market, it is yet to be proved whether the derivative products has served the purpose as claimed by the Indian regulators. In an efficient capital market where all available information is fully and instantaneously utilized to determine the market price of securities, prices in the futures and spot market should move simultaneously without any delay. However, due to market frictions such as transaction cost, capital market microstructure effects etc., significant lead-lag relationship between the two markets has been observed.

### OBJECTIVES OF THE STUDY

This paper offers a unique contribution in examining the lead-lag relationship between the NSE NIFTY index and the futures and options contracts which are based upon it. It is the first paper to include the Indian options market in an examination of inter-market relationships. In the global context, the only previous paper to examine the relationships between a stock market index and both futures and options is Fleming et al. (1996) who test the link between the S & P100 and S & P500 indices and related derivatives traded in the USA. It is important to examine the relationship in the Indian context because of differing users, trading systems and costs. The results in this paper also differ somewhat from Fleming et al.'s (1996) findings.

Therefore the present study is being contemplated with the following specific objectives:

- Investigating the lead-lag relationship between NSE Nifty stock market index (in India) and its related futures and options contracts;
- To analyze the interrelation between the derivatives markets in NSE Nifty index;
- Analyzing the possible explanations behind the variations in the above relationships over time.

The next section reviews the most relevant literature on lead-lag relationships, and then Section III discusses the data and the detailed research methodology. Section IV presents the empirical findings and Section V summarizes the findings and provides the concluding remarks.

### LITERATURE REVIEW

A number of studies have examined the intraday co movement of prices of stocks and index

futures. An early study by Kawaller et al. (1987) examined the relationship between the S&P 500 and its futures contract, for the period 1984 and 1985 and found that the futures market led the cash market by between 20 and 45 minutes, although at times the cash market led the futures by up to one minute. A criticism of that study is that the lead being observed is 'spurious' due to infrequent trading of stocks making up the index. The reported stock index level is based on an average of the last transaction price of each index stock. Since stocks do not trade continuously, the reported index level is a stale indicator of the true index value. As unexpected market news arrives, the reported index value adjusts slowly as each stock's reaction to the news is reflected through trading. This is not the case for index futures where a single security is traded so the unexpected news is registered much more quickly.

It is therefore argued that a lead of the futures market over the cash market will be observed, even though there is no economic significance to this. A symptom of this infrequent trading effect is that intraday returns based on the reported index will exhibit significant positive autocorrelation (see Cohen et. al., 1986). A second problem with an index based on transaction prices is that these transaction prices tend to fluctuate randomly between bid and ask prices in successive transactions. This bid/ask effect induces negative autocorrelation in the individual stock returns (see Roll, 1984). For an index there is likely to be some offsetting of the movements from bid to ask among some stocks with movements from ask to bid among others. To the extent that returns on stocks are positively correlated or that there are only a small number of stocks making up the index there will be some negative serial correlation induced in the index returns. Note that the index futures returns are also subject to such bid/ask effects.

Initially, a faster updating of the stock market index is documented relative to changes in futures prices since the sample period used in Abhyankar (1995). This is consistent with a pattern indicated in that paper over three subsamples. The call options market tends to lead the cash market by up to one hour. A feedback relationship is found between the cash market and the put option market with a lead and lag of up to an hour. A similar but stronger relationship is reported for the linkage between options and futures markets, with call options leading futures but futures leading puts. As may be expected, the strongest pairwise contemporaneous relationship is between call and put options. The relationship between futures and options is stronger than that



between cash and futures, which is itself stronger than that between cash and options. Overall, it is found that the derivatives markets lead the stock market, and of the derivatives contracts, call options appear to lead both the futures and the put option.

The NSE Nifty stock market index examined in this paper is based on quoted prices, and as these are updated more frequently than transaction prices, the stale price effect is likely to be mitigated and the bid/ask bounce effect is not a problem. Despite this, there is still likely to be some positive serial correlation in returns. As researchers are generally not interested in these market microstructure reasons for possible leads in the futures markets, they are generally purged from the index return series by the offsetting of an ARMA (p; q) model to the observed stock index returns series and the regression residuals are used to proxy for return innovations in the stock market (see Stoll and Whaley, 1990).

The majority of studies of the lead/lag relationship between the index and index futures market have found that the index futures market leads by up to 20 minutes. Using hourly data from 1986 to 1990 for the NSE NIFTY cash and futures markets, Abhyankar (1995) found that the index futures market leads by up to one hour. He also reports that the reduction in transaction costs at the London Stock Exchange following Big Bang appeared to reduce both the size and significance of the lead of the futures market over the index. The futures market leads whether trading volume is high or low in the equity market, and during times of high volatility but there is no clear pattern when volatility is low.

Only relatively few studies have investigated lead/lag relationships between stock and option markets. Stephan and Whaley (1990) examine such a relationship between individual stocks and their options in the USA using intraday data for the first quarter of 1986. They found that stock prices led option prices by 15 to 20 minutes. However, Chan et al. (1993) show that Stephan and Whaley's (1990) results are due to infrequent trading of options. They show that a small change in a stock price will usually not be immediately reflected in the underlying option price because the change in the theoretical price of the option is less than the tick size for the option, so the option does not trade. Thus it will be observed that the stock price leading the option price until the stock price has changed sufficiently to generate a tick change in the option. Chan et al. (1993) argue that because the bid price, ask price or both can be changed more easily, in response to stock price

changes, then there should be a closer relationship between bid/ask quotes and stock prices. By using the midpoint of bid and ask quotes, instead of transaction prices, they find the lead of stocks over options disappears and prices move virtually simultaneously in both markets. Midpoint options prices are used in this paper for these reasons.

Fleming et al. (1996) is the only previous study to investigate the lead/lag relationship between returns on a stock market index and returns on the corresponding index option, focusing on the S&P 100 cash and index option markets. They find that the index futures lead the options but that the index options lead the cash market. Their primary hypothesis that leads and lags are induced by relative trading costs in the different markets is broadly supported by their results. Most of the studies have suggested that the leading role of the futures market varies from five to forty minutes, while the spot market rarely leads the futures market beyond one minute. While explaining the causes behind such relation, Kawaller et al. (1987) attribute the stronger leading role of the futures market to the infrequent trading of component stocks.

Thenmozhi M (2002) studied the impact of the introduction of index futures on underlying index volatility in Indian markets. Applying variance Ratio Test, Ordinary Least Square Multiple Regression Technique she concluded that futures trading has reduced the volatility in the spot markets. Further in a lead lag analysis, Thenmozhi found that the futures market leads the spot index returns by one day. But this study neglected inherent time varying characteristics and clustering of volatility; and possible autocorrelation. Therefore, the inferences drawn are unreliable.

## DATA AND RESEARCH METHODOLOGY

The futures and options contracts examined are traded at the National Stock Exchange (NSE), India. Floor trading times for the NSE Nifty futures and options are 9.55 to 15.30 IST (Indian Standard Time). The sample period is July 2001 to March 2007. High frequency data for the NSE Nifty stock index futures contract is obtained from the NSE Research & Publication wing on CD-ROM, which contains information on the time to the nearest second, contract type, stock/ index code, delivery month, price, transaction code (bid, ask or trade), and traded volume. The vast majority of trading occurs in the near month contract up to its last trading day, therefore futures returns are based on this contract. The study had used two most popular statistical

packages for analysis , namely SPSS 11.5 version and Eviews 3.0.

Both American-style and European-style options contracts are traded at NSE Nifty Futures . The American-style contract is far more liquid and thus more appropriate for the purposes of this study. The expiration cycle for index futures is same as for index options and stock options. Quotes data are examined due to the infrequent trading problem highlighted by Chan et al. (1993). Quotes are more timely and are used in a similar context by Fleming et al. (1996). The database contains the time of the quote, exercise style, expiry month, exercise price, call or put, matched bid and ask quotes, and the current level of the NSE NIFTY. The options database is thus also the source for the underlying cash index data (as in Fleming et al., 1996).

In order to test the interrelation between the options and other markets, it is necessary to calculate the index levels implied by the options prices before calculating returns (as shown in Fleming et al., 1996). Implied index levels are based on the option contract which is at-the-money at the close of the previous day's trading. Near-maturity contracts are used with a switch to the next contract occurring when there are eight days to maturity to avoid the well documented variability in implied volatility in the final week before expiry. The use of a single series per day avoids the possibility that a switch in exercise price will bias the implied index series. The Black (1976) model is used and in order to calculate an implied volatility for use in calculating the implied index level, the following inputs are required: NSE Nifty index level, exercise price, time to expiry, and riskless interest rate. For a given day, the implied volatility is calculated from the first qualifying (at-the-money and near-maturity) option quote, and then used as input for all subsequent qualifying observations on that day. Given the implied volatility and the other input parameters, the pricing model allows the calculation of a theoretical price for the option. The implied index level is the value which equates the theoretical price with the market price.

We examine returns at hourly intervals across the day simply because the volume of quotes and trades in the options market is insufficient to support any higher frequency.

Any leads or lags detected here can only infer that one market leads another by up to one hour (or up to 2, 3 etc. hours). Therefore, the lead or lag may be shorter than an hour in practice. Analysis at a higher frequency than that implied from the frequency of observations would risk spurious results due to

sampling of nonsynchronous data.

During Abhyankar's (1995) sample period, the FTSE100 futures market opened from 0905 - 1605GMT and he calculated six hourly returns per day .We calculate 5 hourly returns per day based on 10.15-11.15, 11.15-12.15 , 12.15-1.15, 13.15-14.15 and 14.15 -15.15. We exclude the initial 20 minutes and the final 15 minutes to avoid any initial laggard in trading or the final rushing up of settlement. Consistent with Abhyankar (1995), we do not include the overnight return because it is calculated over a longer period and would induce a severe heteroscedasticity problem, and omit the first portion of the day in order to ensure synchronous prices and reduce the effect of stale prices in the index. Exclusion of overnight returns removes the need for any adjustment when a switch to the next futures contract occurs at the expiry date.

The return for interval t on day i is:

$$R_{i,t} = \ln (P_{i,t} / P_{i,t-1}) \dots\dots\dots(1)$$

where P is the last price for cash index, futures and options in an interval. As discussed for previous work in Section II, we investigate the serial correlation structure of each returns series. If necessary, ARMA(p, q) models are fitted to the returns series to purge any microstructure effects such as positive autocorrelation in the index.

To ensure estimation based on synchronous prices, our sampling procedure is precise. For the futures price series, the last transaction before the end of each interval is used. Due to the high frequency of trading in the futures market, this is very close to the end of the interval. The level of the NSE Nifty index at the end of the interval is then sampled to ensure exactly matched cash and futures data. For the cash options series, we sample the last matched bid and ask quotes for qualifying call and put options before the end of each interval. The matched level of the NSE Nifty index is then used to ensure exactly synchronous cash and options market data. For the futures-options series, the most recent futures trade price is sampled prior to the options quote.

The relative rates of price discovery across markets are assessed with the following multiple regression model:

$$R_{a,it} = \hat{a} + \sum_{k=-3}^{k=+3} \hat{O}_k R_{b,n+k} + \hat{a}z Z_{n-1} + a_n \dots\dots\dots(2)$$

where  $R_{a,it}$  and  $R_{b,n+k}$  are the stock index (S), futures (F), call (C) and put (P) returns ( $a; b \hat{=} S, F, C, P$  where  $a ? b$ ) over each hourly interval n which indexes the

intervals  $t$  on days  $i$ , and  $Z_{n-1}$  is an error correction term. The choice of three leads and lags follows Abhyankar (1995).

Fleming et al. (1996) are followed in including an error correction term to account for cointegration, which is induced by the arbitrage relationship between a security and its derivatives. In the presence of cointegration, the lagged difference between the levels of two series provides information beyond that contained in a finite number of changes in the independent variable. This information is captured by the inclusion of an error correction term defined as the difference between the logs of the  $i$ th and both index levels at time  $n$  ; 1. The intuition is that differences in levels at time  $n$  ; 1 will tend to get smaller at time  $n$  due to arbitrage activity.

When estimating Equation 2, the conditional variances of the observed return and return residual series may not be constant. Two possible sources of this could be from time varying market volatility and variability across time in disturbance terms and the use of quoted prices should mitigate the potential issue of stale prices.

It is found that the NSE Nifty stock index hourly returns have significant first-order positive

Lags	Index (matched with calls)	Index (matched with puts)	Futures (matched with calls)	Futures (matched with puts)	Call Options	Put Options
1	0.071 (4.99)*	0.062 (3.46)*	0.213 (1.59)	0.007 (0.83)	-0.046 (-2.70)*	-0.039 (-3.68)*
2	-0.002 (-0.094)	-0.013 (-0.092)	-0.029 (1.57)	-0.037 (-1.16)	-0.022 (-0.79)	-0.037 (-2.21)**
3	0.007 (0.62)	0.001 (0.09)	0.008 (0.45)	-0.009 (-0.86)	0.007 (0.66)	0.001 (0.57)
4	0.019 (1.29)	0.004 (0.89)	0.059 (1.89)	0.002 (0.48)	0.037 (1.49)	0.021 (1.19)
5	-0.019 (-0.79)	-0.017 (-0.73)	-0.026 (-1.69)	-0.009 (-1.13)	-0.029 (-1.76)	0.018 (0.86)
6	-0.011 (-2.33)**	-0.019 (-3.46)*	-0.077 (-2.49)**	-0.022 (-3.99)*	-0.049 (-4.07)*	-0.015 (-3.76)*
7	-0.079 (-2.99)*	-0.077 (-1.81)	-0.035 (-2.05)**	-0.008 (-0.43)	-0.014 (-1.23)	0.048 (0.88)

Note: Figures in parenthesis is the calculated z-statistic;

\* denotes significance at 1% ; \*\* denotes significance at 5%

autocorrelation as predicted under the infrequent trading hypothesis, and reported for an earlier sample period by Abhyankar (1995). The series matched with calls and puts separately show consistent serial correlation structures. The fitting of an AR(1) model is used to purge the infrequent trading effect and the residuals from this estimation are used in addition to the raw returns series in separate tests.

**Table 1**

**Serial correlation structure of Return series**

The hourly returns on index futures show no significant serial correlation. From Table-1, we find lack of serial correlation for the sample period which

variances for ARMA models due to fluctuations in trading activity and the size of the bid-ask spread. Also, the time-series structure of the independent variables may induce serial correlation in the residuals. Such heteroscedasticity and autocorrelation in the regression residuals do not bias parameter estimates but can cause inefficient OLS standard errors. Hansen's (1982) generalized method of moments (GMM) is used to account for this. The GMM covariance matrix is a consistent estimator in the presence of serially correlated residuals and conditional heteroscedasticity of unknown form. The maximum lag length in the covariance estimate is set at six to correspond with the maximum overlap between the regression residuals at times  $n$  and  $n-1$ .

**EMPIRICAL FINDINGS AND ANALYSIS**

Table 1 presents the serial correlation structure for each of the returns series. The NSE NIFTY is based on the midpoint of the latest quoted (rather than traded) bid and ask prices of each of the constituent stocks and is updated every minute, and

may be a result of higher volumes in the futures contract. The series matched with calls and puts separately show consistent serial correlation structures. For futures, there is thus no need to fit any ARMA(p, q) model to deal with serial correlation.

The hourly returns on index options show low order significant negative autocorrelation. Serial correlation for calls is significant at the first lag only while that for puts is significant for two lags. For the calls an AR(1) model is fitted and for the puts an AR(2) model is fitted, both of which are successful in removing serial correlation. Separate results for both raw returns and the residuals series from the AR models are reported.

**CASH VERSUS FUTURES**

Table 2 presents evidence on the lead/lag relationship between the NSE NIFTY index and NSE NIFTY futures. First considering use of the raw cash series, there is a very strong contemporaneous relationship and a highly significant coefficient on the first futures lead. The contemporaneous relationship is somewhat stronger and the futures lead coefficient is smaller. This is consistent with a pattern shown in Abhyankar (1995) whereby the cash market may be reacting more quickly to futures price movements over time. Using the AR(1) residual returns for the cash series to remove infrequent trading effects, a similar pattern emerges despite a large reduction in the size of the coefficient for the first futures lead. The coefficient on the futures lead is reduced from 0.082 in that period to 0.055. Overall, it is apparent that the futures market generally leads the index by up to one hour. However, the evidence suggests that the index has adjusted more quickly relative to futures market movements in recent years.

Table -2 : Lead/lag relationship between hourly returns on the NSE NIFTY index and NSE Nifty futures. The relative rates of price discovery across markets are assessed with the following multiple regression model:

$$R_{a,it} = \hat{a} + \sum_{k=3}^{\infty} \hat{a}_k R_{b,n+k} + \hat{a}z Z_{n-1} + a_n \dots\dots\dots(2)$$

where  $R_{a,it}$  and  $R_{b,n+k}$  are the are the stock index (a) and futures (b) returns over each hourly interval n which indexes the intervals t on days i, and  $Z_{n-1}$  is an error correction term to account for cointegration.

Variable	Coefficients	
	Raw Cash Returns & Raw Futures Returns	Residual Cash Returns & Raw Futures Returns
$\alpha$	-0.00015 (- 6.84)*	-0.00012 (-7.42)*
$\beta_3$	-0.0039 (-1.12)	-0.0031 (-0.89)
$\beta_2$	0.0005 (0.43)	-0.0049 (-1.68)
$\beta_1$	0.1284 (16.49)*	0.0982 (11.28)*
$\beta_0$	0.7962 (55.12)*	0.7914 (58.46)*
$\beta_{-1}$	0.0047 (1.51)	0.0042 (1.49)
$\beta_{-2}$	0.0039 (1.12)	0.0041 (1.25)
$\beta_{-3}$	-0.0039 (-1.98)**	-0.0045 (-1.67)
$\beta_z$	-0.0471 (-9.32)*	-0.0456 (-10.38)*
$R^2$	0.79	0.78

Note: Figures in parenthesis is the calculated z-statistic; \* denotes significance at 1% ; \*\* denotes significance at 5% .

For both raw and residual cash series, the  $R^2$  values are relatively high. In all cases, the coefficient on the error correction term is highly significant and negative as expected. This indicates that the lagged difference between the cash and futures levels provides information regarding both the time n cash return and cash return residual. The negative coefficient indicates that the time n change in the index level is negative (positive) if the index is above (below) the futures price at time n-1. This is consistent with a narrowing basis as expiry approaches. Although the error term is highly significant, it does not meaningfully impact the other coefficients in that the lead/lag coefficient magnitudes and t-statistics are very similar whether or not the error correction term is included. In the remaining pairwise relationships discussed in the following subsections, the error correction term is negative and highly significant in every case, with inferences as above.

**CASH VERSUS OPTIONS**

The primary focus and contribution of this paper is on the relationship between index options and both index futures and the underlying index; the next subsection examines the former. In terms of the latter, Tables 3 and 4 present evidence on the relationship between the NSE NIFTY index and NSE NIFTY options. Separate cases using raw and residual returns are reported. In all cases, although the contemporaneous relationship is strongest, it is weaker than that found above between cash and futures. The  $R^2$  values are also lower than for the cash-futures relationship.

Table- 3 : Lead/lag relationship between hourly returns on the NSE NIFTY index and NSE NIFTY call options

The relative rates of price discovery across markets are assessed with the following multiple regression model:

$$R_{a,it} = \hat{a} + \sum_{k=3}^{\infty} \hat{O}_k R_{b,n+k} + \hat{a}z Z_{n-1} + \hat{a}_n \dots\dots\dots(2)$$

where  $R_{a,it}$  and  $R_{b,n+k}$  are the stock index (a) and call (b) returns over each hourly interval n which indexes the intervals t on days i, and  $Z_{n-1}$  is an error correction term to account for cointegration.

Variable	Coefficients	
	Raw Cash Returns & Raw Call Option Returns	Residual Cash Returns & Call Option Returns
$\alpha$	-0.00089 (-1.13)	-0.00012 (-0.89)
$\beta_{-3}$	0.00049 (0.59)	-0.00054 (-0.37)
$\beta_{-2}$	0.0064 (2.05)**	0.0052 (0.81)
$\beta_{-1}$	0.0973 (15.31)*	0.0741 (11.98)*
$\beta_0$	0.4971 (3.45)*	0.4723(3.77)*
$\beta_{+1}$	0.0089 (2.16)**	0.0081 (2.11)**
$\beta_{+2}$	0.0039(0.98)	0.0042 (1.02)
$\beta_{+3}$	-0.0009 (-0.23)	-0.0013 (-0.31)
$\beta_z$	0.0254 (-5.61)*	-0.0241 (-4.77)*
$R^2$	0.69	0.67

Note: Figures in parenthesis is the calculated z-statistic; \* denotes significance at 1% ; \*\* denotes significance at 5% .

For raw returns, the second column of Table 3 suggests a feedback relationship between the two markets with significant coefficients for the initial leads and lags. For the residual return series, the coefficient on the first option lead is much smaller but still highly significant and the second option lead coefficient is no longer significant. Therefore, the call options market leads the cash market by up to one hour, and the cash market has a weak (probably occasional) lead over the options of the same length of time.

Table -4 : Lead/lag relationship between hourly returns on the NSE NIFTY index and NSE NIFTY put options

The relative rates of price discovery across markets are assessed with the following multiple regression model:

$$R_{a,it} = \hat{a} + \sum_{k=3}^{\infty} \hat{O}_k R_{b,n+k} + \hat{a}z Z_{n-1} + \hat{a}_n \dots\dots\dots(2)$$

where  $R_{a,it}$  and  $R_{b,n+k}$  are the stock index (a) and put (b) returns over each hourly interval n which indexes the intervals t on days i, and  $Z_{n-1}$  is an error correction

term to account for cointegration.

Variable	Coefficients	
	Raw Cash Returns & Raw Put Option Returns	Residual Cash Returns & Raw Put Option Returns
$\alpha$	-0.00056 (-0.72)	- 0.00058 (-0.69)
$\beta_{-3}$	0.0115 (1.38)	0.0089 (-1.17)
$\beta_{-2}$	0.0267 (1.68)	-0.0284 (-2.16)**
$\beta_{-1}$	0.1784 (7.56)*	0.0971(5.59)*
$\beta_0$	0.7941 (46.39)*	0.7913 (39.12)*
$\beta_{+1}$	0.0562 (5.49)*	0.0541 (5.33)*
$\beta_{+2}$	0.0327 (1.79)	0.0378 (1.88)
$\beta_{+3}$	-0.0066 (-1.29)	-0.0078 (-1.49)
$\beta_z$	-0.0944 (-6.41)*	-0.0986 (-6.79)*
$R^2$	0.71	0.70

Note: Figures in parenthesis is the calculated z-statistic; \* denotes significance at 1% ; \*\* denotes significance at 5% .

Table 4 presents evidence on the relationship between the NSE NIFTY index and NSE NIFTY put options. A stronger contemporaneous relationship is found here compared to the case for call options above. The second column ( in Table-4), based on raw returns, suggests a feedback relationship between the two markets with significant coefficients for the first lead and lag for options. For the residual return series, again it is found that the first lead and lag are significant. The options lead is stronger than the cash lead, but the cash lead is much stronger than it was in the case of calls in Table 3. Therefore, there seems to be a more symmetric feedback relationship between the cash market and the put option market with a lead and lag of up to an hour.

The general pattern found is an options market lead over cash of up to one hour, with a weaker cash market lead of the same length over options. Further, the cash market lead over calls is weaker than that over puts. The option market lead over cash is consistent with prior expectations as discussed in Section II. Fleming et al. (1996) document a cash lead over options but do not discuss it nor consider its source. A number of possibilities may explain the weak cash market lead over options, including trading on stock specific information and tick size in the options market. Whereas market-wide information may be exploited more easily and cheaply using index options or futures, it may be optimal to trade in the stock(s) itself if stock specific information is held. In addition, Chan et al.'s (1993) infrequent trading hypothesis states that a small change in stock prices will usually

not be immediately reflected in the option price because the change in the theoretical price of the option is less than the tick size for the option.

**FUTURES VERSUS OPTION**

Although it can be clearly argued that the derivatives markets are expected to lead the cash (see Section II), arbitrage activity is likely to ensure a very close futures- options relationship. Whereas arbitrage between the derivatives and the spot index may not work perfectly, the index futures and options markets will be tightly linked because arbitrage between them does not require any trades in the underlying stocks. However, Fleming et al. (1996) present evidence of lower transaction costs in the futures market, thus hypothesize and find that futures lead options.

Table- 5 : Lead/lag relationship between hourly returns on NSE NIFTY futures and NSE NIFTY call options

The relative rates of price discovery across markets are assessed with the following multiple regression model:

$$R_{a,it} = \hat{a} + \sum_{k=-3}^{\infty} \hat{a}_k R_{b,n+k} + \hat{a}_z Z_{n-1} + a_n \dots\dots\dots(2)$$

where  $R_{a,it}$  and  $R_{b,n+k}$  are the index futures (a) and call (b) returns over each hourly interval n which indexes the intervals t on days i, and  $Z_{n-1}$  is an error correction term to account for cointegration.

Variable	Coefficients	
	Raw Cash Returns & Raw Futures Returns	Residual Cash Returns & Raw Call Options Returns
$\alpha$	-0.00045 (-2.29)**	0.00051 (-2.33)**
$\beta_{-3}$	0.0039 (0.89)	0.0042 (0.96)
$\beta_{-2}$	-0.0069 (-1.45)	-0.0073 (-1.69)
$\beta_{-1}$	0.1744 (12.68)*	0.0873 (6.41)*
$\beta_0$	0.7604 (62.19)*	0.7612 (63.49)*
$\beta_{+1}$	0.0349 (3.49)*	0.0345 (3.36)*
$\beta_{+2}$	0.0037 (0.51)	0.0039 (0.58)
$\beta_{+3}$	-0.0071 (-1.55)	-0.0069 (-1.54)
$\beta_z$	-0.0198 (-6.19)*	-0.0199 (-6.17)*
$R^2$	0.75	0.74

Note: Figures in parenthesis is the calculated z-statistic; \* denotes significance at 1% ; \*\* denotes significance at 5% .

Table 5 presents evidence on the lead/lag relationship between the NSE NIFTY futures and NSE NIFTY call options. The first column of parameters represents the use of the raw options returns and

shows a very strong contemporaneous relationship and also significant coefficients on the first lead and lag. The second column represents the use of AR(1) residual returns for the call option series, which reduces the size of the coefficient on the options lead. Despite this, the lead of calls over futures is stronger than the lead of futures over calls.

Table - 6: Lead/lag relationship between hourly returns on NSE NIFTY

**FUTURES AND NSE NIFTY PUT OPTIONS**

The relative rates of price discovery across markets are assessed with the following multiple regression model:

$$R_{a,it} = \hat{a} + \sum_{k=-3}^{\infty} \hat{a}_k R_{b,n+k} + \hat{a}_z Z_{n-1} + a_n \dots\dots\dots(2)$$

where  $R_{a,it}$  and  $R_{b,n+k}$  are the index futures (a) and put (b) returns over each hourly interval n which indexes the intervals t on days i, and  $Z_{n-1}$  is an error correction term to account for cointegration.

Variable	Coefficients	
	Raw Cash Returns & Raw Futures Returns	Residual Cash Returns & Raw Put option Returns
$\alpha$	0.00079 (5.49)*	0.00077 (5.47)*
$\beta_{-3}$	0.0061 (1.13)	0.0054 (1.02)
$\beta_{-2}$	0.0216 (1.45)	-0.0279 (-1.56)
$\beta_{-1}$	0.0751 (8.97)*	0.0562 (6.37)*
$\beta_0$	1.0971 (46.19)*	1.0988 (45.27)*
$\beta_{+1}$	0.0549 (4.79)*	0.0547 (4.75)*
$\beta_{+2}$	0.0042 (0.68)	0.0051 (0.72)
$\beta_{+3}$	-0.0079 (-1.38)	-0.0074 (-1.36)
$\beta_z$	-0.0573 (-9.89)*	-0.0571 (-9.88)*
$R^2$	0.79	0.79

Note: Figures in parenthesis is the calculated z-statistic; \* denotes significance at 1% ; \*\* denotes significance at 5% .

Table 6 presents evidence on the lead/lag relationship between the NSE NIFTY futures and NSE NIFTY put options. The first column of parameters represents the use of the raw options returns and shows a very strong contemporaneous relationship and also significant coefficients on the first lead and lag, suggesting a feedback relationship between the two markets. The second column ( of parameter ) represents the use of AR(2) residual put returns, and as for the call option series this reduces the size of the coefficient on the options lead. However, the results differ from the calls case because the futures

market lead over puts is stronger than vice versa.

In summary, there is a strong contemporaneous relationship between futures and options, and a feedback relationship between the two markets with leads and lags of up to one hour. For 5-minute data on US index futures and options, Fleming et al. (1996) find that futures lead by up to 15 minutes while options lead by up to 10 minutes, although the futures lead is stronger. They maintain that the futures lead because trading costs are lower, but do not consider sources of the options lead. The  $R^2$  values are much higher than those reported by Fleming et al. (1996), and the results contrast with that paper because the futures- calls relationship is noticeably different from the futures- puts relationship. Calls lead futures more strongly than futures lead calls, but the reverse is true for puts and futures.

This different pattern suggests that relative trading costs are not the only determinant of lead/lag relationships as the trading costs for both calls and puts are very similar. A possible explanation for these results is that over the sample period the market was more 'bullish' than 'bearish'. An optimistic informed trader is likely to buy calls (or with greater risk, sell puts) to gain leverage on the information held, while a pessimistic informed trader is more likely to buy puts (or with greater risk, sell calls). A greater demand for calls from informed traders may have induced call prices to react more quickly than put prices. It is likely that a higher frequency analysis would shed further light on these pairwise relationships, but the trading levels in at-the-money options contracts preclude this. As discussed in Section III, analysis at a higher frequency than that implied from the frequency of observations would risk spurious results.

### CALLS VERSUS PUTS

Table 7 presents evidence on the relationship between NSE NIFTY call options and NSE NIFTY put options. The strongest of all pairwise contemporaneous relationships is found here. The first column, based on raw returns, suggests a feedback relationship between the two markets with significant coefficients for the first three put leads and one lag. For the residual return series, we find that the first lead and first lag are the only coefficients to remain significant with the call lead being slightly stronger than the put lead in terms of both magnitude and significance of the coefficient. This is consistent with the results in the previous subsection showing a call options lead greater than the futures lead compared to a put option lead weaker than the futures lead.

Further, the earlier subsection showed that the cash market lead over calls is weaker than that over puts. This suggests that the call and put markets broadly move together but there is a tendency for the call option price to react more quickly than the put option price.

Table-7: Lead/lag relationship between hourly returns on NSE NIFTY

### CALL OPTIONS AND NSE NIFTY PUT OPTIONS

The relative rates of price discovery across markets are assessed with the following multiple regression model:

The relative rates of price discovery across markets are assessed with the following multiple regression model:

$$R_{a,it} = \hat{a} + \sum_{k=3}^{\hat{O}^{k=3}} \hat{a}_k R_{b,n+k} + \hat{a}_z Z_{n-1} + \hat{a}_n \quad (2)$$

where  $R_{a,it}$  and  $R_{b,n+k}$  are the call option (a) and put option (b) returns over each hourly interval  $n$  which indexes the intervals  $t$  on days  $i$ , and  $Z_{n-1}$  is an error correction term to account for cointegration.

Variable	Coefficients	
	Raw Cash Returns & Raw Call Option Returns	Residual Cash Returns & Raw Put Option Returns
$\alpha$	-0.0023 (-5.49)*	-0.0025 (-5.53)*
$\beta_{-3}$	0.0612 (2.13)**	0.0548 (1.77)
$\beta_{-2}$	0.0489 (2.09)**	0.0331 (0.23)
$\beta_{-1}$	0.1781 (7.66)*	0.1459 (6.97)*
$\beta_0$	1.3977 (37.12)*	1.3341 (35.10)*
$\beta_{+1}$	0.1562 (8.97)*	0.1544 (8.66)*
$\beta_{+2}$	0.0344 (1.56)	0.0341 (1.51)
$\beta_{+3}$	0.0149 (1.29)	0.0137 (1.33)
$\beta_z$	-0.0946 (-9.41)*	-0.0931 (-9.68)*
$R^2$	0.51	0.52

Note: Figures in parenthesis is the calculated z-statistic;

\* denotes significance at 1% ; \*\* denotes significance at 5% .

A possible explanation for this was discussed in the previous subsection. The evidence that call and put markets broadly move together but with some feedback from one to another is consistent with the evidence of Fleming et al. (1996).

### CONCLUSION

The results show that the NSE NIFTY derivatives markets tend to lead the underlying stock index. The futures market clearly leads the cash market although this lead appears to be eroding

slightly over time. Although the options market leads the cash overall, there is some feedback between the two with the underlying index leading at times. This latter effect is possibly induced by differences in tick size (as hypothesized by Chan et al. (1993)) and this would be exacerbated for the NSE NIFTY index options due to the clustering of prices in multiples of index points despite a tick size of 0.5 index points. The futures and options markets appear to be very closely integrated in terms of explanatory power of the regressions. However, the index call options lead the index futures more strongly than futures lead calls, while the futures lead puts more strongly than the reverse. It is hypothesized that informed traders with bullish expectations wishing to gain leverage from the options market will buy calls or, with greater risk, sell puts. As market sentiment was bullish for most of the sample period examined, it is suggested that informed traders may have been more active in the call market than in the put market.

This could result in call option prices reacting more quickly than put option prices, which is also supported in the finding of a stronger lead of calls over puts than vice versa. Trading volume and open interest data lend some support to this hypothesis. The results of this study largely support the hypothesis that relative transaction costs are a major determinant of the lead/lag relationship between the stock index and the index futures and index options markets. However, the finding that index call prices and index put prices show differing speeds of reaction when compared to the cash and futures markets, whilst the transaction costs associated with trading calls and puts are similar, suggests that there

are other determinants of the lead/lag relationship. The results presented here suggest that expectations of rises or falls in the market may be important. In a previous paper to examine the inter-market relationships between a stock index and related futures and options contracts, Fleming et al. (1996) maintain that relative trading costs determine which market leads. As the trading costs of calls and puts are similar, other factors must be driving the relationships observed in this paper. This is a possible area for future research.

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