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An

Entrepreneur's trials and tribulations in building up institutions, narrated in a highly readable, fictional style. This is the first time a real life story is told as fiction.

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Overview

Indian economy has some distinct advantages. First of all, it is the second fastest growing economy in the world. Secondly, our financial system is accepted as one of the finest systems in the world. As a consequence, our banking sector could record unprecedented growth in the recent past, in spite of global recession.

In the midst of the all-round prosperity, we have a sizable section of our population, particularly the marginalized sections and low income groups, who continues to remain excluded from the services provided by the finance sector.

It has been reported that more than 50 percent of our population do not have any bank account, about 90 percent have no access to credit or life insurance cover and around 95 percent have no general insurance, while about 98 percent have no participation in the capital market. That means, the existing business models have proved to be incapable of reaching out to the poor and needy sections.

Financial inclusion is integral to the inclusive growth process and sustainable development of the country.

In this context, I am sure that you will be interested to read our lead article in this issue which deals with 'Financial Inclusion for Indian Scene.'

Studies conducted in the recent past have shown that teacher quality is the most important variable in student achievement. The influence of the teacher on student achievement outstrips all other influences like class room and other facilities, socio-economic status of the student and the like. Our second lead article in this issue, therefore, is 'Perception and Performance: Administrator vs. Teacher.'

The subsequent articles deal with a variety of topics like technology for growth, superior management model, restructuring the corporate, market relative volatility and so on.

I am confident you will find this issue informative and enlightening.

Dr. G. P. C. NAYAR

Chairman, SCMS Group of Educational Institutions

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Editorial

B-school learning and teaching are both relevant in the modern context as the world is dashing towards progress and development. The main task of a b-school is to teach, train and groom a new generation of executives. Mushrooming of b-schools has helped to quantitatively solve the issue of the demand for potential executives. That's not enough. The qualitative components- teaching, training and grooming- shall also be well taken care of. For that, a well thought out management pedagogy has to be developed. The pedagogy shall give accent on 'concentration.' Concentration can be accomplished by practice and detachment.

Practice implies incessant striving. It depends on repeated efforts. A child finds it difficult to write a few words. As he grows into adolescence, he is able to write not only words but sentences effortlessly and fluently. This is possible only through practice. Great achievements in the past are the products of continuous practice. Even now every great achievement is the fruit of persistent work. How many people would have struggled persistently for every such accomplishment! There is nothing that is impossible for men of perseverance.

Detachment implies remaining aloof from all temptations and attractions while striving to fulfill a chosen aim. In order to retain interest and concern only for the work in hand, they have to remain unconcerned about everything else. This is detachment. One engaged in accomplishing something is detached from other things. A student is expected to be devoted to the task of acquiring knowledge. But if his mind is distracted by other temptations, his education will not prosper. Once the students learn there is joy and success in concentration, they will never remain idle. They will apply themselves to practise it diligently.

Ideal students absorbed in studies forget their surroundings, even their body. Young minds are like Jog Falls: a huge volume of water, gushing down from the heights of a mountain, flows down blindly and at last, having served no purpose, loses its identity in the sea. On the other hand, a dam built across its waters, which are made to flow in regulated canals with which agricultural fields get irrigated, and rich crops get harvested, can work wonders. Similarly, across the uncultured, self-willed mental- energies of the youth (spent purposelessly), a dam of discipline and restriction must be built; canals of a code of conduct must be dug, and the water of mental powers must be made to flow into the fields of education, art, literature and skilled labour. We can see then how the glorious harvest of culture flourishes!

Dr. D. Radhakrishnan Nair

Financial Inclusion for Indian Scene

Suresh Chandra Bihari

Abstract

Financial inclusion is delivery of financial services at an affordable cost to the vast sections of the disadvantaged and the low-income groups. The various financial services include credit, savings, insurance and payments and remittance facilities. Importance of financial inclusion arises from the problem of financial exclusion of nearly three billion people from the formal financial services across the world. With only 34 percent of population engaged in formal banking, India has a vast majority of financially excluded households. This study deals with the various reasons behind this and suggests way to ameliorate the same.

Key words:

Financial Inclusion, Inclusive Growth, Financial Exclusion, Formal Financial Services, Affordable Cost, Disadvantaged and Low-Income Groups.

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The soul of India lives in its villages, said Mohandas Karamchand Gandhi, popularly known as the father of the nation in India, in the beginning of the 20th century. But by the 21st century, rural India has turned out to be disconnected from the main stream of development. A large section of Rural Population today still remains outside the coverage of the formal Banking System. They have no access to basic financial services like savings, credits, remittance, insurance and pension product etc., in a cost effective, transparent and fair manner. In this backdrop, financial inclusion has been a focus of attention in recent times. The increase in the number of branches has not answered the needs of the farmers; and reaching the unbanked population to enable inclusive growth is a serious problem today.

Banking System acts, as the main catalyst to drive economic growth through mobilizing and channeling savings for productive purposes. It facilitates the flow of capital from surplus sector to deficit sector by way of finance. Finance is universally acknowledged as the most important contributor to economic growth of any country. The primary objective for any economy

in present day context is to optimize growth with distributive justice. Growth of an economy can not be considered as an end in itself, until it results in generation of income and empowerment of the whole population.

Financial inclusion may be defined as the process of making the basic financial services available to the vast sections of the disadvantaged and the low-income groups at an affordable cost. Financial inclusion symbolizes the important role of financial sector in the overall objective of inclusive growth. Achieving the inclusive growth through financial inclusion, particularly in a country of the size and inherent diversification of India, is a stupendous task and requires full commitment to its tenets. SBI, being the largest and front running bank of the country has a seminal role to play in making financial inclusion a success and the role extends to spreading the message on a wide scale.

It has been over two decades since microfinance initiatives were introduced in India, but financial inclusion still remains a distant dream. Achieving total financial inclusion is a concern of most countries; yet it is very geographical in nature, as it largely depends on a country's financial policy and its financial industry regulations. Branchless banking could be the big step towards providing easy financial access to the poor people and achieving financial inclusion.

Committee reports submitted to the Indian government call for access to financial services, including credit, to be raised to 50 percent by 2012 and 100 percent by 2015.

Such a mammoth task at hand can only be achieved by an earnest technology incursion which can be achieved through branchless banking. The Reserve Bank of India (RBI) has shown sincere interest in this matter and envisaged that branchless banking is the solution to the problem.

Research in the last decade or so has shown that there exists a robust link between a well-functioning financial system and inclusive growth. In India, in spite of the commitment to social banking and the vast banking network, over 50 percent of the farmer households remain without access to credit. Additionally, only 59 percent of adult Indian's have access to a bank account. In the light of these disappointing figures, financial inclusion has received a special attention from the Indian government and the Reserve Bank of India. All out efforts are being made as financial inclusion can truly lift the financial condition and standards of life of the poor and the disadvantaged.

Unrestrained access to public goods and services is the sine qua non of an open and efficient society. As banking services are in the nature of public good, it is essential that availability of banking and payment services to the entire population without discrimination should be the prime objective of the public policy. Access to finance by the poor and vulnerable groups is a prerequisite for poverty reduction and social cohesion. This has to become an integral part of our efforts to promote inclusive growth. Financial inclusion denotes delivery of financial services at an affordable cost to the vast sections of the disadvantaged and the low-income groups. The various financial services include credit, savings, insurance and payments and remittance facilities. The ideal definition should look at people who want to access financial services but are denied the same. If genuine claimants for credit and financial services are denied the same, then that is a case of exclusion. As this aspect would raise the issue of credit worthiness or bankability, it is also necessary to dwell upon what could be done to make the claimants of institutional credit bankable or creditworthy. This would require re-engineering of existing financial products or delivery systems and making them more in tune with the expectations and absorptive capacity of the intended clientele.

The objective of financial inclusion is to extend the scope of activities of the organized financial system to include within its ambit people with low incomes. Through graduated credit, the attempt must be to lift the poor from one level to another so that they come out of poverty.

Inclusive growth attempts to bridge the various divides in an economy and society, between the rich and the poor, between the rural and urban populace, and between one region and another. That is a formidable task. The process of growth has to be such that all sections of society benefit from the growth process and that is the essence of inclusive growth.

Financial Inclusion and Economic Development

What economic development paradigm has revealed is that equity is not axiomatic with economic development. Financial inclusion is an essential pre-condition to building uniform economic development, both spatially and temporally, and ushering in greater economic and social equity.

There are several government and non-government programmes aimed at reducing poverty and bringing greater equity in the

country. But few have proved to be inherently productive and sustainable. Financial inclusion can transform them into productive and self-sustainable projects.

The micro-credit programme launched through numerous Non Government Organizations has found fancy with the banking industry and can prove to be an excellent tool to bring in greater equity through financial inclusion. No-frills account when promoted extensively plough backs the returns from these projects into bank coffers, thus encouraging the savings habit and ensuring that banks act as a repository of savings and sources of credit. This will make banking enter into the daily routine of a common man. Besides nurturing the habit of saving among the masses, it will remove the apprehensions and fears from their mind towards the financial products and services. This will encourage un/under-banked consumers to enter into or make better use of the financial mainstream. It will also persuade people to take credit for setting up new ventures. In a way provision of easy credit will encourage the first generation entrepreneurs to initiate new venture; aggravate the capital formation in the society; create new employment opportunities and thus will help in escalating the economic development of the country. This also will automatically lower the increasing crime rates in the society.

Financial Inclusion - Definition

The essence of financial inclusion is in trying to ensure that a range of appropriate financial services is available to every individual and enabling them to understand and access those services. Apart from the regular form of financial intermediation, it may include a basic no frills banking account for making and receiving payments, a savings product suited to the pattern of cash flows of a poor household, money transfer facilities, small loans and overdrafts for productive, personal and other purposes, insurance (life and non-life), etc. While financial inclusion, in the narrow sense, may be achieved to some extent by offering any one of these services, the objective of Comprehensive Financial Inclusion would be to provide a holistic set of services encompassing all of the above.

There can be multiple levels of financial inclusion and exclusion. At one extreme, are the "super included," i.e., those customers who are actively and persistently courted by the financial services industry, and who have at their disposal a wide range of financial services and products. At the other extreme, are the "financially excluded," who are denied access to even the most basic of financial products? In between are those, who use the banking services only for deposits and withdrawals of money. But these persons may have only restricted access to the financial system, and may not enjoy the flexibility of access offered to more affluent customers.

Though, the banking industry has shown tremendous growth in volume and complexity during the last few decades, making significant improvements in all the areas relating to financial viability, profitability and competitiveness, there are concerns that banks have not been able to include vast segment of the population, especially the underprivileged sections of the society, into the fold of basic banking services.

Barriers of Financial Inclusion

Financial Exclusion: It has been found that financial services are used only by a section of the population. There is demand for these services but it has not been provided. The excluded regions are rural, poor regions and also those living in harsh climatic conditions where it is difficult to provide these financial services. The excluded population then has to rely on informal sector (moneylenders etc) for availing finance that is usually at exorbitant rates. These lead to a vicious cycle. First, high cost of finance implies that first poor person has to earn much more than someone who has access to lower cost finance. Second, the major portion of the earnings is paid to the moneylender and the person can never come out of the poverty.

High Cost: It has also been seen that poor living in urban areas don't utilize the financial services as they find financial services are costly and thus are unaffordable. Hence, even if financial services are available, the high costs deter the poor from accessing them. For example, to open a checking account in Cameroon, the minimum deposit requirement is over 700 dollars, an amount higher than the average GDP per capita of that country, while no minimum amounts are required in South Africa or Swaziland. Annual fees to maintain a checking account exceed 25 percent of GDP per capita in Sierra Leone, while there are no such fees in the Philippines. In Bangladesh, Pakistan, Philippines, to get a small business loan processed requires more than a month, while the wait is only a day in Denmark. The fees for transferring 250 dollars internationally are 50 dollars in the Dominican Republic, but only 30 cents in Belgium.

Non-price Barriers: Access to formal financial services also requires documents of proof regarding a persons' identity, income etc. The poor people do not have these documents and thus are excluded from these services. They may also subscribe to the services initially but may not use them as actively as others because of high distance between the bank and residence, poor infrastructure etc.

Behavioural Aspects: Research in behavioural economics has shown that many people are not comfortable using formal financial services. The reasons are difficulty in understanding language, various documents and conditions that come with financial services etc.

There are two parts to Financial Exclusion: One, supply side issues that range from access to a bank account to product gaps like savings, micro-pensions and micro-insurance, etc., backed by a technology enabled, low-transaction cost mechanism front ended by intermediaries like bank branches, banking correspondents, post office and a variety of other outreach mechanisms that also need to work under a financial literacy umbrella of some sorts. These are well defined issues with relatively simpler answers and therefore often get confused as the be-all and end-all of financial inclusion. It is the demand-side issues where far more daunting challenges lie.

Financial Exclusion forms part of a much wider social exclusion, faced by some groups who lack access to quality essential services such as jobs, housing, education or health care. Societal causes such as ageing combined with the technological gap increase financial exclusion. However, many factors for exclusion are on supply and demand: banks refusing to open full transaction bank accounts for certain groups of people; lack of accessibility, inadequate product design, bad service delivery and high price associated with transaction bank accounts deterring people to access and/or use those services. Belief that bank accounts are not for poor people, concerns about costs or the fear of loss of financial control also play a role. Underpinning financial exclusion are problems of poverty, ignorance and environment:

- Poverty: being on a low income, especially out of work and on benefits.
- Ignorance: low levels of awareness and understanding of products caused by lack of appropriate marketing or low levels of financial literacy.
- Environment: lack of access to financial services caused by several factors, including:

– Geographic access to bank branches or remote banking facilities;

– Affordability of products such as insurance, where premiums often price out those living in the most deprived and risky areas;

– Suitability of products like current accounts, which offer an overdraft and an easy route to debt;

– Cultural and psychological barriers, such as language, caste, perceived/actual racism and suspicion or fear of financial institutions.

There is a large overlap between poverty and permanent financial exclusion

Both poverty and financial exclusion result in a reduction of choices which affects social interaction and leads to reduced participation in society. A major cause of poverty among rural people in India today is the lack of access for both individuals and communities to productive assets and financial resources. High levels of illiteracy, inadequate health care and extremely limited access to social services are common among poor rural people. The financially excluded typically exhibit one or more of the following characteristics:

- Lack of a bank account and the financial services that come with it
- Reliance on alternative forms of credit, such as doorstep lenders and pawnbrokers
- Lack of other key financial products, such as insurance, savings products and pensions
- Lack of capacity and livelihood alternatives

Extent of Exclusion – NSSO Survey 59th Round
(a) General:

- 51.4 percent of farmer households are financially excluded from both formal / informal sources.

- Of the total farmer households, only 27 percent access formal sources of credit; one third of this group also borrows from non-formal sources.

- Overall, 73 percent of farmer households have no access to formal sources of credit.

(b) Region-wise:

- Exclusion is most acute in Central, Eastern and North-Eastern regions – having a concentration of 64 percent of all financially excluded farmer households in the country.

- Overall indebtedness to formal sources of finance alone is only 19.66 percent in these three regions.

(c) Occupational Groups:

- Marginal farmer households constitute 66 percent of total farm households. Only 45 percent of these households are indebted to either formal or non- formal sources of finance.

- About 20 percent of indebted marginal farmer households have access to formal sources of credit.

- Among non-cultivator households nearly 80 percent do not access credit from any source.

(d) Social Groups:

- Only 36 percent of ST Farmer households are indebted (SCs and Other Backward Classes - OBC - 51 percent) mostly to informal sources.

In India, there are approximately 400 million people in nearly six million villages and semi-urban areas are waiting for small loans and other banking services. There is scope for lending ₹ 45,000 crores to these people. Against this potential, only about 20 million have been served so far by the organized financial sector, with total disbursements of about ₹ 3,900 crores.

Consequences of Financial Exclusion

Financial exclusion is a serious concern among low-income households as well as small businesses, mainly located in semi-urban and rural areas. Consequences of financial exclusion will vary depending on the nature and extent of services denied. Financial exclusion complicates day-to-day cash flow management - being financially excluded the low-income households as well as the micro and small enterprises deal entirely in cash and are susceptible to irregular cash flows.

In case of low-income households, the absence of access to bank accounts and other saving opportunities result in lack of savings; low investments; lack of financial planning and security for old age; difficulties in gaining access to credit or getting credit from informal sources at exorbitant rates; increased unemployment due to lack of self–employment opportunities; higher incidence of crime etc.

The small business may suffer due to loss of access to middle class and higher-income consumers, higher cash handling costs, delays in remittances of money, lots of reliance on private money lenders for small credits. It may thus be concluded that financial exclusion not only widens the 'Rich-Poor divide,' it also lead to 'Social Exclusion.'

Major Threats:

- Losing opportunities to grow: In the absence of finance and financial services, people who are not connected with formal financial system lack opportunities to grow.

- Country's growth will retard: Due to vast unutilized financial resources that is in the hands of people who lack financial inclusive services can retard the growth of the country.

Other Consequences:

- Business loss to banks: Banks will loss business if this condition persists for ever due to lack of opening of bank accounts.

- Exclusion from mainstream society: The people, who lack financial services, are presumed to be excluded from mainstream society.

- All transactions cannot be made in cash: Some transactions can be made in cash. In this technological world everybody wants to have electronic cash system like debit and credit cards and also EFT.

- Loss of opportunities to thrift and borrow: Financially excluded people may lose chances to save their some part of livelihood earnings and also to borrow loans.

- Employment barriers: Nowadays all salary and other financial benefits from various sources like Governments scholarships, any compensation, grants, reliefs, etc are paid through bank accounts.

- Loss due to theft: Banks provide various schemes of safety locker facility. It mitigates the risk due to thefts.

- Other allied financial services: People who do not have bank accounts may not go to bank as far as possible. So they lack basic financial auxiliary services like DD, Insurance cover and other emergency need loans etc.

International Experiences

It may be worthwhile to have a look at the international experience in tackling the problem of financial exclusion, so that we can learn from the international experience.

UK

The Financial Inclusion Task Force in UK has identified three priority areas for the purpose of financial inclusion, viz., access to banking, access to affordable credit and access to free face-to-face money advice. UK has established a Financial Inclusion Fund to promote financial inclusion and assigned responsibility to banks and credit unions in removing financial exclusion. Basic bank no-frills accounts have also been introduced. An enhanced legislative environment for credit unions has been established, accompanied by tighter regulations to ensure greater protection for investors. A Post Office Card Account (POCA) has been created for those who are unable or unwilling to access a basic bank account. The concept of a Savings Gateway has been piloted. This offers those, on low-income employment, £1 from the state for every £1 they invest, up to a maximum of £25 per month. In addition the Community Finance Learning Initiatives (CFLI s) were also introduced with a view to promoting basic financial literacy among housing association tenants.

United States

A civil rights law, namely Community Reinvestment Act (CRA) in the United States prohibits discrimination by banks against low and moderate income neighbourhoods. The CRA imposes an affirmative and continuing obligation on banks to serve the needs for credit and banking services of all the communities in which they are chartered. In fact, numerous studies conducted by Federal Reserve and Harvard University demonstrated that CRA lending is a win-win proposition and profitable to banks. In this context, it is also interesting to know the other initiative taken by a state in the United States. Apart from the CRA experiment, armed with the sanction of Banking Law, the State of New York Banking Department, with the objective of making available the low cost banking services to consumers, made mandatory that each banking institution shall offer basic banking account and in case of credit unions the basic share draft account, which is in the nature of low cost account with minimum facilities.

Typically, countries with low levels of income inequality tend to have lower levels of financial exclusion, while high levels of exclusion are associated with the least equal ones. In Sweden, for example, lower than two percent of adults did not have an account in 2000 and in Germany, the figure was around three percent (Kempson, 2006). In comparison, less than four percent of adults in Canada and five percent in Belgium lacked a bank account (Buckland et al, 2005). Countries with high levels of inequality record higher levels of banking exclusion. To illustrate, in Portugal, about 17 percent of the adult population had no account of any kind in 2000 (Kempson, 2006). In Sweden, for example, banks cannot refuse to open a saving or deposit account under Section 2 of the Banking Business Act of 1987; in France, Article 58 of the Banking Act, 1984 recognized the principle of the right to a bank account; in the US, federal government introduced the Community Reinvestment Act in 1997, partly in response to concerns about bank branch closures in low-income neighbourhoods. Under this legislation, federal bank regulatory agencies rate banks on their efforts to serve low-income communities. These early legislations were designed to ensure access to a deposit account but did not spell out the nature of banking services that should be on offer. Refinements in this area have actually taken place in the latter half of the 1990s, resulting partly from a wider concern regarding social exclusion (Caskey et al, 2006, Kempson et al, 2000). It may, thus, be noted that financial inclusion is a concern even in developed countries and legislative or regulatory measure to achieve it are a common feature.

The Indian Scenario

The bank nationalization in India marked a paradigm shift in the focus of banking as it was intended to shift the focus from class

banking to mass banking. The rationale for creating Regional Rural Banks was also to take the banking services to poor people. The branches of commercial banks and the RRBs have increased from 8321 in the year 1969 to 68,282 branches as at the end of March 2005. The average population per branch office has decreased from 64,000 to 16,000 during the same period. However, there are certain under banked states such as Bihar, Orissa, Rajasthan Uttar Pradesh, Chattisgarh, Jharkhand, West Bengal and a large number of North-Eastern states, where the average population per branch office continues to be quite high compared to the national average. As you would be aware, the new branch authorization policy of Reserve Bank encourages banks to open branches in these under banked states and the under banked areas in other states. The new policy also places a lot of emphasis on the efforts made by the bank to achieve, inter alia, financial inclusion and other policy objectives.

One of the benchmarks employed to assess the degree of reach of financial services to the population of the country, is the quantum of deposit accounts (current and savings) held as a ratio to the adult population. In the Indian context, taking into account the Census of 2001 (ignoring the incremental growth of population thereafter), the ratio of deposit accounts (data available as on March 31, 2004) to the total adult population was only 59 percent (details furnished in the table). Within the country, there is a wide variation across states. For instance, the ratio for the state of Kerala is as high as 89 percent while Bihar is marked by a low coverage of 33 percent. In the North Eastern States like Nagaland and Manipur, the coverage was a meager 21 percent and 27 percent, respectively. Northern Region, comprising the states of Haryana, Chandigarh and Delhi, has a high coverage ratio of 84 percent. Compared to the developed world, the coverage of our financial services is quite low. For instance, as per a recent survey commissioned by British Bankers' Association, 92 to 94 percent of the population of UK has either current or savings bank account.

The Scope of Financial Inclusion

The scope of financial inclusion can be expanded in two ways. Through state-driven intervention by way of statutory enactments (for instance the US example, the Community Reinvestment Act and making it a statutory right to have bank account in France).

Through voluntary effort by the banking community itself for evolving various strategies to bring within the ambit of the banking sector the large strata of society.

When bankers do not give the desired attention to certain areas, the regulators have to step in to remedy the situation. This is the reason why the Reserve Bank of India is placing a lot of emphasis on financial inclusion.

To address the issues of financial exclusion in a holistic manner, it is essential to ensure that a range of financial services is available to every individual.

These Services are:

- a no-frills banking account for making and receiving payments
- a saving product suited to the pattern of cash flows of a poor household
- money transfer facilities
- small loans and overdrafts for productive personal and other purposes and
- Micro-insurance (life and non-life).

Enabling access to a greater number of the population to the structured and organized financial system has explicitly been on the agenda of the Reserve Bank since 2004. Unlike several central banks, which focus solely on inflation, many developed and emerging economies, including ours, focus also on growth. There is currently a clear perception that there are a vast number of people, potential entrepreneurs, small enterprises and others, who are excluded from the financial sector, which leads to their marginalization and denial of opportunity for them to grow and prosper. The Reserve Bank has therefore introduced various new measures to encourage the expansion of financial coverage in the country. Not only is financial inclusion essential because of its implications for the welfare of citizens but it needs to be stressed that it has to be an explicit strategy for fostering faster economic growth in a more inclusive fashion. It is in this context that it was felt it would be appropriate to study the business models that are introduced by RBI.

Financial Inclusion by Extension of Banking Services - Use of Business Facilitators and Correspondents

With the objective of ensuring greater financial inclusion and increasing the outreach of the banking sector, it has been decided in public interest by RBI to enable banks to use the services of Non-Governmental Organisations/ Self Help Groups (NGOs/ SHGs), Micro Finance Institutions (MFIs) and other Civil Society Organisations (CSOs) as intermediaries in providing financial and banking services through the use of Business Facilitator and Correspondent models.

Business Facilitator Model: Eligible Entities and Scope of Activities

Under the 'Business Facilitator;' model, banks may use intermediaries, such as, NGOs/ Farmers' Clubs, cooperatives, community based organisations, IT enabled rural outlets of corporate entities, Post Offices, insurance agents, well functioning Panchayats, Village Knowledge Centers, Agri Clinics/ Agri Business Centers, Krishi Vigyan Kendras and KVIC/ KVIB units, depending on the comfort level of the bank, for providing facilitation services. Such services include:

1) identification of borrowers and fitment of activities; 2) collection and preliminary processing of loan applications including verification of primary information/data; 3) creating awareness about savings and other products and education and advice on managing money and debt counselling; 4) processing and submission of applications to carry out its transactions, but finally the responsibility of putting through transactions rest with the banks; 5) promotion and nurturing Self Help Groups/ Joint Liability Groups; 6) post-sanction monitoring; 7) monitoring and handholding of Self Help Groups/ Joint Liability Groups/ Credit Groups/ others; and 8) follow-up for recovery. The BFs can refer clients, pursue the clients' proposal and facilitate the bank staff as these services are not intended to involve the conduct of banking business by Business Facilitators, no approval is required from RBI for using the above intermediaries for facilitation of the services indicated above.

Business Correspondent Model: Eligible Entities and Scope of Activities

The business correspondent (BC) model allows the bank to use third party financial institutions to handle account opening, transaction management, and other financial services viz., NGOs/ MFIs set up under Societies/ Trust Acts, Societies registered under Mutually Aided Cooperative Societies Acts or the Cooperative Societies Acts of States, registered NBFCs not accepting public deposits and Post Offices. In engaging such intermediaries as Business Correspondents, banks should ensure that they are well established, enjoying good reputation and having the confidence of the local people. Banks may give wide publicity in the locality about the intermediary engaged by them as Business Correspondent and take measures to avoid being misrepresented.

In addition to activities listed under the Business Facilitator Model, the scope of activities to be undertaken by the Business Correspondents will include (i) disbursal of small value credit, ii) recovery of principal / collection of interest (iii) collection of small value deposits (iv) sale of micro insurance/ mutual fund products/ pension products/ other third party products and (v) receipt and delivery of small value remittances/ other payment instruments.

Regulations from RBI emphasize that transactions should be visible in the bank's books within 24 hours. Such a compulsion has encouraged the use of smart cards and mobile technology by the BCs. This technology can also be used to conduct other financial activities like fixed deposits, loan disbursement, and insurance.

Reserve Bank of India Working Group has expressed the view that banks would need to accept the BC model as extremely vital for achieving the goals of financial inclusion. As the traditional 'brick and mortar' branches could penetrate into remote areas of the vast country only to a limited extent, this model presented banks with a workable option to provide banking services in inaccessible areas in a cost-effective manner. It suggested new entities to work as BCs. The Working Group has noted that BCs should be used not only for opening and servicing no-frills accounts but for the full range of financial activities. The arrangements with the Business Correspondents shall specify:

1. Suitable limits on cash holding by intermediaries as also limits on individual customer payments and receipts, 2. The requirement that the transactions are accounted for and reflected in the bank's books by end of day or next working day, and 3. All agreements/ contracts with the customer shall clearly specify that the bank is responsible to the customer for acts of omission and commission of the Business Facilitator/ Correspondent.

Thus, Branchless banking is a technology enabled, low-cost, alternate delivery channel that facilitates basic banking services to the rural communities at their doorstep through Business Correspondents at an affordable cost in a secure manner. It facilitates customers to transact from their villages and at their convenience and save or withdraw small amounts depending upon their need, without the hassles of filling up a challan for depositing cash or withdrawing money.

Non-Business Correspondent Model

In the non-business correspondent model the business correspondent is excluded from the system and the customer himself is provided with a mobile device. The regulatory policies of India have recently allowed transactions from mobile devices, but with a very small ticket size. The mobile devices are used to store information of the user, conduct transactions, and maintain transaction records. Various models have been proposed to realize mobile based banking. One model is where the mobile devices are equipped with Near Field Communication (NFC) technology and RFID chip, which are then used for user authentication and some transactions. Another model which proposes to leverage the widespread network of retail agents involves both banks and telecom operators where the retailer has an account in the bank and the transactions are carried out in a manner similar to the way customers recharge their phones.

Telecommunications has taken the world to a new phase in managing communication and data irrespective of a person's location. The banking and payments industry is predicting that mobile banking is going to be the next big revenue generator.

It is expected that there would be 200 million rural connections by 2012, up from the current 90 million. Thus, the use of mobile devices for payment and banking services can be the best suited model for branchless banking in India.

Limitations of Business Models

When RBI allowed banks to use mediators to reach out to the rural poor population in 2006, the business correspondent (BC) model offered a' win-win' situation for lenders, borrowers and mediators. On one hand, the bank does not have to invest in infrastructure to reach the un-banked areas and on the other hand, borrowers are assured of easy access to financial services. However two years down the line, the flaws in the system have proved to be a stumbling block. Banks usually identify correspondents, who are locally settled retired post-masters, schoolteachers, bank staff and even defense personnel. An ideal BC model envisages large cost reductions while including the poor in the financial system. However, the model has not achieved the desired results because of following limitations

The requirement of a BC to be within 15 km radius of a rural bank branch as notified by RBI was a hindrance for banks that do not have many rural branches.

Inadequate capital and human resource are the issues that need to be addressed for the model to be implemented successfully. Banks see it as a tough job to identify and train a large number of non-bank professionals to reach out to the poor.

In addition to operational problems there is a question mark over the viability of the model itself. One of the key issues constraining the reach of banks to the un-banked areas is the prime lending rate (PLR) cap on banks' lending. Experts point out that PLR lending is not viable, as microfinance institutions (MFIs) are exempt from the PLR model.

Financial inclusion in India – The way forward

The government of India and RBI have come out with a major initiative towards ensuring the inclusive growth through financial inclusion so that the access of financial service will reach to the mass population. As Reserve Bank of India data shows that as many as 139 districts suffer from massive financial exclusion, with the adult population per branch in these districts being above 20,000 and only three percent with borrowings from banks. On the assumption that each adult has only one bank account (which does not hold good in practice, so that actual coverage is likely to be worse) on an all India basis, 59 percent of the adult population in the country has bank accounts. 41 percent of the population is, therefore, unbanked. In rural areas the coverage is 39 percent against 60 percent in urban areas. The unbanked population is higher in the poorer regions of the country, and is the worst in the North-Eastern and Eastern regions.

Financial Inclusion should include access to Financial Products and Services Like-

No frill Bank accounts – check in account

Micro Credit
Savings Products
Remittances and Payment Services
Insurance - Healthcare
Mortgage
Financial Advisory Services
Entrepreneurial Credit
Pension for old age
Business Correspondence and Self Help Group
Branchless Banking
Micro Finance and Micro Credit Facility
Investment Plan for Child's Education
Pre-Requisites for the Success of Financial Inclusion
Appropriate Technology
Appropriate and Efficient Delivery Model
Mainstream Banks' Determination and Involvement
Strong Collaboration among Banks, Technical Service Provider, and BC Services
Especially the state administration at grass-root level
Liberalization of BC Model

Financial Exclusion

Financial exclusion could be looked at in two ways: Lack of access to financial services which could be due to several reasons such as: Lack of sources of financial services in our rural areas, which are popular for the ubiquitous money lenders but do not have (safe) saving deposit and insurance services. High information barriers and low awareness especially for women and in rural areas.

Inadequate access to formal financial institutions that exist to the extent that the banks couldn't extend their outreach to the poor due to various reasons like high cost of operations, less volume and more number of clients, etc. among many others.

Poor functioning and financial history of some beleaguered financial institutions such as financial cooperatives in many states which limit the effectiveness of their outreach figures. Some Attributes of Informal Financial Services, due to which there is Exclusion, are: High risks to saving: loss of savings is an easily discernible phenomenon in low income neighbourhoods in urban areas.

High cost of credit and exploitative terms: credit against collateral such as gold is even more expensive than the effective interest rates, similarly, rates paid by hawkers and vendors who repay on daily basis are very high.

High cost and leakages in money transfers: the delays in sending money home through all informal channels add to these.

Near absence of insurance and pension services: life, asset, and health insurance needs:

Scope of financial Inclusion comprises: Recent developments in technology have transformed banking from the traditional brick-and-mortar infrastructure to a system supplemented by other channels like automated teller machines (ATM), credit/debit cards, internet banking, online money transfers, etc.

The Reserve Bank of India (RBI) has enabled branchless banking by facilitating the business correspondent/facilitator model, enabling non-government organizations, micro-finance bodies, co-operative societies, grocery shops, PCOs and individuals to collect small deposits, disburse and recover certain loans, and also sell other financial products, like insurance, pension and mutual funds, and to handle small remittances and payments. But is it also true that while a large number of no-frills accounts have been opened; those that are operational have yet to reach a meaningful level? On its part, the government has also unveiled a number of initiatives to mainstream the marginalized, like making small borrowers eligible for another loan, issuing them credit cards without security, asking banks to adopt one district for 100 percent financial inclusion, and establishment of the financial inclusion fund and the financial inclusion technology fund. This apart, there are over 83 million Kisan Credit Cards for extending easy credit to the farmers. Similarly, there are over five million self-help groups (SHG) having savings of almost ₹ 40 billion.

The Reserve Bank of India (RBI) today said that financial inclusion is not restricted merely to opening of bank accounts and should imply provision of all financial services like credit, remittance and overdraft facilities for the rural poor.

Regulatory Challenges

The RBI circular on Business Correspondent Model allows, NGOs/ MFIs set up under Societies/ Trust Acts, Societies registered under Mutually Aided Cooperative Societies Acts or the Cooperative Societies Acts of States, section 25 companies,

and Post Offices to act as Business Correspondents. Most organizations incorporated in these forms have social mandates, with less emphasis on business model. The present guidelines exclude NBFC MFIs from the ambit of being a Business Correspondent. The current experience of MFI outreach in India shows high growth and outreach to the poor, and at the same time, limitations on the types of financial services that can be offered by them. The BC framework allows for this to be corrected. However, currently, the legal form that allows MFIs to grow in size and scale and access greater resources is not permissible as a Business Correspondent. Most MFIs incorporated under other legal forms, permissible under the BC framework; aim to reregister as NBFCs to attract capital for expansion and scale of business. Non Banking Finance Companies (NBFCs) should be brought under the ambit of Business Correspondent framework, as they not only serve the need of scale through their high outreach, but also have access to resources for professional management of an enhanced responsibility through the BC model.

Associated Challenges

From the perspective of the banks, providing such services would have various risk associated with it. The major risks to the banks are legal, reputation and operational risks. These risks are to be managed with tight and regular monitoring, developing systems and procedures and by developing effective risk mitigating tools and matrix. The banks can consider evaluating these institutions through various bench mark indicators and procedures like:

Capital Adequacy
Governance
Liquidity of the institution and placing minimum
Liquidity at banks concerned in the form of deposit
Systems and procedures

Regular inspection of the BC either through in house or external auditors

NBFC-MFIs, registered with the RBI could be monitored with appropriate and tight controls, systems, procedure and risk mitigating tools and other bench mark norms like CAR and liquidity, including penalty and withdrawal as business correspondents.

Financial Deepening

There is a general consensus among economists that financial development spurs Economic growth. Theoretically, financial development creates enabling conditions for growth through either a supply-leading (financial development spurs growth) or a demand following (growth generates demand for financial products) channel. And that will lead to the growth of different financial products in India

Conclusion

Financial Inclusion has been a catch phrase for the past few years. Delivering financial services to all sections of the population will remain a challenge that central banks around the world will face over the next few years. Increasing educational level means more financial inclusion; therefore a literate population must be created in order to create a meaningful financially included population. Innovation and out-of-the-box thinking are what has made the World what it is today. We can never be complacent with what we have or what we have achieved, the human life is an endeavour for progress and a better life. This should be the case with Financial Inclusion; we cannot become complacent and become victims of our own success. Not only should people have access to basic financial services but should also actively use them. A modern and a globalized economy cannot be successful unless it is inclusive. With enthusiasm and foresight, this challenge would be overcome rather simply. We should not lose the enthusiasm with which we started and that mediocrity or partial success cannot be considered as same as success.

Developing and under-developed economies all over the globe are looking for new modes and means to contain poverty and include their citizens in the financial system. It is becoming increasingly apparent that addressing financial exclusion will require a holistic approach on the part of the banks in creating awareness about financial products, education, and advice on money management, debt counseling, savings and affordable credit. The banks would have to evolve specific strategies to expand the outreach of their services in order to promote financial inclusion.

The main focus of the banks in the country has been towards using business correspondents for reaching out to the unbanked population. However, with the increasing penetration of

telecommunications in the country and greater reach, mobile based business models (also referred to as M-Banking) will prove to be instrumental in realizing branchless banking and taking it to higher grounds by enabling low cost and real time transactions over secure networks.

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Perception and Performance
Administrator vs. Teacher

Jayanta Kishore Nandi

Abstract

This paper is aimed at finding out the teachers' perception towards their performance and their top level authority's basic administrative skills. The paper reveals that faculty members perceive that top level authority's basic administrative skills influence their performance. Also, it states that an effective and efficient education administrator (that is, principal/ director/campus head) requires all three types of skills - hard, soft and human skills which can be clubbed broadly in eight basic areas. Though, the priorities of these administrative factors are different all the factors are important enough.

Key words:

Teacher, Perception, Administration, Skill, Performance.

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Teaching is one of the oldest and a noble profession which has no specific history as all through human history people have learnt and have gone through the hands of teachers. The dictionary meaning of teacher is 'one who teaches or instructs; one whose business or occupation is to instruct others; an instructor; a tutor' (Accurate and Reliable Dictionary, 2010a). However, in the old age it was in the gurukul system where gurus (teachers) interacted with shishyas (students) in an organized way. The gurus educated their shishyas in various field by sharing their knowledge, ideas, thoughts, and philosophies. After acquiring those, the shishyas rendered their services for their gurus and for the development of society. We can observe that the similar system was adopted by the Greeks where gurus and philosophers were approached by shishyas to gain knowledge. Raviya (2009) stated that, as per Indian tradition, teachers can be classified in to three categories of hierarchy: a shikshaka, an acharya and a guru. Shikshaka is a person who only imparts instructions to others (shishyas/students). Acharyas (or masters) not only instruct but also teach the code of conduct (acharya) to their shishyas/

students. Gurus are the highest position of ladder and are central points of the gravitational force that appears to attract by the utter power and drag of knowledge in its totality; as around them the entire universe of knowledge seems to resolve.

Teachers shape the root of the education system, by producing the young people to build their country with idea and responsibility and meet the challenges of future with confidence. They are the societal engineers and custodians of future, as teachers' personality affects the students' attitude, behaviour, and their interpersonal relations. Now, in today's economic melting down scenario basic responsibilities lay to the teacher to produce intellectual and tangible products (i.e., students) in such a way so that they can compete with others in any state of affairs and at any point of time. By doing this, the society can be uplifted economically and socially, simply. If any example of any great man, whose inventions and discoveries have shaken and civilized the world, is considered; we can find that all of them were taught by particular individuals to whom they attribute credit. If the teachers are outstanding in subject knowledge, skills and values, the nation is bound to have excellent citizens. According to Courtis, Stuart A.: "A teacher is an agent appointed to develop citizenship who can live successfully in the culture of the country" (as cited in Parvez, 2009, p. 15). So, we can say that teachers play a dominant role to develop the society by performing sound their duties quantitatively and qualitatively. Now, the question comes in mind 'What are the determinants of teacher's performance?'

As per Raviya (2009) good teachers are those who are very competent as far as their subject knowledge is concerned, good communicators, able to write with ease and grace on any topic, self reliant and self confident, punctual, honest, life-long learners, unbiased in evaluation, good motivators, good problem solvers, organizers, prompters and good human beings. Teachers, to be called professional, should have both the behaviours in their – the capability to do (professional competence i.e., mastery of the subject knowledge and its efficient delivery), and the spirit to do (the professional commitment and veracity (Padhan, 2009). In other words, it can be stated that an effective teacher should have a positive attitude towards teaching profession; and commitment and dedication towards teaching function. Hence, ideal teachers need to be extremely proficient with commitment, devotion and dedication to their duty.

Airasian (1974) stated that competent teachers must have good knowledge of child development, of the material to be taught and suitable methods. Their skills must facilitate them to teach, advise and guide their students, community and culture with which they are involved. Also, their attitudes should be positive without being aggressive, so that their examples are likely to be followed as they transmit explicitly and implicitly their values. Thus, affective competencies mainly focus on teachers' feelings, awareness of self and others, inter-personal relationships including students which facilitate teachers in designing their teaching strategies considering the students' learning and emotional needs.

National Council for Teacher Education (NCTE) suggested 10 basic competencies in curriculum framework for quality teacher education (1998), reflecting on the role of future teacher as proficient people, learning facilitator, effective communicator and community partner. These suggested competencies are as below:

1. Contextual competencies – to provide a broader view of the educational development in society and teachers' role in it.

2. Conceptual competencies – to offer the concepts of education and learning psychological, sociological and neuro-physiological aspects of education, etc.

3. Content competencies – to enable to identify focus on special attention on content enrichment and correlate factors that contribute joyful content leaning.

4. Transactional competencies – to internalize entirely their functions as transmitters and facilitators of learning.

5. Competencies related to other educational activities – such as planning and organizing morning assembly, and other activity to imbibe humanistic and moral values, etc.

6. Competencies to develop teaching-learning material (TLM) – such as classical TLM, new educational technology, and local resource, etc.

7. Evaluation competencies – developing methods and techniques of evaluation which do not discourage and disappoint students.

8. Management competencies.

9. Competencies related to parental contact and cooperation: building and maintaining meaningful parents-teachers interaction.

10. Competencies related to community and other agencies.

Arnon and Reichel (2007) suggested eight qualities of an ideal teacher:

1. General personal qualities. It includes good sense of humour, kind hearted, calm, fair, optimistic, humane, stubborn and principled

2. Empathic attentive - flexible, non discriminating, sensitive to children and parents, forgiveness and open

3. As a leader of the class - authoritative, self confident and disciplined, and a role model.

4. Positive attitude and motivation towards the profession

5. Wide general knowledge and well versed in many subjects

6. Sound and up to date subject knowledge

7. Didactic knowledge. It includes use of variety of teaching methodology, educationally creative, reliable, and problem solver

8. Didactic knowledge focused on the pupil: respect to different pupils, energize and encourage students in participation

Cathy (2008) suggested 10 qualities of a good teacher. He is of the opinion that good teachers should have self confidence despite of setbacks, patience to every aspects, the ability to look at life and explain topic differently, dedication to excellence, unwavering support to poor students even, willingness to help students achieve, pride in students accomplishments, passion for life, and true compassion for their students. He emphasized more on the attitudinal and behavioural aspects rather than knowledge and other required skills.

From the above stated background it is very much evident that so far, it has been recommended and considered by most of the people that teachers' performance can be improved by possessing or acquiring the fundamental qualities, such as: good communication skills, good appearance and presentation, punctuality, proper utilization of time, updating with new thoughts, ideas and philosophies; fair evaluation, positive attitude, self confidence, dedication, good relationship with students and peers, taking feedback from students peers and superiors, etc. All these above factors are external and imposed upon the teachers. Means, if they are lacking in any area out of these they have to develop in that field without any alternative. But, are these only responsible factors for teachers' performance or are there more factors to be considered like environment (in and around where they work), attitude and basic administrative skills of their top level authority? I personally believe that these factors are also equally important along with others to improve the teachers' performance. But, unfortunately, a very few of us think about these factors and teachers' own expectations. This paper is aimed at findings out the teachers' perception towards their performance and their top level authority's basic administrative skills.

Now let us discuss the meaning of the key words – perception, administration, skill, and performance.

Perception

Perception is a process by which individuals organize and interpret their sensory impressions in order to give meaning to their environment (Robbins, 2002, p. 122). The key words in the definition of perception are selection and organization. Different people often perceive a situation differently, both in terms they perceived and what they selectively perceive. Applied to organizational behaviour, employees perception can be thought of as a filter, as perception is largely learned and each individual has different learning and experience, intelligence, background, physical and mental age, interest, mobility and personality, then every employee has a unique filter and the same situations may produce different reactions and behaviours. An example would be that superiors think that subordinates always want promotions, when, in fact, many really feel psychologically forced to accept a promotion. Sometimes subordinates do not know whether the promotion should be offered or not, though superiors seldom attempt to find out. In other words, the perceptual world of the superiors

is quite different from the perceptual world of the subordinate, and in some cases both may be totally different from reality.

Administration

According to one group of writers, Sheldon (1932), Spriegal (1952), and Milward (1960), administration involves 'thinking.' It is a top level function which centers around the determination of plans, policies and objectives of an organization. Administration is that phase of a business enterprise which concerns itself with the overall determination of institutional objectives and the policies necessary to be followed in accomplishing those objectives (Spriegal 1957, p.548).

Now we can say, administrator is the person who determines plans, policies and objectives of an organization and handles and manages or directs its affairs. The governance of non-business organizations (such as – Government, army, church, institute, etc.) is generally called administrator and the above stated activities, which an administrator performs, is called administrative work.

Skill

Skills are abilities to execute certain definite tasks for a specific reason such as machinists have the skills to operate a lathe machines, accountants have bookkeeping skills to fulfill their jobs (Andrews, 2009, p. 25). In other words, we can say skill is an individual's ability to translate knowledge into action. In order to be able to successfully discharge their roles, administrators should possess three basic skills – hard skills (technical skills), soft skills (conceptual skills) and human skills.

Hard skill means those skills, which are acquired through academic education or through work experience. Project engineer, physicians and accountant all have the hard skills (which are also called as technical skills) by completing recognized programmes of study at colleges and universities. Then, they gain experience in actual work situations, having their skills before actually becoming research and development manager, chief of surgery or partner in a certified firm.

It is not necessary that all the hard skilled persons will be successful in their respective work, some of them may be very successful and some may not be so successful. This difference occurs due to possession of soft skills. The successful administrators would think of improving the quality of their works, make some innovations, etc., and those are on account of the fact that they possess certain soft skills (conceptual skills). These soft skills include the ability to think in abstract, the ability to analyze the forces working in a situation, the creative and innovative ability and the ability to assess the environment and the changes taking place in it.

Human skills are needed to get along with people, to get work done through people or to motivate individual or work group performances. Human skills include inter-personal skills such as communication, negotiation, bargaining, leading, influencing, motivation, discipline and conflict resolution, etc.

In this paper, top level authority is being considered as the head of the institute (i.e., principal or director or campus head). They are the actual administrators in the institute as only they perform most of the required administrative activities of the institute. Successful operation of an educational institute especially professional institute requires competent administrator. Educational administrators (i.e., principals/ directors/ campus heads) set educational standards and goals and establish the required policies and procedures to achieve them. They develop academic programmes, monitor students' academic progress, train and motivate teaching and non-teaching staff members, prepare financial budget, supervise record keeping, visit classrooms, observe teaching methods, review instructional objectives, examine learning materials, hire and evaluate teaching and non-teaching staff members, and perform many other duties such as – handling, discipline issues, resolving conflicts between students, teaching and non-teaching staff, parents or combination of conflicts between various individuals. They also handle relations with parents, prospective and current students, alumni, employers, representatives of community organizations, university, other institutes, and the board of governors of the same institute. In a small institute only the principal may handle all these functions, while as in large and big institute responsibilities are divided among other many functional administrators. In such institutes also, principal is the key person to coordinate and monitor all functional administrator's activities.

Many jobs require a master or doctoral degree and experience in related occupation. Principal's position is such a job. In India, Ph.D. with 15 years experience including five years in administrative position is mandatory for principal or director

position in institute. Recently, the All India Council for Technical Education (AICTE), New Delhi has reduced the years of experience and made it 13 years. But, still many universities prefer minimum 15 years experience.

Bureau of Labour Statistics (2010) USA suggested that to be considered for education administrator positions, workers must first prove themselves in their current jobs. Supervisors look for leadership, determination, confidence, innovativeness, and motivation; while evaluating candidates. The capability to make sound decisions and to organize and coordinate work efficiently is necessary. A person in such a position must have strong interpersonal skills, and be an effective communicator and motivator; as much of an administrator's job involves interacting with others. Knowledge of leadership principles and practices, which are gained through work experience and formal education, is important. Knowledge of computer technology is a necessity for many of these workers as computers are used to perform their basic job.

Sinha and Chandrasekar (2009) are of the opinion that higher academic institutions should be administered by creative minds, because higher education is highly interconnected with social, political and economic aspects of the country. They emphasized on nine roles of an effective academic leader namely: capacity building (ability to perform functions, solve problems, and set and achieve goals), industry-institute interaction, use of financial resources, deployment of staff and allocation of time (creating incentives to encourage the relocation of staff to fulfill students' need in a better way), developing human resources, developing data infrastructures, autocratic leadership, effective communication and empowering others to make significant decisions.

Kurup (2010) stated that an effective principal must understand the dynamics of all stakeholders – management (i.e., board of governors), teaching and non-teaching staff members, parents, students, socio-political activities, university and government authorities. Also, they mentioned that a principal's primary role is to provide institutional leadership in academic and administration, which entails four sets of functions to achieve institutional goals – planning, organizing, directing, and control.

Vijaykumar (2009) mentioned that besides subject knowledge and pedagogic skills, a professor is required to be a leader, initiative taker, innovator, institution-builder, and manager, etc. Director of a technical education is required to be familiar with the region and its educational problems should have the competency to guide large number principals of different colleges, should be able to establish management system to keep information, monitor school performances and suggest innovative schemes to the colleges involve in the community in the region.

From the above background it is very much evident that, an effective and efficient education administrator is required all three types of skills – hard, soft and human skills. After clubbing all these required competencies and skills we get broadly these basic areas – subject knowledge and confidence, commitment towards the institute, communication, personal attention, leadership quality, recognition for extra ordinary performance, discipline, conflict handling and negotiation skills, creativity and innovativeness, and motivation, etc.

Performance

'Performance is the act of performing; of doing something successfully; using knowledge as distinguished from merely possessing it' (Accurate and Reliable Dictionary online, 2010b). In other words, we can say, performance is the way of job or task is done by an individual, a group or organization.

To know the teachers' perception towards their performance and their top level authority's basic administrative skills, the researcher conducted a study in India, especially in the Maharashtra state.

Data Collection

The required data has been collected from the primary sources by getting the questionnaire filled up by teachers/faculty members (respondents) of various professional institutes like engineering and management. The respondents were informed that the questionnaire is not to evaluate their performances, but to search for alternative action to improve their performances as well as overall performance of the institute. Also they were informed that this research work is being carried out after taking the permission from the institutional head. Some information was collected directly by taking interview of respondents.

Sample

First of all questionnaires have been circulated among around 300 respondents. After getting filled in, those have been

collected from them. We have got back 132 filled in questionnaires. From those 132 respondents, 100 have been selected randomly and also, 80 respondents have been interviewed latter on. Out of these 100 respondents 23 percent are female and the rest are male. Age group in between 23–30 years, 30–40 years, and above 40 years are 20 percent, 70 percent and 10 percent respectively.

To check the reliability of the framed questionnaire test retest method has been implemented. For this purpose 50 questionnaires were distributed among 50 respondents who filled in the questionnaire on the day one and after one month. Out of those 50 respondents only 30 filled in both the time – on day one and after one month. To get better result the sequence of sentences were changed in the questionnaire that has been used after one month. After collecting the questionnaires, the sentences have been rearranged with selected options as per the original format. Later on, correlation coefficient of mean values of eight different parameters between the day one and after one month has been calculated. The value of correlation is found 0.72936 which reveals that the questionnaire produces the consistent result.

Hypothesis

Teachers have perception that top–level authority's basic administrative skills influence their performance.

Analysis and Interpretation of Data

Measures of the respondents' perception have been obtained by using 5 point Likert Scale, which are 1 = strongly agree, 2 = somewhat agree, 3 = neither agree nor disagree, 4 = somewhat disagree, 5 = strongly disagree. There are 32 statements covering eight areas of administrative practices in institute: personal attention (statement 1,9,17 and 25), knowledge and confidence of the top level authority (statement 2,10,18 and 26), commitment towards institute (statement 3,11,19 and 27), communication (statement 4,12,20 and 28), recognition for extraordinary performance (statement 5,13,21 and 29), conflict resolution skills (statement 6,14,22and 30), discipline (statement 7,15,23 and 31) and leadership skills (statement 8,16,24 and 32). Some additional questions, such as, why do they think so, etc., were forwarded to the respondents directly in interview.

Table 1

1 – strongly agree, 2 – somewhat agree, 3 – neither agree nor disagree, 4 – somewhat disagree, 5 – strongly disagree.
Statement: *My performance will be improved progressively if my top - level authority:*

Statement	1	2	3	4	5	Mean
1. is highly concerned with the feelings of the employees.	25	63	12	0	0	1.87
2. is well qualified and technically competent to do his/her job.	75	0	13	12	0	1.62
3. always figures out for a good opportunity in the future.	50	37	13	0	0	1.63
4. tells me how well I should do my job.	25	37	14	24	0	2.37
5. recognizes my importance to achieve the institutional goals.	75	25	0	0	0	1.25
6. resolves the conflict which I have with others, at the lower level without buying more time.	25	13	0	25	37	1.51
7. takes the disciplinary actions stringently against the accused party.	25	25	13	25	12	2.74
8. invites suggestions in strategic decision and considers those seriously before reaching to the conclusion.	50	37	0	13	0	1.76
9. appreciates when I share my personal problems with him.	25	25	25	25	0	2.5
10. has strong confidence in managing employees.	50	50	0	0	0	1.5
11. is highly committed to the success of the institute.	75	13	12	0	0	1.37
12. asks employees' opinions on how to improve employees' and students' performance.	63	37	0	0	0	1.37

13. appreciates my extra-curricular activities for the development of students and others.	75	25	0	0	0	1.25
14. resolves the conflict and produces good solution with win-win situation to both the parties (me and other party).	50	13	25	12	0	1.99
15. is well disciplined and doesn't tolerate any undisciplined activity in the institute.	38	25	37	0	0	1.99
16. delegates authority and permits to set target and solve problems myself.	50	38	12	0	0	1.62
17. always asks about my condition and my family.	13	38	37	12	0	2.48
18. brings laurel to the institute through his intellectual capital, continuously.	25	63	12	0	0	1.87
19. puts his most of the efforts to achieve the institutional vision and mission on time and works beyond the scheduled time to strengthen it.	50	25	25	0	0	1.75
20. makes me very clear about my institutional goals and objectives.	88	12	0	0	0	1.12
21. appreciates me for my personal achievements in the society.	63	12	25	0	0	1.62
22. doesn't force any involved party in conflict resolution to accept other's point strongly but put forward the actual situation in-front of us.	37	50	13	0	0	1.76
23. bears good and moral ethical values.	63	25	0	0	12	1.73
24. establishes high challenging goals for us and gives full authority and responsibility with high confidence about my capability.	50	25	25	0	0	1.75
25. helps me to solve my personal problems on priority basis.	25	25	38	12	0	2.37
26. is well respected by most of the people he/she lead.	38	37	25	0	0	1.87
27. considers the institute's problems more significant than his/her personal problems.	75	25	0	0	0	1.25
28. informs me undoubtedly how my job contributes to the institute's performance.	75	25	0	0	0	1.25
29. implements fair incentive schemes and promotional policies.	50	38	12	0	0	1.62
30. resolves the issue on priority basis which I do have against the system/procedure in the institute.	50	38	0	12	0	1.74
31. practices transparency in all rules and regulations relating to students and employees.	63	25	12	0	0	1.49
32. establishes schedules for the work to be done and maintains specific standards of performance.	63	25	12	0	0	1.49

Table 2

Mean, Standard Deviation, Standard Error and Confidence Intervals (CI) at 95 percent confidence

Cluster/Parameter	Number	Mean	Standard Deviation	Standard Error	Upper limit (UL) of CI	Lower limit (LL) of CI
Personal attention	400	2.305	0.948274	0.047414	2.39745	2.21254
Knowledge and confidence of the top level authority	400	1.715	0.877834	0.043892	1.80058	1.62941

Commitment towards institute	400	1.5	0.707992	0.0354	1.56902	1.43097
Communication	400	1.5275	0.825195	0.04126	1.60795	1.44704
Recognition for extra-ordinary performance	400	1.435	0.657156	0.032858	1.49907	1.37092
Conflict resolution	400	1.75	1.33484	0.066742	2.34264	2.08235
Discipline	400	1.9875	1.192013	0.059601	2.10372	1.87127
Leadership	400	1.655	0.817095	0.040855	1.73466	1.57533

Table 3

Percentage (%) Distribution

Cluster/Parameter	**(1) Strongly Agree**	**(2) Some what Agree**	**3) Neither (Agree nor Disagree**	**(4) Some what Disagree**	**(5) Strongly Disagree**
Personal attention	22 %	37.75 %	28 %	12.25 %	0 %
Knowledge and confidence of the top level authority	47 %	37.5 %	12.5 %	3 %	0 %
Commitment towards institute	62.5 %	25 %	12.5 %	0 %	0 %
Communication	62.75 %	27.75 %	3.5 %	6 %	0 %
Recognition for extraordinary performance	65.75 %	25 %	9.25 %	0 %	0 %
Conflict resolution	40.5 %	28.5 %	9.5 %	12.25 %	9.25 %
Discipline	47.25 %	25 %	15.5 %	6.25 %	6 %
Leadership	53.25 %	31.25 %	12.25 %	3.25 %	0 %

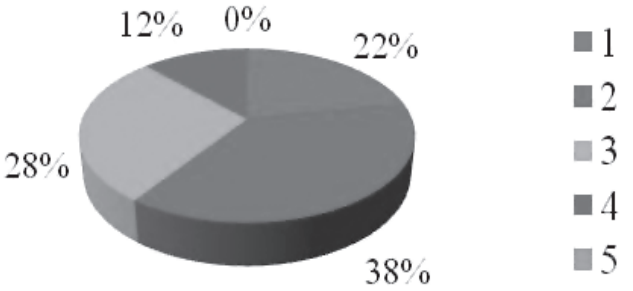
Table 4

Ranks of Average Score

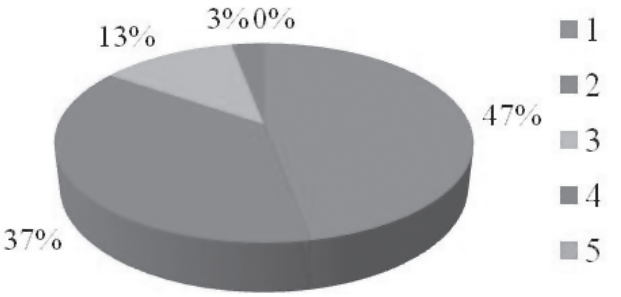
Cluster/Parameter	**Number**	**Mean**	**Ranks**
Personal attention	400	2.305	8
Knowledge and confidence of the top level authority	400	1.715	5
Commitment towards institute	400	1.5	2
Communication	400	1.5275	3
Recognition for extraordinary performance	400	1.435	1
Conflict resolution	400	1.75	6
Discipline	400	1.9875	7
Leadership	400	1.655	4

Figure 1 (Pi Chart)

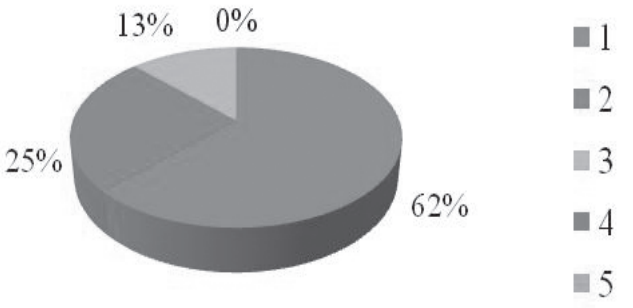
Score of Personal Attention in Percentage



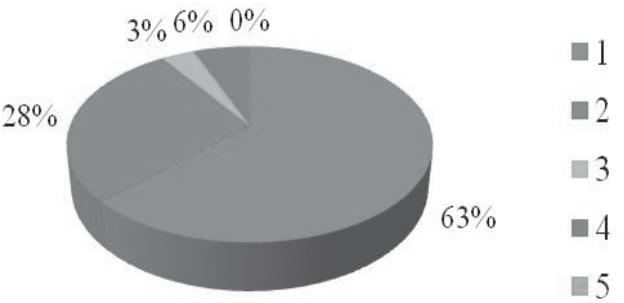
Score of Knowledge and Confidence of the Top Level Authority in Percentage



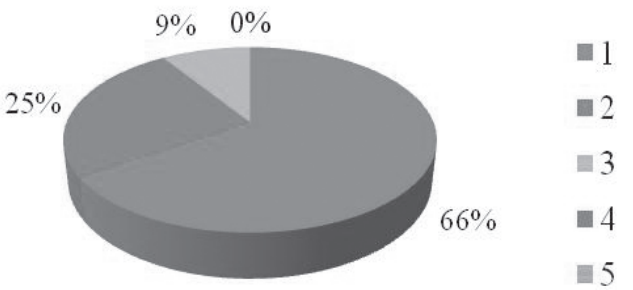
Score of Commitment towards Institute in Percentage



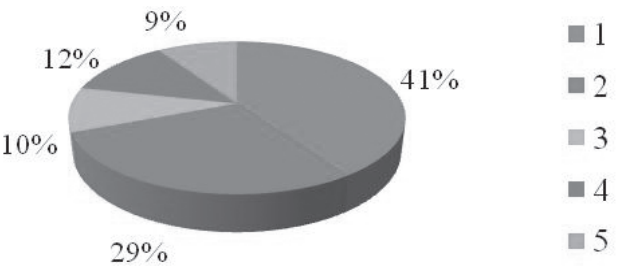
Score of for Communication Percentage



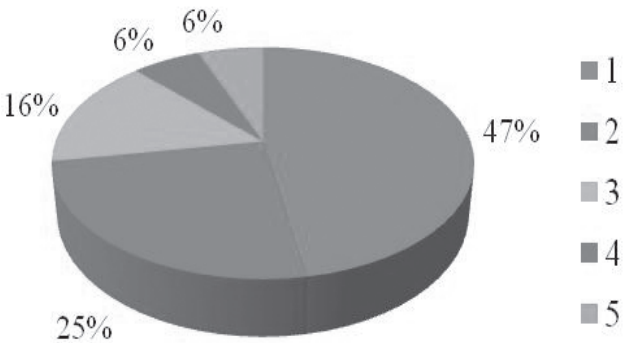
Score of Recognition for Extraordinary Performance in Percentage



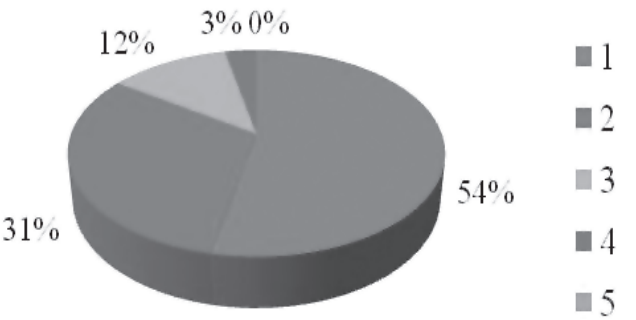
Score of Confcilt Resolution in Percentage



Score of Discipline in Percentage



Score of Leadership in Percentage



Personal Attention

The mean score of the personal attention factor shows that this factor is the least important one to motivate faculty members to improve their performances. This finding is interesting because it reveals that faculty members do not need more personal attentions in their family life. Also 60 percent faculty members told that they are not interested to discuss their personal problems with their top authority: neither they would like interfere from their top level authority to solve their personal family problems, which they solve by taking suggestions from their friends and relatives, if needed. It seems that faculty members are neither very much free with their top level authority in relation to their personal family problems nor they intend to share it with top level authority. So, here, there is a big gap between both the parties, which can be reduced to maintain the friendly relationship. Thirty five percent faculty members told that they have fear in their mind and as they don't feel at ease before their top level authority, they never approach to the authority to have a solution of their personal problems. Five percent faculty viewed that though sometimes they approached to the authority to have a solution but they did not get the fruitful result in time resulting in they changed their way to find out solution. From Table 1 it is very much evident that employees' feelings got top priority under this category, as the mean value 1.87 as the least one.

Knowledge and confidence of the top level authority and conflict resolution

Knowledge and confidence of the top level authority and conflict resolution got the fifth and sixth priority, respectively (Table 4). It reveals that the faculty members believe that top level authority's knowledge, technical skills and conflict resolution mechanism does not influence that much to improve their performance.

Commitment towards Institute

Data reveals (Table 4) that top level authority's commitment towards institute is the second important factor, which influences performances of faculty members. Here, the first priority goes to the top level authorities' commitment to the success of the institute rather than their personal problem, as the mean value 1.25 (Table 1) is the least one.

Communication

Top level authority's communication is the third important factor (Table 4). This data reveals that top level authority's capability to explain the duties, responsibilities and goals, is also very important factor in motivating faculty members to improve their performances.

Recognition for Extra Ordinary Performance

The mean score of the recognition (Table 4) shows that this is the most important factor which influences faculty members to improve their performances. This is more important because it reveals that faculty members need more recognition for outstanding performance, rather than other seven factors. Also, faculty members want a top level authority, who recognizes them for their extra-curricular activities, personal achievements, the importance of faculty members to achieve institutional

goals, and implements fair incentive schemes and promotional policies. However, 70 percent of the respondents state that this kind of top level authorities do not exist in their institutes.

Leadership

Top level authority's leadership skill is the fourth important factor to the faculty members to improve their performance. Faculty members prefer to have supportive and participative leader.

Discipline

Top level authority's discipline is the seventh important factor (Table 4) to faculty members in improving their performances. The least preferred area here is the stringent disciplinary action against the accused party.

Conclusion

From the above statistical analysis and discussion it can be concluded that, the results support the hypothesis. It means, faculty members believe that top level authority's basic administrative skills influence their performances. Though, the priorities of all factors are different but mean scores are lesser than three in every aspect (Table 4). It reveals that all factors are important enough. In order to improve the performances of the faculty members and the institute as a whole, the institutional heads are requested to provide the adequate facilities as per the expectations of the faculty members rather concentrating more only on traditional approach. Also, the faculty members are suggested to update themselves with new thoughts, ideas and philosophies as per the feedback and suggestions of their top level authority. Here, the conclusion has been drawn based on the data collected from only technical institutes and that too from a single state in India, so the result may not be capable of being generalized for all the institutes. Except this limitation, the finding of this study will provide a new vista in developing the performance of the faculty members as well as the whole society.

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Jewel to Rust: Sleazy Co-operative Sector

Shalini Talwar

Abstract

The inherent flaws of co-operative banking have made it a hothouse of sleaze and corruption. Though MSCB has been the apex co-operative bank in Maharashtra since 1954 and has initiated major schemes for the sector, it has now run into trouble due to financial and professional indiscretions. It was superseded recently after the regulators found many deficiencies in it. The time is ripe for all to respond to the changing needs of this sector and reform it. There are lessons to be learnt from MSCB case.

Key words:

Co-operative: Banking, Bank Scams, MSCB, Bank Reforms.

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A Decade Ago.....

In my doctoral thesis, "Indian Banking: An Evaluation from Financial Perspective," submitted in 2002, I had identified 'The State of Co-operative Banks in India,' one of the key areas where intensive research needs to be undertaken. Excerpts from the chapter "Recommendations for Future Research" of my thesis are reproduced below:

The state of co-operative banks in India and a string of scams is something that cannot be ignored. This is one area that requires a lot of research input in terms of formulation of regulations and closer monitoring and supervision. A vigorous study is required into the health of the co-operative banks so that they can perform the role assigned to them more effectively and efficiently.

In the year 1964, depositors of the Ahmedabad-based Harshida Co-operative Bank were shocked one fine morning to find that the bank had downed shutters. The reason was that some

prominent members of the board of directors had embezzled funds and were absconding. The incident took place a couple of years before co-operative banks were brought under the supervision of the Reserve Bank of India (on March 1, 1966). Prior to this, these banks used to report only to state Registrars of Co-operative Societies (RCSs), with virtually no supervision.

History repeated itself in 2001. The depositors of Madhavpura Mercantile Co-operative Bank based at Ahmedabad received same rude shock that their compatriots had experienced in 1964, proving that dual supervision and control is no guarantee against scams. The history of co-operative banking is littered with various instances of such collapses.

If urban co-operative banks are in such deep trouble, why do we have them at all? The answer is that we do need them and cannot dispense away with them because they provide soft loans to small-scale industries, which are mostly ignored by commercial banks because of their inability to furnish collateral. Besides, it is not practical to shut them down forever.

A sector of a large magnitude as this cannot be ignored. We will have to find a way to prevent such frequent scams taking place in the co-operative sector. This requires an in-depth study of the ailments of these banks. Few apparent problems may be sighted here:

- Dual Regulation
- Ease of Setting a Co-operative bank
- Governance
- Political interference
- Asset-quality
- Low penalties
- Higher risk
- Lack of co-ordination between RBI and Registrar of Co-operative Societies

And, Now……..

Through all these years, almost a decade, nothing seems to have changed. One co-op bank after the other has gone down on account scams, misappropriations, NPAs, window dressing of accounts, and yes, political tug-of-power. The list of co-op banks running into trouble over the past decade is endless and there is no point in going into it now. Most of the cooperative banks got into trouble on account of shocking scams, malpractices and non-adherence to the prudential norms prescribed by the Reserve bank of India (RBI).

One of the main grouse against the sector has been that people are forced to invest in a co-operative bank under the statutory rules, even if they do not like it. For example, co-operative housing societies were directed by the law to put their funds with co-operative banks only. Housing societies have deposited their funds, worth crores of rupees with many co-operative banks that could get into trouble anytime. Although the government reassures depositors on the basis of insurance, the maximum amount the depositors can get, in case of default, is only ₹ 1 Lakh.

Even the Judiciary has expressed its concerns about the safety of public money. On 15 May 2010, Justice A.B. Chaudhari of the Nagpur Bench of the Bombay High Court, said, "It is a matter of concern, particularly in the state of Maharashtra, that crores of rupees of public money have been lost due to fraud played in co-operative banks. The directions issued by the state from time to time to invest or deposit the money with cooperative banks require a serious reconsideration and, in my opinion, recall thereof in order to avoid further loss of public money."

In one of the cases related to the sector, the Bombay High Court had sought an explanation from the Maharashtra government as to why it did not take any action against the directors of sugar cooperative factories that have defaulted on loan payment to a co-operative bank and gone into liquidation.

Few High Profile Co-operative Bank Scams

I will present the facts pertaining to a few co-operative banks scams that attracted media and public attention due to political involvement. Such discussion is relevant to the present paper as it puts the case of MSC Bank under scanner, a co-op supersession that has become a political drama.

It may be stated here that Maharashtra and Gujarat have been described by many experts as 'the hot beds of undesirable alliance between co-op banks and politicians.' The politicization of co-operative banking for vote bank enhancement and creating political strong holds has created a huge problem for regulators and depositors alike. Each year an alarming number of co-operative banks get into trouble and due to lack of political

will, no stringent measures are taken by the regulators to control the situation.

Maharashtra

A company named Home Trade was launched in the year 2000 with great fanfare. Eight Co-operative banks like Valsad People Co-operative bank, Navasari Co-operative bank from Guajrat lost around ₹ 80 Crores due to bad investments by this company including ₹ 82 Lakhs forgery in a Central Government Undertaking EPF scheme. The Chairman of Nagpur district Central Co-operative Bank was accused of being guilty of bending the rules to invest in government securities and preparing false documents in what is now called the ₹ 150 Crores Nagpur District Central Cooperative Bank's (NDCCB) government securities (g-secs) scam, the biggest cooperative bungle of its time. Apart from NDCCB, which took the biggest hit of ₹ 117 Crores, two other district cooperative banks of Wardha and Osmanabad were involved in the scam, taking the amount to around ₹ 150 Crores. Political bigwigs headed all three banks.

Pratibha Mahila Sahakari Bank was a cooperative bank founded in 1973 in Jalgaon in Maharashtra and a leading lady politician was its founding chairperson and later one of its directors along with many of her relatives. In 2003, RBI revoked the bank's license and many depositors lost their life's saving. Many had made deposits in the bank because such a well-known person had founded it. She is now one of the 34 respondents in an ongoing case on the subject of mismanagement of the bank and misappropriation of funds. She was accused of appointing all her relatives as directors of the bank and running the bank as a family business. Because of her influence, the bank gave loans to her relatives and to a sugar factory in which she was a director. Most of the loans, given without security, remained unpaid and had to be closed.

Madhya Pradesh

The then ruling government was accused of shielding bank officials involved in the scam of siphoning off of crores of rupees by cooperative banks of the state out of ₹ 914 Crores that the Centre had given to Madhya Pradesh for loan waiver of farmers. This was termed as one of the biggest scams in the cooperative sector in which officials embezzled ₹ 114 Crores.

Gujarat

The fall of Madhavpura Mercantile Co-operative Bank in 2001 following the Ketan Parekh securities scam had a domino effect on the financial health of nearly 60 co-operative banks in Gujarat. Lakhs of depositors lost their life earnings in the co-operative bank scams that came to light after that. At least three of those involved in the rackets contested elections under the banner of a national political party.

₹ 70- Crores Karamsad Urban Cooperative Bank (KUCB) scam was first reported in 2003, when discrepancies were pointed out to an Anand District Court on the loans of ₹ 7-8 Crores given to the relatives of the bank's trustees, followed by the cancellation of the bank's Reserve Bank of India license. The ₹ 129 Crores Panchmahal District Co-operative Bank scam, which rocked Gujarat in February 2003, is yet another case involving political bigwigs. A bunch of state co-operative banks went bust following the crisis at this bank.

The Case of the Maharashtra State Co-Operative Bank

Maharashtra has benefited a lot from the co-operative movement, which has completely altered the financial, social and political standing of the farmers in the state. The co-operative movement has positively impacted the availability and quantum of rural credit, agricultural marketing, artisans, small-scale and village industries, farming, housing and consumer societies. In short, co-operative movement has raised the standard of living in rural Maharashtra. On the flip side, the structure of co-operative bank lends itself to political interference, massive corruption, monopolistic use of funds, imprudent and unprofessional management etc. that ultimately result in turmoil and failure of so many co-operative banks.

Nepotism, financial mismanagement, imprudent lending and irregularities have strained Maharashtra's cooperative sector since quite some time. The sector, dominated by corrupt institutions, has rotted too much over the years. Many co-operative banks have run up huge losses and politicians pressurize the government to bail them out. Interference of political parties in managing co-operative banks as always been an issue with RBI and it has, time and again, issued notices to co-operative banks for blatant violation of best practices and prudential guidelines, raising questions on the sustainability of the co-operative banking model itself. But due to duality of control, the central bank has not been able to do much.

The 100 years old MSC Bank was regarded as the apex co-operative bank in the State and was recognized for pioneering work in the field of rural and agricultural credit. ***It was only in the last decade that the bank became sick on account of alleged financial mismanagement and diversion of funds to "non-core" sectors.***

The Whole Story of MSCB in a Nutshell

The MSC bank was established on 11 October 1911. The bank has been providing loans to the cooperative sector banks, district banks, sugar factories, new generation customers and farmers in rural areas and cooperative sector units since its establishment. It has helped agricultural credit and agricultural processing co-operatives a lot by providing re-finance facility to District Central Co-operative Banks that lend to the agricultural sector. It also supports finance to artisans and agro-industrial co-operatives-especially sugar factories and spinning mills by providing them both medium-term and interim loans.

It is one of the largest cooperative banks in Asia and virtually controls all credit to the cooperative sector that is the backbone of Maharashtra's rural economy. But now the bank has run into trouble on being found guilty of financial and professional indiscretions.

The bank has always garnered attention, not only due to its services and activities but also because it had been dominated by politicians for more than two decades and has had many political heavyweights on its board of directors. The latest list of directors included many powerful and influential names from across political parties.

In the month of May 2011, through its communication to the state government, RBI recommended that the board of MSC Bank should be dissolved and replaced by two administrators. RBI did this in response to NABARD's report (Annexure 1) that held the board of directors of MSC Bank responsible its problems. Following the RBI directive, the board was dissolved under Section 110 of the Maharashtra Cooperatives Societies

Annexure One: A Summary of Contents of the Nabard Report on MSCB

In a 169-page report, NABARD has observed that board of directors conducted the affairs of the bank against the interest of the depositors, concealed non-performing assets, completely ignored the statutory orders of the RBI, sold properties of borrowing units acquired under the Securitisation Act much below the reserve price, sanctioned loans without authorisation from NABARD, waived huge interest amounts in violation of the cooperative societies act and enhanced credit limits to units having negative net worth and above all it was operating without license.

NABARD found that determining the cash credit limits, release of pre-seasonal loans and short-term loans for cooperative sugar factories, the apex cooperative bank blatantly violated norms prescribed by the NABARD and RBI, as a result, while funds were sanctioned, the factories miserably failed to repay the loans.

According to the NABARD report, the MSC bank diluted the security norms and allowed drawals under sanctioned limit without receipt of government default guarantee and that it did not ensure observance of financial discipline by the cooperative sugar factories.

More shocking was the fact that four units were sold much below the reserved price. NABARD has disclosed that while the bank paid hefty amount (₹ 1.5 lakh) for fancy numbers for the cars of the chairman and vice-chairman, it also provided a swanky car for a politician though there was no request.

The NABARD report exposed how the bank indulged in frequent replacement of vehicles, purchase of a costly vehicle for the managing director, deployment of additional vehicles for chairman/ vice-chairman, providing vehicles to politicians without any request, allowing use of banks' vehicles by directors and staff for personal purpose at subsidised rates and payment for fancy vehicle numbers have hurt the bank.

Source: http://timesofindia.indiatimes.com

Act and the state-appointed administrators took over the functioning of the bank henceforth. Supersession of Maharashtra State Cooperative Bank board comes after regulators found many deficiencies in it.

Run-up to the Supersession

Study of related documents shows that RBI decision to supersede the bank came after much perseverance with MSCB to take care of various problems that were mounting in it. Experts believe that the decision was on anvil for some time and was expected to have come sooner. The supersession was done because all advise and warnings of RBI and NABARD fell on deaf ears of the board of the bank. The action was perpetuated by MSC Bank's dubious decisions on loan disbursements and non-compliance of nine out of eleven RBI directives. Before discussing the immediate triggers of this decision, let us take a look at the run-up to the supersession.

In words of NABARD Executive Director, Prakash Bakshi "This bank was already under various RBI directions for the last 13 to 14 years, but at the end of March 2010, its net worth became negative by ₹ 140 Crores because of the huge provisions the bank had to make on loans given to co-operative sugar factories and co-operative spinning mills."

In 2005, both RBI and NABARD warned the bank to reduce its exposure to the sugar sector because it was unacceptable that 50 percent of its ₹ 7,800 Crores loan portfolio comprised of the advances to the sugar co-operatives. They had also directed the bank to reduce the number of board members.

According to a NABARD official, "NABARD had repeatedly drawn the government's attention towards the negative rating in the backdrop of the declining capital between 2007 and 2010. Despite its negative net worth, MSC Bank had taken several loan decisions, which may not be prudent. NABARD, in its report, had asked the bank to make provisions for the same."

In brief, the NABARD report has charged the bank with misuse of power, fudging of accounts, and fiscal and administrative irregularities. Most outrageous of all was NABARD's statement that MSCB operated without a license under Banking Regulation Act, 1949 as it failed to maintain even the minimum required four percent capital-to-risk weighted asset ratio (CRAR) as prescribed by the RBI and had the nerve to enhance credit limits of borrowers with negative net worth.

Errors of MSCB by Omission and/or Commission

The MSC Bank has been found guilty of many glaring omissions and a number of deliberate and frequent unprofessional decisions. Unfortunately, the trouble simmering under the surface for years came to a boil in the 100th year of MSCB's existence. It is banking at its worst and does not bode well for the future of co-operative banking in Maharashtra. What hurts most is that MSCB is not just another tiny cooperative bank running into trouble due to financial transgressions. It was the nodal co-operative bank for the state that has a number of district and urban cooperative banks, sugar factories, spinning mills, processing and service societies etc. as its constituents. This broad presence and association is going to hurt even more. The fact remains that MSCB was flagrantly ignoring the strictures of prudent banking and asking for trouble.

The overindulgence and excesses committed by the leadership of the bank, led by a galaxy of politicians, has brought the bank to the verge of bankruptcy. The main problems and issues that the regulatory authorities had with the bank are exhibited in the Figure 1.

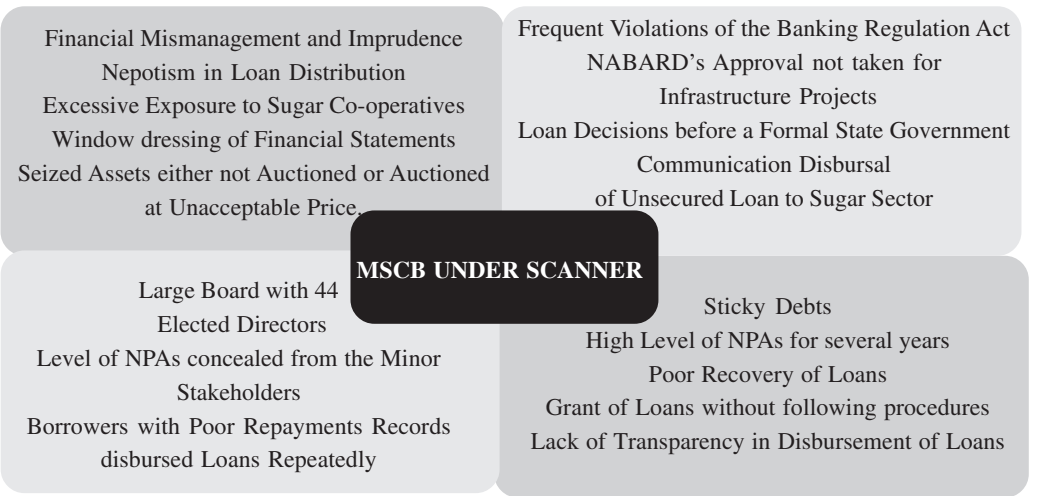
Bungling of Financial Statements by MSCB

Auditors and regulators have found several shortcomings in the bank's functioning. A statutory audit report for the financial year 2009-2010 points to issues raised in the past audits:

- High level of NPAs
- Deficiencies in credit proposals
- Inordinate delay in loan recovery
- Non-introduction of audit, stock audit and concurrent audit
- Violation of rules and regulations of the Banking Regulation Act and the Maharashtra State Co-operative Societies Act
- Grant of loans and advance to units in which directors or their relatives had a stake
- No laid-down procedure to process credit applications.

The statutory auditors downgraded MSCB to level 'D' in 2009-10 as it scored 31 out of 100 on various parameters. This grading indicates poor health and the need for a serious intervention.

Figure 1: MSCB under Scanner



Source: Developed by the Author

All the above faults are very serious but the most pejorative of all has been the large scale fudging of financial statements over the years. In the analysis below, I have presented, through charts, the financial information as published by MSCB on its website and highlighted the discrepancy in it as per the NABARD and auditors' report.

Decrease in Advances to Agricultural Sector

One of the accusations leveled against MSCB is that it had lost its relevance as main lender to agricultural sector. Almost 50 percent of its credit was extended to cooperative sugar factories, which account for nearly 60 percent of the NPAs as majority of them, are not in good financial health. Table 1 shows the declining share of advances to agricultural sector. The split of total advances between agricultural and non-agricultural sector is shown in Chart 1. The gap between the two sectors is shocking and completely unacceptable for a co-operative bank.

Steep Decline in Profitability

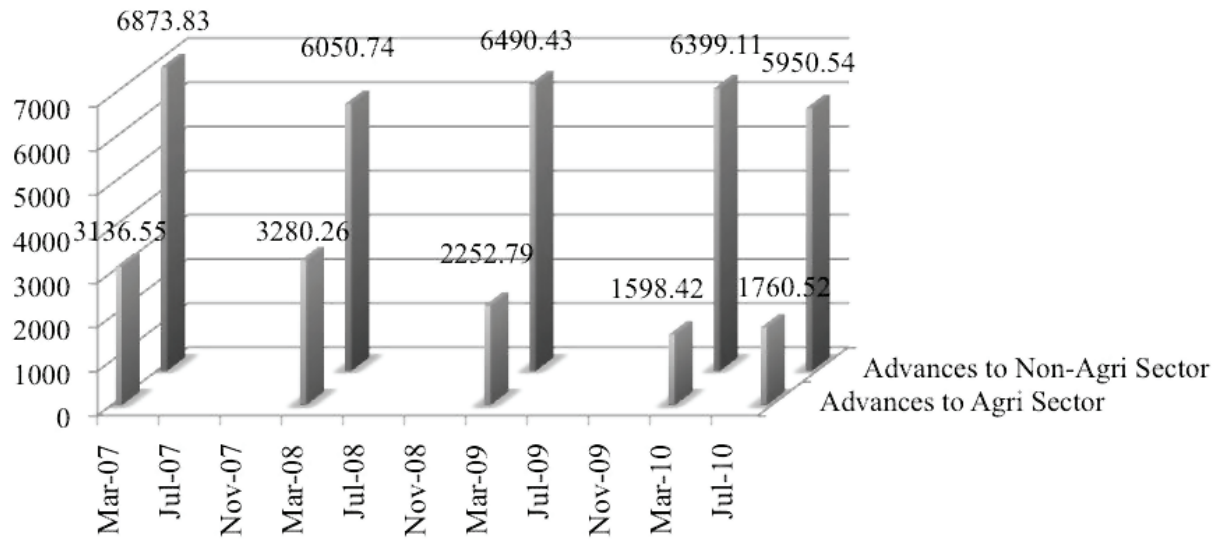
In FY10, the bank did business of around ₹ 29,000 Crores and reported a profit of ₹ 2.87 Crores. It had reported a profit of ₹ 17.78 Crores in FY09. (Chart 2) According to NABARD,

Table 1: Advances to Agri Sector as percentage of Total Advances

	Advances to Agri Sector as percentage of Total Advances
Mar-07	31.33
Mar-08	35.15
Mar-09	25.77
Mar-10	19.99
Sep-10	22.83

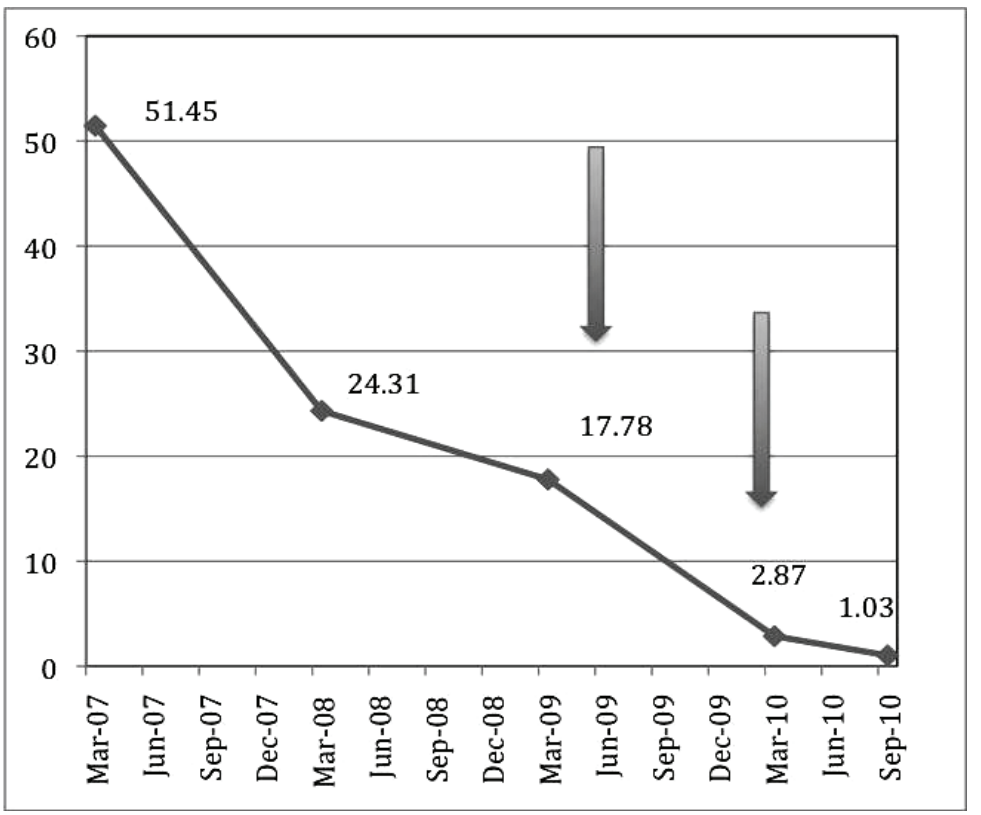
Source: Author's calculations, based on financial data available on www.mscbank.com

Chart 1: Split of Total Advances between Agricultural and Non-Agricultural Sector in Crores



Source: Author's calculations, based on financial data available on www.mscbank.com

Chart 2: Net Profit in Crores



Source: Author's calculations, based on financial data available on www.mscbank.com, Arrows point at figures that have been misreported

both these figures were fudged and in reality, the bank had incurred a loss of ₹ 776 Crores in FY10 and ₹ 10.14 Crores in FY09. As per NABARD, this manipulation was done by camouflaging of provisioning requirements and not providing certain items of liabilities and frequent use of general reserve fund for the purpose of arriving at profit. Had the bank truthfully made a requisite provision as per the IRAC (income recognition, asset classification) norms, it would have reported losses and not profits, however low.

Further, the bank was not justified in claiming ₹ 300 Lakhs towards the centenary year celebrations of the cooperative movement in 2010 when it had not declared a dividend during 2008-09.

Even if we ignore the fudging, the declining trend of profits seems to be very alarming.

Distressing Erosion of Net Worth

Chart 3 exhibits the movement in net worth of MSCB, as reported by them over the years. But the fact is that these figures are also misreported. The figures actually stood at ₹ 44.2 Crores in 2009 and at a negative value of minus ₹ 144.22 Crores on March 31, 2010.

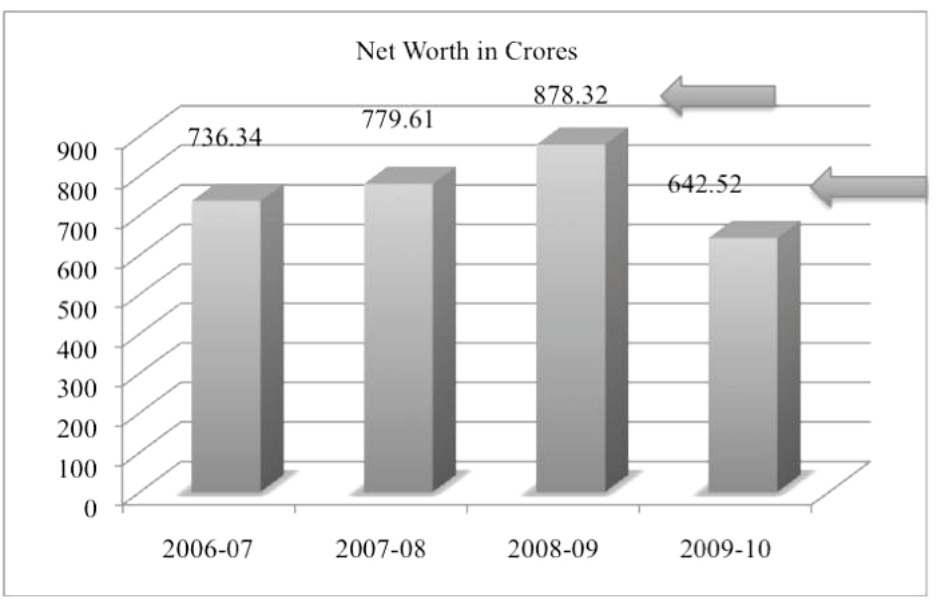
CRAR

The same story continues for its capital adequacy ratio that was actually at one percent and reported differently as shown in Chart 4.

Issues in NPA Reporting and Provisioning

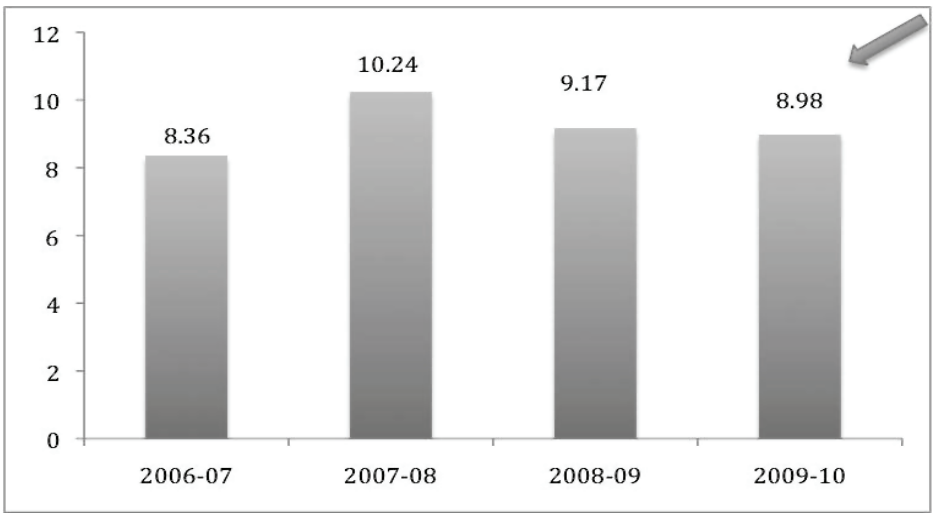
General feeling is that MSCB has gone into the doldrums because it often extended massive loans to individuals driven by unprofessional consideration with complete disregard of guidelines for prudent lending. Maximum amount of NPAs are an off shoot of its exposure to sugar co-operatives followed by cotton mills. NABARD report highlights how factories controlled by politicians took loans worth hundreds of crores and never paid back. There are accusations of using the apex co-operative bank for rehabilitating people as part of political adjustments. Further, the bank had under-written ₹ 1,500 Crores loan availed by dozens of sugar cooperative factories from the state government. According to the report, this guaranteed money is now unrecoverable. It also said that its board took several disbursal decisions that were not in the bank's best interests. Loans were often extended in complete contravention of the norms, disbursed without any mortgage. No attempts were made to stem rampant defaults, as the mechanism for

Chart 3: Eroding Net Worth



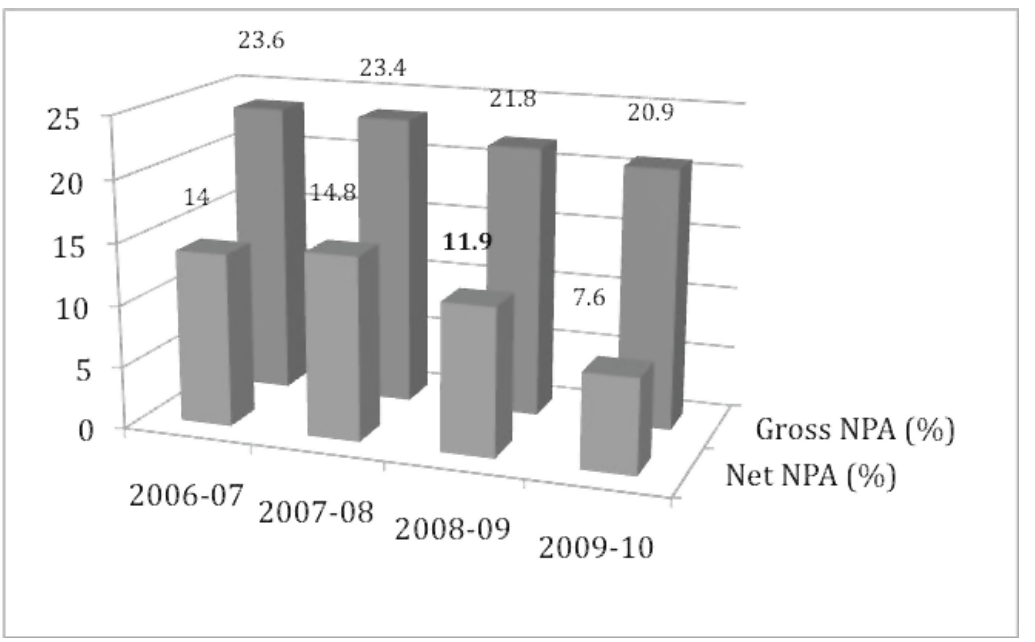
Source: Author's calculations, based on financial data available on www.mscbank.com , Arrows point at figures that have been misreported

Chart 4: Trends in CRAR



Source: Author's calculations, based on financial data available on www.mscbank.com , Arrow points at figure that has been misreported

Chart 5: Gross and NET NPAs in Percent



Source: Author's calculations, based on financial data available on www.mscbank.com

recoveries was also slack. Even in cases where property was seized, it was not auctioned to recover the debts gone bad. Not only was the bank's credit appraisal system inadequate, but also it's monitoring and follow-up of the credit portfolio. This increased credit risk and caused the level of NPAs to be too high.

Again, the picture of gross and net NPA presented in Chart 5, which is based on financial data published on MSCB's website, is different from ground realities. For FY10, the bank's auditors, Joshi Nair and Associates, observed that the accounts were poorly maintained and the profit and loss account was grossly inaccurate. For FY10, its gross non-performing assets (NPA) were 20.9 percent. However, while converting the same into net NPAs, the bank showed the figure at 7.6 percent. These irregularities also came to light during NABARD's annual inspection in FY10.The NABARD report also highlighted a ₹ 778 Crore shortfall in provisions because loans to sugar factories were rescheduled in November 2002, March 2005 and March 2007 without sufficient provisions.

The NABARD report has found the bank guilty of concealing its true NPA position by violating laid down norms and not reflecting a true picture of its financial position as on March 31, 2010. The report stated: "An amount of ₹ 66,390.50 Lakhs pertaining to non-performing assets (NPA) and ₹.8,035.91 Lakhs pertaining to overdue interest receivable was removed from the balance sheet, thereby camouflaging the NPA position. The report also states that the bank's bad loans in fiscal 2010 actually amounted to ₹ 500 Crores, a whopping 30 percent of total's advances.

Immediate Concerns after Dissolution of the Board of MSCB

As per the act, the two external administrators will be given five years to bring the beleaguered institution back on track. Apart from chalking out a long-term plan of action, following are the few things they need to give a higher priority to: To begin with, the government and administrators need to convince people not to get nervous and withdraw their money from the bank as mass withdrawals could cause a 'run' and plunge the bank deeper into crisis. This should not be a problem because the share of retail deposits in the bank's total deposit base, which was around ₹ 19,000 Crores on September 30, 2010, is nominal at around six percent. Moreover, the deposits are safe, as the bank has not been put under moratorium. Further, the bank has not only the state government backing but even NABARD is there to bail it out should situation warrant.

To resurrect the bank, a substantial clean up operation needs to be undertaken to salvage the assets and avert further losses. The first step in this direction would be speedy recovery of loans and initiating action against defaulters.

To ensure that it does not trigger agrarian crisis, the bank needs to sanction and disburse loans to affiliated co-operatives ahead of the Rabi season. Also, the credit flow to co-operative sugar factories and for agricultural loans should continue but in accordance with the set guidelines.

On its part, the state government will need take quick decision to allocate substantial funds to MSCB to avail the ₹ 1,200 Crores Centre grant. This was recommended by the Vaidhyanathan committee to revive the financial health of the MSCB. The amount of infusion will have to be in the vicinity of ₹ 400 Crores. CM of the state has confirmed that according to the statutory audit report on March 31, 2010, the bank had a negative net worth of ₹ 144 crore. However, the state cabinet had sanctioned MSCB ₹ 270 crore in March 2011. Hence, the financial condition of the bank is comfortable.

From political point of view, the government would need to make sure that flow of credit to affiliated district banks is not hampered because of the forthcoming elections in the 27 Zila Parishads.

Lessons from MSCB Debacle: Recommendations for Co-Operative Sector Banks

Cooperative banks have been instrumental in improving the flow of credit to the remotest parts of rural India and have for long been the backbone of rural banking. The recent scams and frauds in cooperative banks have shaken the cooperative banking system and tarnished its image. There is no doubt that the co-operative banks in India are facing one of the toughest times since their inception. These are transitional times for the sector and there is a strong need for restoring the confidence of general public in this banking system. Many analysts have suggested that the entire system of regulating and running cooperative banks needs to be overhauled. The time is ripe for the political leaders in the country to respond to the changing

needs of the sector, clean it up and reform it. After all, many of them have been propelled into politics and power by the co-operative sector only.

I recommend a few reforms and modifications in the co-operative banking sector that could possibly salvage it from completely loosing its identity. The need and the type of reforms required in the sector can be looked at from two points of view:

- Reforms at Regulatory Level
- Reforms at Individual Co-operative Bank's Level

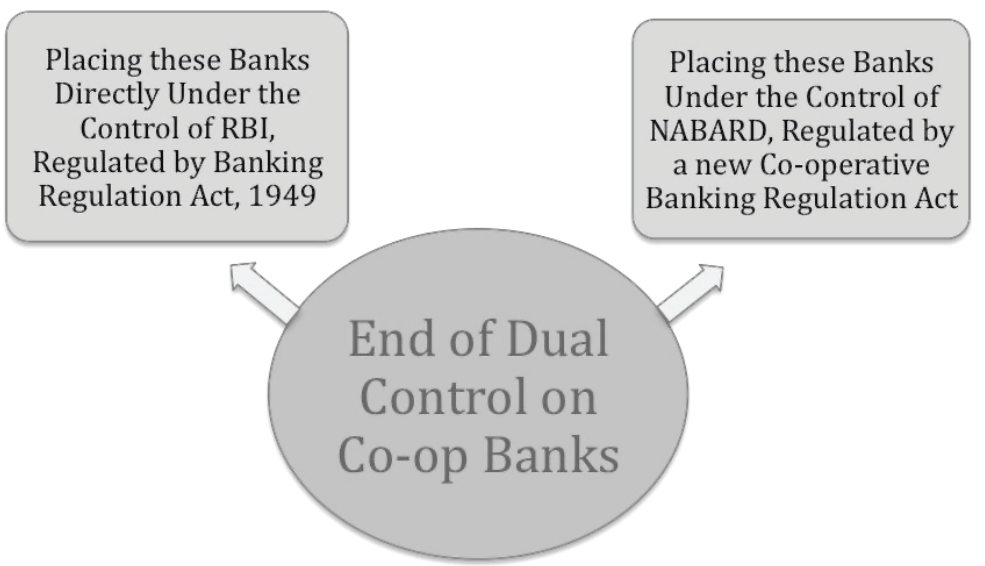
Reforms at Regulatory Level

End the Dual Control Regime for Co-operative Banks

Urban Co-operative Banks (UCBs) are regulated not only by RBI but also by the Registrar of Cooperative Societies of the state where they are located. District and State-level co-op banks also report to NABARD. However what seems to be everyone's responsibility turns out to be no one's accountability. The dual regulation, by RBI and RCS, has left the co-operative sector banks in a 'no man's land.' According to N. Patel, Vice-Chairman of Gujarat Urban Co-operative Banks Federation, control by a single authority will ensure smooth governance of cooperative banks. Some analysts also feel that interference from state governments and Registrar of Co-operatives should be minimized. It is strongly recommended by the researcher that the sector may be removed from the control of RCS, effectively nipping the state government's interference in its working. There are two ways (Figure 2) in which this can be achieved:

Placing these banks directly under the control of RBI, regulated by all the statutes of the Banking Regulation Act, 1949.

Figure 2: Regulation of Co-Operative Banks



Source: Developed by the Author

This course of action would be relatively easy to bring into effect because it is already in action to a large extent. But it begs a question that if it was the most feasible thing to do why has it not been done so far? One apparent reason could be the perception that co-operative sector is different from commercial banking sector and has special regulatory needs and more hands on supervision which might not be possible under direct control of RBI. Moreover, many stipulations of the Banking Regulation Act might not work for the co-operative sector.

Placing these banks directly under the control of NABARD, regulated by a new Co-operative Banking Regulation Act, the statutes of which are shaped according to the needs of the sector.

At a glance, the suggestion might seem quite far-fetched, but the fact is that this could be more feasible, long-term solution for the problems of a sector that is seen as critical to our rural growth and prosperity. This would involve a substantial extension of NABARD's role but it would serve the purpose. NABARD, in turn, would be accountable and answerable to RBI directly for all its activities related to co-operative banking sector (Figure 3). Effectively, NABARD can be charged with closer supervision with RBI monitoring the sector through its monitoring of NABARD.

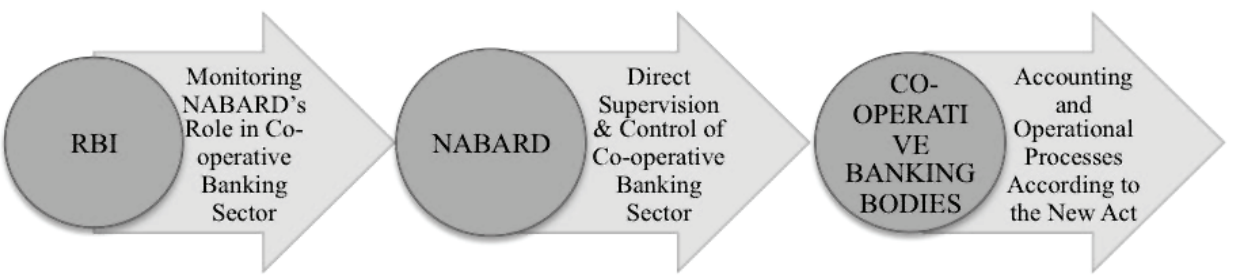
At present, cooperative banks are being concurrently supervised by the NABARD, especially district and state-level co-op banks. So it makes sense to empower NABARD suitably to change its role from supervisor to nodal regulator for all co-operative banks. The main issues that need to be looked into to effect such a change are:

- Banking license and registration
- Observance of prudential norms
- Co-operative elections
- Accounting and reporting standards
- Annual general meetings
- Compliance issues
- Accepting public (i.e. non-member) deposits
- Independent audit
- Liquidation proceedings
- Centre and state grants, etc.

For implementing this system of supervision, monitoring and control, amendment in Parliament Act that established NABARD as a Development Bank would be required. The State Governments would also need to make legislative amendments to place the co-operative banking bodies under direct control of NABARD. Since it is also being contemplated that NABARD assumes the role of sole regulator for Micro Finance Institutions, modifications can be introduced to accommodate its role as nodal regulator for co-operative banks as well.

There is no impediment in implementation of this approach on grounds of conflict of interest. NABARD does not own any of the Co-operative banks and RBI no longer has a majority stake in NABARD. The RBI had divested its stake amounting to ₹ 1430 Crores in NABARD on October 13, 2010. With this divestment, its holding in NABARD has come down to one percent and Government of India holds 99 percent of the stake.[1]

Figure 3: Supervising and Monitoring Co-Operative Banks



Source: Developed by the Author

Consistent Reporting and Disclosure Norms for Financial Accounts of Co-operative Banks

The importance of financial reporting by co-operative banks has been underscored by the recent accusations leveled against many such banks for the window dressing of their accounts and other irregularities in financial disclosures. There is a need to evolve generally accepted accounting norms for all co-operative financial sector players. This may be done by NABARD in consultation with the Institute of Chartered Accountants of India. Following things should be kept in mind while framing such norms and standards:

- The standards should be formulated after a comprehensive analysis of the functioning of co-operatives and other agricultural financing institutions. This is necessary to make sure that the norms are suitable for the sector.

- The norms should be aligned with the generally accepted accounting principles applicable to all banks in the country as much as possible. Allowances may be made only where the unique nature of the sector requires.

- Clear, unambiguous and appropriate accounting standards that also accommodate co-operative laws should be published and made mandatory for use of all co-operative financial sector players for financial reporting.

- Regulators should also prepare training modules and manuals with model proforma of financial statements; software and hardware plan and make them available to co-operative sector banks at all levels. Training sessions may also be conducted at district level from time to time.

Ensure Availability of Exhaustive, Up-to-date and Authenticated data to General Public, Policy Makers and Regulators

Availability of relevant financial data of co-operative sector banks is a huge problem. There is a strong need to streamline statistical data compilation and reporting relating to the cooperative sector. To make sure that comprehensive and validated data is available for evaluation and decision-making, there is a need to have uniform formats for data collection and presentation.

On the same lines as RBI's 'Report on Trend and Progress of Banking in India,' NABARD should publish a 'Report on Trend and Progress of Co-operative Banking in India' every year.

Professional Management

One of the main reasons behind the multiple problems of co-operative banks is that people with little or no banking experience usually run them. Many of the problems this sector can be resolved by making it mandatory for all banks to appoint professionally qualified CEOs and other senior functionaries with the role of elected board being limited to oversight.

Further, all key decisions and internal supervision should be undertaken using committee-based approach. For example, there can be a 'credit committee' or a 'recovery committee.' This will ensure that people are identified for overseeing specific tasks and any laxity by frontline staff can be immediately controlled.

Transparency in Dissemination of Information

According to news published in a leading newspaper,[2] RBI has been secretly cautioning all scheduled commercial banks about the urban co-operative banks (UCBs) that have faced RBI action. While the confidential lists have been circulated from time to time to enable the commercial banks take immediate action in taking exposure on the concerned UCBs, the depositors and the general public have been denied this information, probably out of fear of a 'bank run' on the banks so named. Not only have the hapless people been denied information but have also been victimized further because when commercial banks restricted their business with the co-operative banks placed by RBI on the suspect list, these banks turned aggressive in mobilizing retail deposits by offering higher interests that put the depositors' money at greater risk. Needless to say, such screening of information and playing with life's savings of many people is highly undesirable. Thus, regulators should make sure that any information that has potential to harm unsuspecting people should be placed in the public domain with immediate effect.

Tighten Financial Regulation

The norms for financial regulation of co-operative banks have been very lax in the past and have provided ample leeway to their managements to misuse the funds blatantly. Since the word 'bank' is appended with their names, there is a huge expectation on the moral and ethical grounds. As these banks have failed to self-regulate themselves within the ambit of prudential norms imposed on them so far, it is time for the regulators to tighten the scope of financial regulation. In this regard, few handy suggestions are:

Strict Compliance with CAMELS Regulations of RBI or a New System that is introduced specifically for the Co-operative banks at all levels.

All through my research, I kept observing that the co-operative banks are not regulated with a firmer hand and keener eye. While RBI has introduced many regulatory initiatives for Schedule Co-operative Banks, the sector remains loosely regulated.

RBI has introduced a system of on-site examination process for Scheduled Cooperative Banks since October 2002. In this process, the urban cooperative banks are rated[3] on CAMELS model[4] (Capital Adequacy, Asset quality, Management, Earnings appraisal, Liquidity and Systems and controls). The model takes into account quantitative parameters as well as certain qualitative aspects. CAMELS rules are the true measurement of financial strength of any cooperative bank. The same model can be introduced for all co-operative banks or a new model with parameters and weights more relevant to the sector can be formulated. The formulation of such model is beyond the scope of this paper.

More Stringent Norms for Financial Prudence

Legal, regulatory and institutional reforms need to be introduced to enforce credit discipline, operational thrift and efficient financial management. Most co-operative banks have landed into trouble for extending credit on 'other than professional' criteria. Stiff regulatory sanctions including cancellation of license and criminal proceedings against management need to be introduced in case of non-compliance of the laid down guidelines in approval and disbursement of loans.

Regulators also need to issue clear directives on deposit and lending rates, market activity, lending priorities, limits on sectoral (like sugar co-operatives) exposure, investment decisions, taking up non-credit activities, dividend distribution, profit sharing, granting interest subsidies, postponing waiver of recovery of interest on loans, repayment of loans given by other co-operatives, provisioning, prudential norms and procedures for co-operative banks accepting public deposits, specifically the norms relating to capital adequacy, CRR-SLR requirement, NPA classification etc. Tightening of audit and compliance procedures is another area that needs to be improved, especially for DCCBs and SCBs.

Restructuring and Consolidation of Weak and Troubled Cooperative Banks

RBI's approval to the Indian Overseas Bank to take over the assets and liabilities of Shree Suvarna Sahakari Bank Ltd., Pune in 2009 and Bank of Baroda, to take over specific assets and liabilities of Mumbai-based Memon Co-operative Bank in 2010, has opened up new possibilities for weak or small co-operative banks that might find it hard to survive as competition gets tough.

Since their inception, co-operative banks have mushroomed at a rapid pace, so much so that the number has become unmanageable, particularly in Maharashtra and Gujarat. To make the sector more rational and controllable, mergers of viable entities with each other and takeover of weak entity by a stronger one is highly desirable. Having small number of large co-operative banks than large number of small banks sounds more rational from regulatory point of view also. Mergers and takeovers can serve dual purpose: one of rescuing the distressed organization and/or providing economies of scale to merged entities; and the other of generating the right kind of pressure on the management of banks to put their houses in order.

To proactively encourage consolidation through mergers and takeovers, a committee or taskforce may be constituted for identifying weak but potentially viable entities for mergers and unviable entities for takeovers to give them an exit route. The committee/taskforce will need to work on following to be effective:

- Overcoming the resistance and skepticism of people associated with co-operative banks for consolidation

- Articulating the benefits of consolidation, such as economies of scale, competitive advantage, cost savings, avoiding duplication of structure and processing etc.

- Cajole and coaxing co-operative banks at all levels to explore possibilities of merging with stronger peers.

- Addressing concerns related to absorption of employees of target banks, retaining customers and servicing obligations.

- Overcoming the resistance of good banks in taking over of weaker banks out of fear of the burden of additional financial liabilities, unwanted stakeholders and existing employees.

Removal of Regulatory Impediment to Growth

While it is essential to regulate co-operative banking sector with a firm hand, it is also vital to ensure that the norms and guidelines do not act to stifle growth and progress. A fine balance between supervisory control and freedom to flourish needs to be struck in regulation and monitoring of co-operative sector banks. Few strictures that need to be relaxed are cap on opening of branches, issue of license for new co-operative banks, RTGS facility etc.

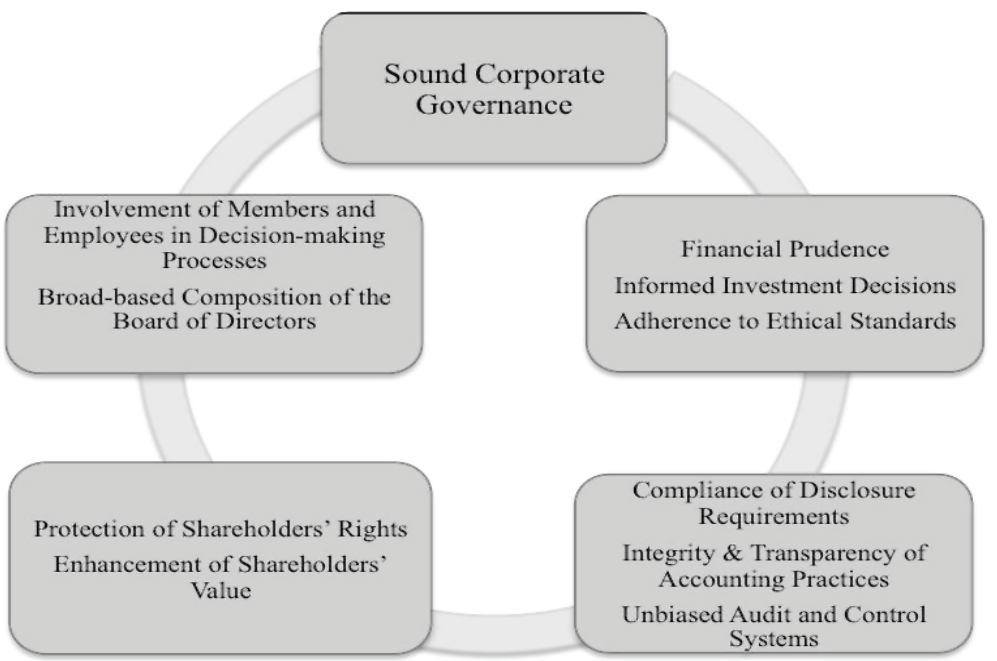
Reforms at Individual Co-Operative Bank's Level

The co-operative banking sector is suffering from many weaknesses such as unsound corporate governance, unprofessional management, unethical lending, high level of loan defaults, slack recovery mechanism and inability to operate in liberalized and competitive environment. While, imposing stringent norms and guidelines can control many of the above problems, long term sustainability and growth can come only when each bank is motivated and committed to running itself in ethical and acceptable manner. Following are few things that the co-operative banks should do to ensure profitability and avert distress:

Sound Corporate Governance

The impairment of governance in co-operative sector is represented by the composition and the willful behaviour of

Figure 4: Sound Corporate Governance



Source: Developed by the Author

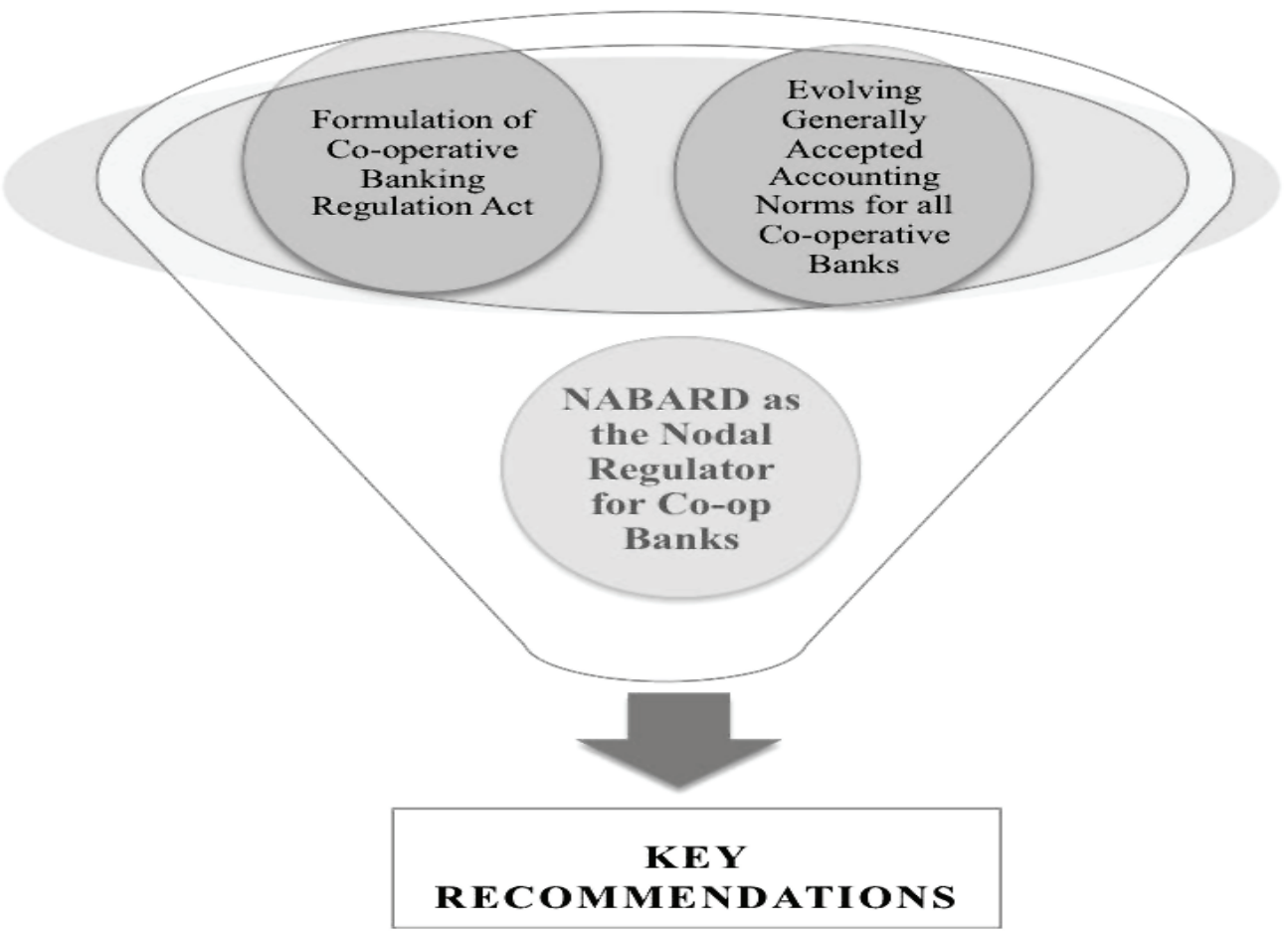
their board of directors. Unsound governance is a shortsighted approach and the co-operative banks need to realize the importance of excellent governance to ensure their survival, relevance and growth. Sound governance can be achieved by ensuring the observance of few best practices as shown in Figure 4.

Enhance Efficiency and Profitability

Most of the problems of co-operative banks are related to loans, defaults and recovery. So far, most of the banks in this sector have been just going with the flow, i.e., raising funds, making investments and disbursing loans as and when an opportunity or need has risen. This kind of ad hoc approach has not prepared them for future challenges. To retain their identity and continue to flourish, co-operative banks need to learn from the private sector banks and improve their practices and processes. To attract customers and maintain them, the banks in this sector need to:

- Offer exceptional customer service
- Introduce innovative, user-friendly products
- Avoid or exercise caution while investing in risky securities
- Have objective credit assessment system that takes into consideration the ability and willingness of the borrower to repay

Figure 5: Key Recommendations for Co-Operative Banks



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- Efficient recovery management with recourse to debt recovery instruments such as Debt Recovery Tribunal, Securitization Act etc.
- Hire qualified staff and provide them adequate training
- Co-opt members with professional qualifications as directors

Key recommendations made by the researcher are summarized in Figure 5.

Direction for Future Research

The co-operative sector is critical to the continued growth of agrarian economy and research of its multiple aspects will always add more value to its role. On the basis of the current paper, the researcher suggests that future researchers in this sector may undertake research targeting following issues:

- Development of wholesome, universally applicable (within co-operative banks), credit appraisal and disbursal system
- Further study on the possibility of making NABARD the nodal regulator for the sector
- Development of Models for Stress Testing co-operative banks to identity the distress signals early
- List of norms and statutes to be incorporated in 'Co-operative Banking Regulation Act' if it is ever formulated
- Processes and procedures to ensure effective data collection and warehousing in the sector.
- Ways and means to enhance human efficiency in the sector

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1) As per the Government of India Notification issued on September 16, 2010.

2) <http:// articles.economic times.indiatimes.com/2002-05-13/ news/27343731_1_urban-bank-baroda-peoples-co-op-bank-commercial-banks>

3) A Bank is rated by a regulatory body like RBI to indicate its financial health by analyzing it on various parameters such as credit policy, payment policy, recovery mechanism etc.

4) RBI research paper on Seven Years of Off-Site Monitoring and Surveillance System (OSMOS) – Looking back and way forward, published on 16th December, 2002.

Technology for Growth: Indian Green Revolution

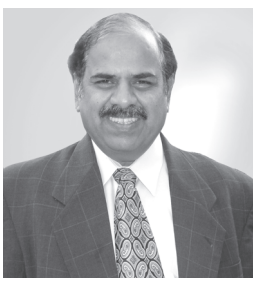
Alyssa Panning and Kishore G. Kulkarni

Abstract

The Green Revolution of 1960s technologically advanced inputs with the new seeds, such as fertilizer, irrigation systems, and machinery. This paper applies Paul Romer's theory, that it is technology drives growth, to the green revolution in India. Romer hypothesized that education and research and development are also important for technology to be successfully used, which was found to be the case during the green revolution in India. Today, more than 50 percent of the population works in agriculture, though agriculture accounts for only about 17 percent of the GDP, indicating that the green revolution has not caused the structural shift in the economy that many envisioned. Despite negative side effects it has done what it was designed to do, increasing the growth in yields and increasing the amount of food available.

Key words:

Technology, (in) Green Revolution, Hunger Eradication, Paul Romer.



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India has a population of more than a billion and is the second most populous country in the world, following China. India is the seventh largest country in terms of landmass in the world (CIA, 2010). Agriculture has existed in the Indus valley for a long time; people have been farming in India since at least 2500 B.C. (Sinha, 1998: 184). For most of India's history, Indians relied on subsistence farming, using primitive techniques, and getting low food yields from the land. Starvation and famines were common. Today more than half of all Indians work in the agricultural sector. However, 55 percent of the GDP comes from services, 28 percent from industry, and only 17 percent of the GDP comes from agriculture (CIA, 2010). This seeming mismatch of labour and GDP in agriculture is important because it indicates that agriculture is not as productive as the other sectors.

In international development, agriculture was often considered just a mechanism to provide food and labour to growing industry, part of a structural shift away from agriculture. However, more scholars now acknowledge that agriculture must play a key role in reducing poverty and stimulating the

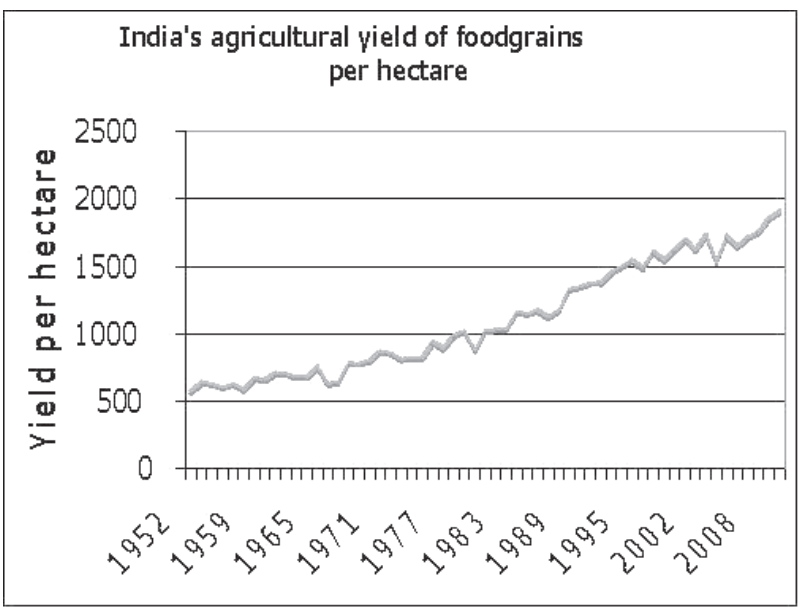
economy. This can be achieved through an increase in output through the use of technology, government policies, and market incentives, and rural development projects that support the farmers (Todaro and Smith, 2006: 423).

India experienced a green revolution in the 1960s. The green revolution refers to agricultural technological development that increases yields of plants, such as special high yield seeds. Advanced seeds were originally developed at The International Maize and Wheat Improvement Center in Mexico and at the International Rice Research Institute in the Philippines (Khush, 2001, 815). The Ford Foundation and Indian government collaborated to import wheat seed from this center. Indian researchers also started creating their own seeds, and dwarf wheat varieties were first tested at the Punjab Agricultural University in 1964 and then released in 1966. By 1968, modern varieties of rice, maize, and bajra had also been introduced (Murgai, 1999: 8). The green revolution also refers to increases in the technology of inputs, such as using more advanced fertilizers, irrigation techniques, and machinery. The adoption of green-revolution technology was facilitated by the development of irrigation facilities, the availability of new fertilizers, and opportune government policies (Khush, 1999: 646).

The new seeds introduced during the green revolution had a reduction in plant height, making the head to body mass ratio greater, meaning more edible matter compared to waste. The plants were also more responsive to fertilizer, could be planted at any time of the year, and matured faster. They were also more resistance to disease and pests, and tolerant to temperature changes and the moisture level of soil. This means the plants were more able to sustain droughts and flooding (Khush, 1999: 653). In India, input-responsive wheat and rice was adapted from 1966-1974, creating immediately higher yields. Then, from 1975 to 1985, input intensified with an increasing use of fertilizers and capital, and then from 1986 to 1994, input use leveled off as many farmers had already adapted the new technology and inputs (Murgai et al., 2001: 201).

Because of the extensive use of green revolution technology, famines and economic strife were averted in many countries, including India (Khush, 1999: 646). Between 1966 and 1990, the population of the densely populated low-income countries grew by 80 percent, but food production more than doubled, due to the success of the green revolution. In 1997, the average per capita food-grain availability was 18 percent higher than in 1966 (Khush, 1999: 646). Yield per hectare

Figure 1: Yield of foodgrains per hectare (kg): 1952-2010.
created this graph using data from the Reserve Bank of India (2010).

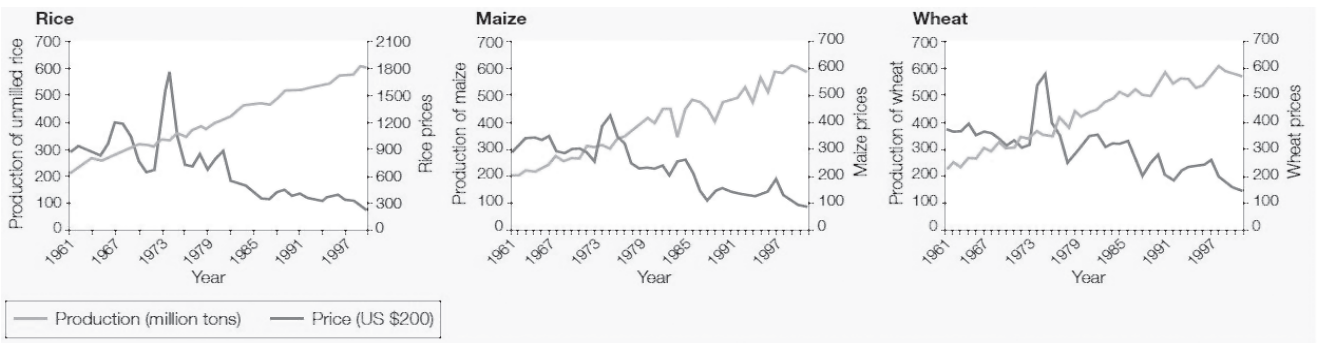


of food grains increased almost continually from 1952 to present (See Figure 1). During 1965–1990, the daily calorie supply of rice in relation to requirement improved from 89 percent to 94 percent in India (Khush, 1999: 649). Though still not adequate for daily needs, this increase is an improvement. Worldwide, the cost of rice, wheat, and maize fell from the 1960s to the 1990s, while production increased (See Figure 2). Today the GDP of India is growing by more than seven percent per year, and all sectors of the economy are improving, including agricultural growth reported at six percent in 2005-2006 (Indian Economy, 2010). Proponents of the green revolution argue that ending hunger is the only way to end poverty, and the green revolution created higher production of foods and more income for farmers, creating less hunger and less poverty.

However, there are those that doubt that the technology of the green revolution in India had the substantial and lasting impact on agricultural output and economic growth that others perceive. Instability in yields has risen since the green revolution, increases in yields have been decreasing, and the sustainability of green revolution practices is increasingly questioned. To analyze the impact of the technology of the green revolution, I will explore Paul Romer's model of technology spurring growth as well as supporting technological growth models.

Figure 2: The Impact of the Green Revolution.

Source: Khush (2001)



Paul Romer's Technological Growth Hypothesis

Technological advances, along with political and social changes, have been involved in the economic development of many nations throughout history. Paul Romer considered technology to often be the most important driver of economic growth. According to Hayami and Rutton, "Recent empirical research supports a classification of the sources of productivity differences, or of productivity growth, into three broad categories, a) resource endowments, b) technology, as embodied in fixed or working capital, and c) human capital, broadly conceived to include the education, skill, knowledge and capacity embodied in a country's population (1970: 895)." Paul Romer argued that, of these factors, technology is the most important determinant of growth. Human capital, in the form of research and education, is critical for technological growth. There are two types of technological change associated with the green revolution – land-saving technologies such as advanced seeds, fertilizer, and pesticides, and labour-saving technology such as machinery and irrigation systems (Ruttan, 2002: 163). The theory I will explore here is that technological change, as part of the green revolution, has been the main driver of greater food production and consequent economic growth in India.

In Romer's article, *Endogenous Technological Change*, he defined technology as an 'improvement in the instructions for mixing together raw materials,' which is at the heart of economic growth (1990: S72). Although Romer usually wrote about technological change in industry, the same theories of technology can be applied to agriculture. To extend the analogy, mixing together raw materials could include the

combination of planting improved seeds and using new types of fertilizer. According to Romer, the most important defining characteristic of technology is its non-rivalry, "once the cost of creating a new set of instructions has been incurred, the instructions can be used over and over again at no additional cost (Romer, 1990: S72)." Once a country such as India has obtained the knowledge of new technology, theoretically everyone should be able to benefit. This theory can also be applied to agricultural technology. Once the new high yielding seeds were introduced in India, they could be used over and over, with new and improved inputs. The technological knowledge that accompanies such a change can also be used repeatedly, spreading from person to person.

Romer theorized that technology is endogenously generated by incentives from market conditions and political climate. This is different than Solow's neoclassic view, that technology is exogenous and is the same in all countries, because it is instantaneously diffused. Romer was optimistic about neoclassical growth theory because it defined growth as interactions between technology and conventional inputs such as physical capital, labour, and human capital (1996: 203). Romer thought this was an important step because technology is very different than these other inputs. However, Romer's argument with neoclassical theorists was that technology for them is something vague that "does not correspond to anything in the world." In neoclassical theory, technology can only be shown in terms of the shifting of models, such as production possibility frontiers (Romer, 1996: 202- 203).

Neoclassical models also consider technology as a public good, which Romer disagrees with. One reason for this is because the level of technology is not the same in all countries, as the model would predict (Mankiw et al., 1995: 318). There needs to be consideration of individual countries' policies and markets for new technology. Technology can also be patented, meaning its use is not freely available to all, so it should be considered a private good. Instead, Romer aligns more with the new growth theorists, because instead of dividing goods into private and public, they divide the world into ideas and things. New growth theory emphasizes that ideas are goods and can be traded and valued like any other goods (Romer, 1996: 204). This theory can be applied to technological advances in agriculture, because knowledge of how to grow crops better is an important aspect of agricultural growth.

According to Romer, technological growth depends on education and research. "The rate of technological change depends on the amount of educated human capital devoted to applied research and development (1990: 337)." There are various means by which to increase technological output in developing countries, but the most important of these is that there must be investment in rural education, especially in the sciences. This will improve the "technical and institutional infrastructure needed for the invention, development, and extension of a more efficient agricultural technology (Hayami and Rutton, 1990: 907)." This means that in rural areas, people will be able to understand the technology that they are using and will be able to pass that knowledge along to family members and children.

Nguyen expanded on Romer's theory and found that general education, especially high school and college education levels, is important for increasing agricultural productivity in many different countries. The number of graduates from agricultural colleges per 10,000 male farmers also had a correlation with positive agricultural output (1979: 569). However, Nguyen found that an alternative measure of technical education, the number of scientists and engineers engaged in research and experimental development in agriculture, gave insignificant coefficients for technical knowledge (1979: 569). Nguyen concluded that basic research and education is more relevant than adaptive, advanced research in agricultural development.

Romer thought that the policies that a government pursued could positively affect technological innovation. He predicted that an economy with a larger amount of human capital would experience faster growth, because the economy would be more likely to have technological breakthroughs. This would suggest that free international trade could act to speed up growth (Romer, 1990: S99). A decision to engage in trade may be important even for a country that has a large population, such as China or India. The model suggests that countries should trade with other countries that have a large amount of human capital, meaning a probable increase in technology (Romer, 1990: S98). This theory is applicable to the beginning of the green revolution in India. India was able to use a new technology by engaging in trade with other countries that had already been using the technology. The green revolution technology spread to India, where it increased production. In history, often there has been a more technologically advanced country that innovate a new

technology, and another country that imitates this technology, thereby avoiding the cost of initial development. The imitating country can actually grow faster than the innovator country (Islam, 2004: 182). This may be what is occurring in India, as it is now experiencing higher growth rates than many developed countries.

Testing Romer's Hypothesis in India

Support for Romer's Hypothesis:

A few authors support Romer's theory in the context of India, that the technology associated with the green revolution spurred agricultural production and therefore long-term economic growth. Khush claimed that had 1961 yields still prevailed today, two times more land in India would be needed to equal 1992 cereal production (1999: 650). The introduction of the high-yielding varieties actually required more labour because they required more care, a higher intensity of cropping, and less growth time. Income increased, and people could hire labour, a benefit for the unemployed. Higher incomes meant more demand for other goods, which meant more employment in other sectors. "The economic miracle underway in many Asian countries was triggered by the growth in agricultural income and its equitable distribution, which helped expand the domestic market for nonfarm goods and services (Khush, 1999: 650)." According to Khush, the technology associated with the green revolution is responsible for the growth that has occurred in countries all over Asia.

Production of grains immediately increased with the introduction of the green-revolution technology. In Punjab, from 1965 to 1973, production of wheat increased by more than seven percent annually. Rice production grew at around 18 percent per year during this period. Overall agricultural production increased at a rate of six percent. (Murgai, 1999: 1). India has been able to essentially eliminate its need for food imports since the green revolution due to increasing domestic productivity (Gereffi and Fonda, 1992: 438). Food grain production increased by 19.1 percent from the pre-green revolution, 1961-1965, to the post-green revolution, 1967-73. Some parts of India had even more dramatic increases, such as an increase of 87.2 percent in Punjab, and 64.9 percent in Haryana (Dhanagare, 1997: AN-137). According to Perrin and Fulginiti, "Increases in productivity have clearly been the most important engine of real income gains during the past century, and it seems safe to assert that the productivity gains have been due primarily to technological change rather than to improved efficiencies in the use of existing technologies (2001: 455)."

There is evidence in the Indian agricultural sector to support Romer's theory, that education and research is important for technological growth. Many rural people became more responsive to changing opportunities during the green revolution in India. As the government spent more money on education and on research and development in rural areas, agricultural productivity increased. Spending on education and research and development had a greater effect on agricultural productivity in India than spending on conservation, community development, or roads (Fan et al., 2000: 1050). Agricultural research improved though new agricultural universities, improving technology. Agricultural extension systems were expanded and became more effective. There were better policies for agricultural credits and inputs, promotion of new technologies, and stabilization of agricultural prices and incomes (Rao and Deshpande, 1986: A-102).

Many authors support the theory that agriculture and industry are intertwined and any new technological innovations may affect them both. After the green revolution, the farmers were more dependent on market inputs and production, which integrated them with industry and the global economy (Ninan and Chandrashekar, 1993: A-5). Technology is carried from the industrial sector to the agricultural sector, so there needs to be technological inputs in the industrial sector to increase agricultural production, including better fertilizer and machinery (Rao and Deshpande, 1986: A-101). Rao found that the share of industrial inputs in agriculture increased from 1.4 percent in 1951 to 38 percent in 1980 (1983: 51). This further emphasizes the interdependence of industrial and agricultural technology. The slow growth rate of the agricultural sector between 1950 and 1980 may have actually been due to lags in industry, not being able to keep up with agricultural technology. Prices of industrial inputs to agriculture were rising during this period, because of lack of efficiency, scale, and modernization of the industries producing these inputs (Rao and Deshpande, 1986: A-107). Any change in agriculture or industry would affect both sectors of the economy.

According to Hayami and Rutton, once there are agricultural surpluses from the improved technology, these must go back into industry to finance more innovation and development, leading to a close connection and reliance between agriculture and industry. Once the growth of agriculture is achieved, this will result in an increase in the industrial force, and then structural changes can occur. "If successful, the effort would, over time, result in a rate of growth in the non-agricultural labour force sufficient to permit a reduction in the agricultural labour force and a rise in labour productivity toward the levels of the developed countries (DCs) of recent settlement (Hayami and Rutton, 1990: 908)."

Government Policy

As Romer predicted, there were various benign government policies during the time of the green revolution that helped the technology to catch on. The government gave subsidies for the costs of fertilizer, pesticides, and irrigation, as well as for the sale of crops. India subsidized wheat during the green revolution at 100 percent of the world market price (Paddock, 1970: 898). The government put massive investments in irrigation systems and electrification of rural areas. Road networks were expanded, and rural credit institutions were created (Vaidyanatha, 2000: 1735). However, large farmers were most commonly the benefactors of these policies, and technology usage was unequal (Dhanagare, 1987: AN-137).

Another reason that the technology spread so fast around India was the networks of personal communication. Villages that were closer to main roads had faster increases in agricultural technology (Wilbanks, 1972: 427). Given that the green revolution occurred before the age of cell phones and Internet, one of the main methods of communication about new technology was face-to-face interaction. Many large farmers actively sought out information about new technology and through schooling were able to adopt the new technology rapidly. Many large farmers were visited by agricultural extension agents who informed them about the new technology (Feder and Slade, 1994: 318-319). The technology of the green revolution was widely desired, and news about how to obtain and use the technology spread quickly.

Opposition to Romer's Hypothesis

It is hard to argue that the green revolution in India did not contribute to increased production in agriculture. However, there are those who argue that technological change in the form of the green revolution did not cause as much long-term growth in India as might have been expected. The agricultural sector has continuing issues of instability, inequality in economic growth, environmental degradation, and may be unsustainable for the future. In addition, despite increased production, many people in India still go hungry. According to the Times of India, malnutrition accounts for 50 percent of childhood deaths in India and one third of adults are considered underweight. 43 percent of children are underweight in India, and India ranks 94th out of 119 countries in the Global Hunger Index (Sinha, 2009). However, many of these negative impacts were not attributable to the green revolution technology, they were caused by misuse of the technology by the farmers and by government policies such as subsidies which increased the use of fertilizer and promoted inequalities.

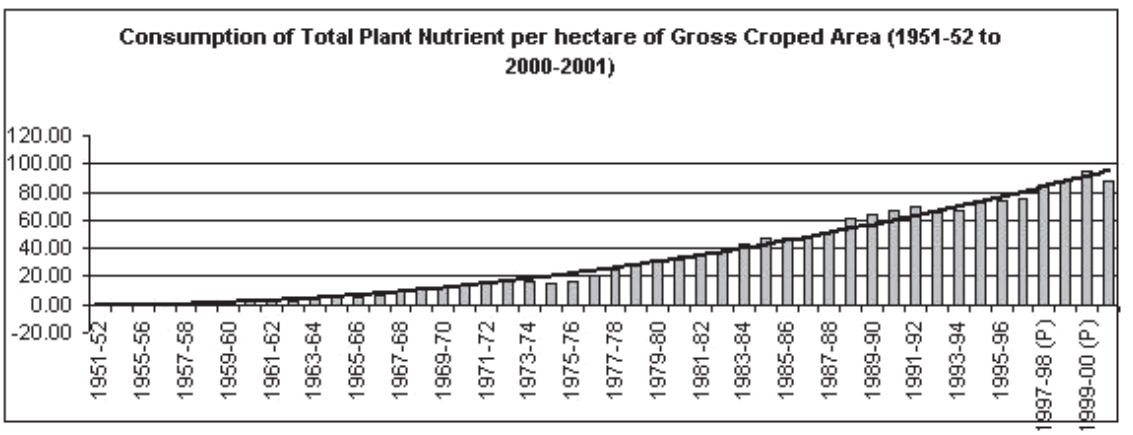
After the adoption of the green revolution technology and intensification of inputs, most authors would agree that India's agricultural sector faltered though the 1970s and 1980s. Kurien wrote, "the malaise of the agricultural sector must be considered as chronic, and certainly not something that will change with the weather itself as many are prone to imply (1989: 787-788)." Kurien attributed this stagnation to a slowdown in the spread of high yield crops and decreasing use of fertilizer and irrigation, which Kolanu and Kumar would certainly disagree with, as they found increased fertilizer input during this time (See Figure 3). The share of agriculture in India's NDP (Net Domestic Production) has been declining. In 1961 it was 49 percent, in 1981 it was 36 percent, and in 1987, it was 33.2 percent in 1986-87, and today is 17.5 percent (Rao, 1983: 39, Kurien, 1989: 788, and CIA, 2010). Opponents may argue that this is a part of the structural transformation that accompanies growth, as technology improves, efficiency increases, and the economy can rely on other sectors for growth. However, there was not a corresponding decrease in the share of the labor force in agriculture as might be anticipated in a structural shift (Kurien, 1989: 788). The percentage of the population in the agricultural sector actually increased from 69.1 percent in 1951 to 70.4 percent in 1971, during the middle of the green revolution (Rao, 1983: 52). There has been somewhat of a structural transformation since the 1970s, but today over half of the population still works in agriculture (CIA, 2010). This indicates that agriculture has actually been performing

poorly and the declining percentage of NDP cannot be attributed to structural transformation.

Despite agricultural growth achieved in Indian agriculture after the green revolution, Ninan and Chandrashekar argued that instability in output and yields has also risen in all crops except wheat, for many reasons. Crop production has been expanded to more marginal environments than have been historically used (1993: A-3). The low genetic diversity of the high yield varieties could reduce crop value. Low genetic diversity makes the high yield varieties may be more susceptible to diseases or pests than the more genetically diverse traditional crops (Ninan and Chandrashekar, 1993: A-4). The soil is also degraded by harsh new fertilizers,

Figure 3: Increase in Fertilizer Use

Source: Kolanu and Kumar (2003)



which can reduce long-term growth. Farmers previously spread their risk over many types of crops, in case one type failed during a particular season. However, because of the success of a few crop varieties during the green revolution, they switched to mono-cropping, which can have devastating effects for farmers in a bad season (Ninan and Chandrashekar, 1993: A-4). Nitrogen fixing crops, which enrich the soil, were often planted, but became neglected after green revolution, meaning the soil is becoming poorer over time. Subsidies tricked farmers into using more inputs such as water and fertilizer more than they would have if they had bought them at full cost. This caused negative externalities such as environmental degradation and reliance on government prices (Ninan and Chandrashekar, 1993: A-5).

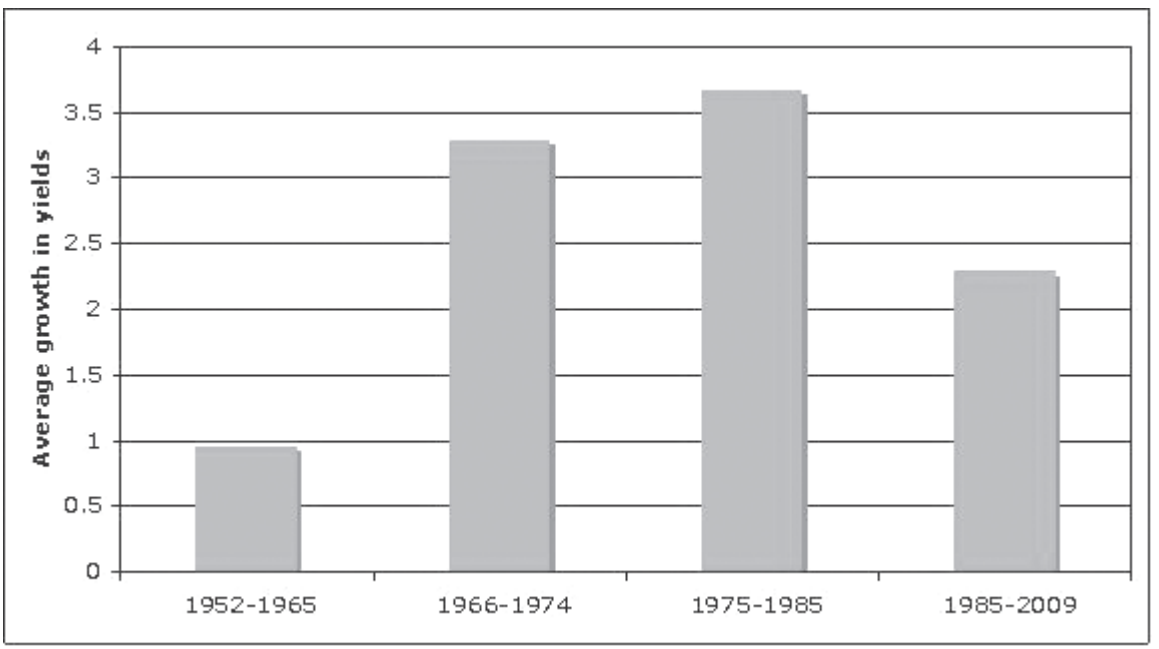
The green revolution may not have been as cost-effective as it is often perceived to be. The cost of cultivation has risen since the green revolution. Ninan and Chandrashekar compared input-output ratios across different crops and regions in India from 1955 to 1989. These input-output ratios increased in almost all regions for rice and wheat. Prices were decreasing for various crops during and after the green revolution (See Figure 2), and had to be subsidized for the farmers to make any profits. This means that agriculture in India is becoming less efficient and more expensive. This implies that there are smaller surpluses available for future investment in agricultural development (Ninan and Chandrashekar, 1993: A-6). Wages for agricultural labor did increase during this time, by 89 percent from 1961 to 1968, but prices also increased by 93 percent during the same period (Dhanagare, 1987: AN-137). This means that the green revolution caused an increase in prices more than many people gained in wages, having a negative impact on many of the poor.

In addition to rising costs, the sustainability of the green revolution has often been questioned. We used the stages of the green revolution detailed in a paper by Murgai et al. (2001) to analyze yields per hectare. These stages include the pre-green revolution from 1950-1965, the adoption period from 1966-1974, the input-intensification period from 1975-1985, and the post-green revolution period from 1986 onwards. By

using agricultural yield data from the Reserve Bank of India, we found that average growth of yields increased dramatically during the adoption and intensification periods, and then decreased post-green revolution (See Figure 4). This implies that the technology introduced during the green revolution is not sustainable, though production continues to increase. Food grain production has kept up with population growth, but not demand. In India, the growth rate of grain output was 2.6 percent between 1955 and 1989, while population has increased at 2.2 percent and demand has increased at three percent for the same period (Ninan and Chandrashekar, 1993: A-3). Demand is growing because people in India are eating more meat than in the past, and animals must be fed large amounts of grain. This means that the technology is not improving fast enough to keep up with the growing demand for food in India.

Figure 4: Average growth in food grain yield per hectare.

Source: The graph was created using yield data from the Reserve Bank of India (2010) to create annual growth values. The growth values were then averaged into four periods.



Other authors doubt that the changes in agricultural production of the green revolution will be able to sustain agricultural growth in India though the next decades. Rao and Deshpande found that growth rates in output of all crops actually decreased after the green revolution compared to before the green revolution, though food grain growth rates increased just slightly (See Figure 5) (1986: A-101). Murgai et al. found different results, and claimed that agricultural total factor productivity (TFP) was actually lowest during the green revolution years when the technologies were first being adopted, and increased later when many people had adopted the technologies (2001: 206). This may be because inefficiency with the new technology was high in the beginning, and then as people acquired more knowledge in the later years, efficiency increased. However, Murgai et al. acknowledge that there was a slowdown in productivity growth after this intensification period. TFP growth increased to 1.8 percent per year in the input intensification period but slowed in the post-green revolution years to 1.5 percent (2001: 206). If in India agricultural growth continues to decline and population and demand keep increasing, eventually there will not be enough domestic food production to feed the population, meaning India will be forced to turn to food imports or return to the famines of years past.

Figure 5: Growth Rates: Pre-Green Revolution and Post-Green Revolution

Source: Rao and Deshpande (1986)

	Area	Yield	Output
All Crops			
Pre-Green Revolution	1.2	1.8	3.0
Post-Green Revolution	05	1.7	2.6
Foodgrains			
Pre-Green Revolution	1.0	1.5	2.5
Post-Green Revolution	0.4	1.8	2.6
Non-Foodgrains			
Pre-Green Revolution	2.3	1.7	4.0
Post-Green Revolution	08	103	2.5

Note: * Pre-Green Revolution period 1952-53 to 1964-65, Post-Green Revolution period: 1967-78 to 1983-84.

There are inequalities associated with the green revolution, including many farmers not being able to use the new technologies, and entire regions in India being left out.

Institutional and economic constraints coupled with the policy bias favouring well-endowed regions, crops and farms have not only resulted in widening of inter-personal and regional inequities but also led to sectoral imbalances within the agricultural sector, a notable example being the failure of the green revolution to benefit pulses and oilseeds in India unlike its positive impact on wheat and rice (Ninan and Chandrashekar, 1993: A-2).

Different farmers varied as to their ability to use the technology of the green revolution to their advantage. Small farmers generally had lower yields than the larger farmers when using green revolution technology. They may have fallen behind because of lack of start up costs, such as installing irrigation, and difficulty adjusting from traditional agricultural practices. They were not able to acquire the discounts that large farmers did when buying large quantities of inputs such as fertilizer. They also could not afford to wait to sell their crops at higher prices (Rosset, 2000: 4, Dhanagare, 1987: AN-137). Large farmers also invested more resources and human capital in learning about the new technologies, and so were able to adopt the technologies before the smaller farmers (Feder and Slade, 1984: 320). Once there were surpluses from the high yield varieties and growth had occurred, large farmers were able to use more high tech machinery such as tractors and combines to plant and harvest their crops.

Trends across all of India during the green revolution cannot be generalized. There were major differences in agricultural inputs and production among the states of India along with the type of crops grown. For example the use of fertilizer ranged from four kg per hectare in Assam to 132 kg in Punjab in 1983-1984 (Rao and Deshpande, 1986: A-107). Irrigated land caused an increase in crop production over rain-fed land, from 30 percent more in Bihar to nearly 360% more in Maharashtra (Vaidyanatha, 2000: 1736). This suggests the different states of India had different resources available to them to take advantage of green revolution technology. Rice and wheat and many other crops are grown in India, all with different productivity trends. The green revolution did not affect rice and wheat the same. Easter et al. studied wheat and rice inputs and productivity increases in India from 1959-1969, at the beginning of the green revolution. Wheat was grown mostly in western India, while rice was mostly grown in the East. The percentage of high-yielding varieties of wheat planted increased dramatically between 1966 and 1969 in most states, while the planting of high-yield rice varieties did not (Easter et al., 1977: 263). After the green revolution, rice production growth rates decreased from four percent to 2.6 percent and yield growth rates decreased from 2.4 percent to two percent. Wheat production and yield growth rates both increased, from 3.3 percent to 4.9 percent growth in production, and 2.3 percent to 3.1 percent growth in yields (Ninan and Chandrashekar, 1993: A-3). Instability levels decreased in wheat, but increased in rice during this period. Grains such as jowar, ragi, small millets and gram have decreasing cropped areas while crops like wheat, maize and

sugarcane are increasing, because of the technology associated with the green revolution favouring these few crops.

Despite any other positive effects that the green revolution may have had, some argue that the negative externalities associated with environmental degradation are long-term losses. The benefit to the soil from nitrogen fixing plants under traditional agriculture is lost. Without the green revolution, more land would have been needed to produce enough food for the growing populations. Instead, the technology prevented people from moving to fragile environments, cutting down forests and draining swampland for agriculture. Two times more land in India would be needed today if 1961 yields were still the norm (Khush, 2001: 816). Despite Khush's positive outlook, most authors would agree that the green revolution overall has caused more environmental damage than improvement.

The Green Revolution in Other Countries

Around the world, the green revolution has had differing effects. It is widely acknowledged that Asia and Latin America benefited the most from the green revolution, while other regions have not benefited at all, including most of Africa, which contains a large percentage of the world's population. In 1987, well after the green revolution had taken hold, 36 percent of the farmland in Asia and the Middle East and 22 percent in Latin America was planted with high-yield wheat and rice, while only one percent of Africa's lands were planted with these high-yield crops (Tangley, 1987: 176). Africa, with its increasing population, desperately needs to increase its food yields. However, many farmers cannot afford irrigation or modern fertilizers and pesticides, which are necessary inputs for the green-revolution seeds. In addition, rice and wheat are not popular crops in most parts of Africa, and other crops such as maize, sorghum, and cassava have not have the benefit of the green revolution technology (Tangley, 1987: 176).

Some agricultural areas in Asia, such as the Philippines and China followed the same trend as in India; the green-revolution technology was not as successful as had been hoped for, and there were periods of decreased production after the green revolution. In the 1980s, after the green revolution, the growth rate of yields of rice in Philippines decreased from 4.2 percent to 1.4 percent. This may be because yield levels were being maintained with increasingly higher input levels, which indicates a decline in total factor productivity (Umetsu et al., 2003: 945). A study in China on agricultural change during and after the green revolution found that total production growth rate was five percent per year from 1965 to 1985 (Fan, 1991: 272). However, only 15.7 percent of the total agricultural production growth could be attributed to changes in technology, which is very low compared to other countries such as Japan and the US. The author attributed this to underinvestment in agriculture and called for more research and development to stimulate technological change (Fan, 1991: 274).

Conclusion

Pessimistically, many authors agree that the green revolution has caused diminishing returns in Indian agriculture, agriculture is increasingly relying on scarce, costly external rather than local resources, input prices are rising faster than farm product prices, and terms of trade have turned adverse for agriculture (Ninan and Chandrashekar, 1993: A-6). However, these problems are not necessarily the result of the technology in itself.

The fault does not lie with the inherent advantages of the technology; their sophistication in raising yields has been proved. Rather, the fault lies with the failure to help them along in a variety of both man-made and natural inadequacies encompassing skills, irrigation facilities, allocation of resources, and the whole gamut of physical inputs, research, organisation and communication (Ladejinsky, 1973: A-133).

For example, inputs such as fertilizer have been overused because of subsidies, and the impact of these inputs is what is causing environmental damage, not the technology itself. If all farmers were able to irrigate properly, use the right amount of fertilizer, and had the knowledge and capabilities to use the green revolution technology as it was designed, many of the negative externalities would be avoided. Therefore, the technology itself has been quite successful in the green revolution, raising productivity, but external factors have caused slowdowns in productivity and increases in instability and inequality. In analysis, it is important to separate the technology from its side effects.

During the period of the green revolution, from 1965 to 1985, GDP per capita at current prices increased from 121 US dollars to 301 dollars. After falling from 1985, around 1992, well past the main production increases of the green revolution, GDP per capita started increasing much more rapidly in India. GDP went from $278 in 1992 to $1,046 in 2007 (World Bank, 2010). GDP has been increasing at about seven percent a year in India since 1997 (CIA, 2010), and increased 8.7 percent in 2007-2008 (Indian Economy, 2010). Recently, even the agricultural sector has been growing; it grew at a rate of ten percent in 2003-04 and six percent in 2005-06 (Indian Economy, 2010). Rao wrote in 1983, "An adequate national growth rate in the decades ahead would not only need a much higher agricultural growth rate but also a coordinated set a policies for the harmonious growth of different sectors in the economy (1983: A-106)." Perhaps his predictions have been manifested, because the Indian economy is doing well today. Agricultural innovations that started during the green revolution are still being used today, ever improving with more knowledge, more technologically advanced inputs, and more connection with the industrial sector, suggesting that Paul Romer's theory can be applied to the green revolution technology.

Despite the recent growth in the agricultural sector, there are currently government policies that are reducing the profits of farmers and the positive effects of green revolution technologies. There are restrictions on the sale of agricultural products within the country and on the international market, which reduces prices. Domestic prices are much lower than the prices farmers would get for the goods in the world market. The current prices are low compared to the production costs (Vaidyanatha, 2000: 1735). Many government policies are biased against agriculture because they are designed to protect industry. "As a consequence, the farmers' incentives for investment in technological improvement and therefore, output expansion have been dampened." More trade liberalization would increase farmers' profits. Trade with the rest of the world is also expected to cause more efficient use of resources, stimulate investment and cause more technological improvement, causing more rapid growth (Vaidyanatha, 2000: 1736-7). If India wants the technology of the green revolution to continue to have a positive effect on the economy, it needs to address some of these issues.

Though the agricultural sector has been growing, most of the growth in India within the last two decades seems to be more related to the service, telecom, and industrial sectors than agricultural technology. In 1991, India instituted economic changes, including various measures like deregulating the markets, encouraging the private sector, liberalizing trade, decreasing the restrictions on investments, and reforming the financial sector and the tax system (Indian Economy, 2010). This allowed for the expansion of new industries, including the lucrative telecom sector. The industrial sector is also growing; in 2004-05 it grew at 9.8 percent (Indian Economy, 2010). Despite recent improvements in agricultural, many economists would argue that India's economic growth rates of the last few decades are related to growth in other industries.

Whatever the effect of the technology of the green revolution on the overall economy, it is generally accepted that the technology saved many lives from hunger and starvation. The green revolution increased food output and staved off famines in India that may have killed millions of people. There is an inverse relationship between agricultural production in India and the percentage of the rural population below the poverty line (Rao and Deshpande, 1986: A-106). The effect of agricultural output on reducing the level of poverty seems to be a positive, reinforcing cycle. Poverty levels are the lowest in Haryana and Punjab states of India, where the green revolution started. If the technology of the green revolution has decreased poverty and prevented famines, its overall effect on the economy should not be such a concern.

There are lessons to be taken from the green revolution for agricultural technology and growth in the future. India must reduce agricultural risk without inhibiting growth, ensure crop variation and economic diversification, build more infrastructure, institute stabilizing economic policies like crop insurance, and support the price of crops (Ninan and Chandrashekar, 1993: A-7). Irrigation systems are important in increasing the productivity of agriculture; these need to be expanded to all areas of India at low cost to farmers. There must be more cost reduction by using more local resources. Farmers can integrate the use of the traditional method of using legumes and manure instead of relying only on modern fertilizer. Many Indians are turning to 'ecological farming.' This includes more crop diversity, using animal dung and ashes, blue-green algae, and other biofertilizers, and using traditional methods of pest control, for example using garlic and hot pepper extract to kill pests. "Planning for sustainable

agriculture requires a judicious combination of information about new technologies with the wisdom of traditional ones. The challenge today is to revive and improve traditional methods with the aid of modern scientific knowledge (Sinha, 1998: 196)." Some of these methods may actually be cost-effective technologies.

Today, there is a type of second green revolution occurring. Because hunger and poverty have not been eliminated, and population continues to grow, agriculture needs another technological push. Many biotechnology firms have created genetically modified crops. The plants can include genes that make them more nutritious, which could help reduce hunger. Some plants can fix nitrogen themselves and can emit toxins that kill pests, reducing the need for fertilizer and pesticides (Sinha, 1998: 195). However, there are those who doubt the potential of these genetically modified seeds to truly end hunger for good. "For those who remember the original "Green Revolution" promises to end hunger through miracle seeds, this call for "Green Revolution II" should ring hollow (Rosset, 2000: 1)." However, the US, which uses genetically modified crops, in 2002, had an average grain yield of 6,841 kilograms per hectare, while in India the yield was only 2,390 kilograms per hectare. How much of this increase is due to genetically modified crops is unknown, but the idea of a second green revolution should not be dismissed outright.

The technology of the green revolution helped to increase yields and prevent famines, but side effects from the technology have also increased inequality, perpetuating the disparate social and economic system that already existed. The green revolution has caused environmental degradation, decreased stability, and is unsustainable for the future. In India, the population that increased as a result of more food availability is increasingly relying on an unstable and unsustainable source of food. Population will continue to grow in India, which means that India may need another agricultural technological advancement to keep up with growing demand and to prevent increased hunger.

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Superior Management Model: "Renewal" Perspective

Swarup Kumar Dutta

Abstract

The proposition of how companies win at the market place have changed in the 21st century from the concept of pure business models only to the one in which an effective management model is wrapped inside a business model. As such, management model innovation is a key area for business success. The paper takes a closer look at how superior management models can be effectively utilized for delivering business success and hence creates renewal in organizations. It effectively cites the case of four types of organizations through a framework to drive the point for managerial action.

Key words:

Management Model, Organization, and Typology.

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A management model basically demonstrates the choices of actions made by a company's top executives regarding how they define objectives, motivate people, coordinate activities and allocate resources. In other words how they define the work of management (Birkinshaw and Goddard, 2009). Inspired by changes in the expectations of their employees, new technological capabilities and the offerings of emerging competitors, some companies are discovering that a distinctive management model can itself be a key driver of its competitiveness. As such the work of management typically boils down to four sets of activities.

1. Alternatives available about the nature of the objectives the company pursues: Do managers have a clear set of short-term goals for the company? Or do they pursue an oblique path through the definition of a higher-level and longer–term set of objectives?

2. Alternatives about how individuals are motivated to pursue these objectives: Do managers attempt to hire

and retain good people by making extrinsic rewards attractive, such as salary, benefits and bonuses? Or do they focus on intrinsic rewards; such as the opportunity to contribute to society, a feeling of achievement or peer recognition?

3. Choices about how activities are coordinated in the company: Do managers focus on using formal and well-structured management processes to deliver outputs? Or do they encourage a process of informal and spontaneous coordination through mutual adjustment?

4. Choices about how decisions are made in the company: Do managers take personal responsibility for decision making and rely primarily on their own deep knowledge and experience? Or do they prefer to tap into the disparate knowledge of their subordinates and assign collective responsibility.

As such if a framework for dimensionalizing management is to be understood the Means of the management seeks to address the core issues of coordinating activities and making decisions. The Ends of the management model seeks to address the issues of managing objectives and Motivating people (Guilen, 1994). Please refer Table-1.

Table-1: The framework for dimensionalizing management is as follows-

Ways of the Management Model	Core Issues	Traditional Organization Norms	New Organizational Norms
Ends	Managing	Compartmentalized/	Shared fate /
	Objectives	Functional goal setting	team based
	Motivating people	Extrinsic	Intrinsic
Means	Coordinating Activities	Command and Control/ bureaucratic	Empowerment
	Making Decisions	Top-down	Bottoms up / Collective wisdom

Source: Birkinshaw J. and Goddard J (2009), "MIT Sloan Management Review." -Vol. 50, No.2.

How do corporate differ both in what they try to do and how they try to do it

The **"how**" dimension refers to the nature of the involvement of the corporate and the type and degree of intervention that the top managers make in the operations of the organization. This is precisely what a management model seeks to deliver and when interpreted in terms of core issues, it boils down to how directions are set, how decisions are made, how people are rewarded and resources are allocated. It basically tries to answer the questions of the means and ends that a management seeks to undertake its task. Thus the nature of corporate involvement / intervention speaks of the management model.

Similarly the "what" dimension seeks to find out what is the source of competitive advantage of a firm (Ward, Bowmann and A. Kakabadse, 2005). By justifying a firm's value creation logic in terms of two ways- either it somehow reduces the total costs of the company in terms of economies of scale or scope or it concentrates on new knowledge creation or it does something that adds more value to the group than outweighs the costs. Indirectly these speak of the business model (Markides, 1997).

At its very simplest, the corporate centre of a firm can intervene directly by doing things for the businesses within the organization, or it develops an indirect method of involvement by influencing how these businesses behave. In order to realize this potential added value, each corporate has to ensure that it is operating within the appropriate configuration. The appropriate configuration depends on the specific external environment that the group is facing and the mix of businesses.

Using the Framework to make Explicit Management Choices

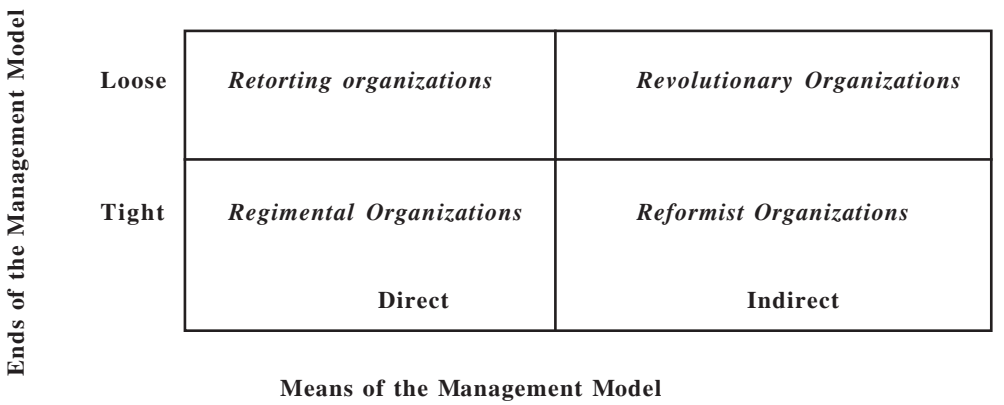
Detailed studies carried out on 20 blue chip organizations around the world in different industries has revealed that based on the usage of the management model, organizations can be classified into basically four types. Of course there could be a combination or a hybrid sort of organization, but by and large one of the four mentioned below takes precedence.

It is useful to understand the key dimensions of choice and the management principles that anchor each dimension, but the real value of the work is in identifying patterns that can be suggested as a type of management model we distinctly try to understand. The patterns that can be observed are of the traditional kind as also some of the emerging kind which actually is innovations in the management model. This will enable companies to identify their competitive advantage and seek to sustain them by following any of the typical patterns which may aid them in renewal.

For understanding the different types of management models that can exist, the framework has been developed to understand the model used vis-a-vis the organizations that fit into it.

Organizations seek to address the means of the management model by being direct or indirect in their approach. This means the ways by which decisions are taken or activities are coordinated can be either directly addressed by the management or the same can be delegated or empowered at appropriate levels to achieve the means indirectly.

Also organizations seek to achieve the ends in terms of defining objectives and motivating people. This can be achieved by tighter control in terms of management fixing targets and monitoring for effective performance and suitably rewarding the performers or it can also have a loose approach of collaborative goal setting and intrinsic motivation characteristics. This may vary from company to company. Based on the above argument organizations can be basically clubbed under four heads to fit into such a framework and for understanding have been designated as Regimental, Retorting, Reformist and Revolutionary types. As can be observed traditional models have given way to some emerging management models.



Source : Developed by the author

Regimental Organizations

These types of organizations cater to the management model in which the means are direct as well as the ends are tightly controlled. Such types of organizations basically fall under the category of "command and control "culture which invariably drives its management model. These types of organizations are characterized by typically well defined management processes and strict hierarchical decision making. The old GEC, Westinghouse would fall in these categories of hard driving management. In modern times, Wal-Mart, Reliance Industries, etc would also fit in such scheme of things.

Reliance Group is India's largest private sector enterprise with revenues in excess of US$ 25 billion. The group has diversified business interests in areas such as petrochemicals, textiles and

retail. Reliance Group's flagship company, Reliance Industries Limited (RIL), is a Fortune Global 500 company and is the largest private sector company in India. The Reliance Group was founded by the legendary Dhirubhai H. Ambani. In 1975, the company expanded into textiles. Dhirubhai Ambani introduced equity cult in India when Reliance went public with IPO in 1977. Since the launch of its IPO RIL has expanded rapidly and integrated backwards into other industry sectors, most notably the production of petrochemicals and the refining of crude oil. Dhirubhai led the evolution as a global leader in the materials and energy value chain businesses. Today, Reliance Group's activities range from exploration and production of oil and gas, petroleum refining and marketing, petrochemicals (polyester, fibre intermediates, plastics and chemicals) to textiles and retail. Reliance enjoys global leadership in its businesses. It is the largest polyester yarn and fibre producer in the world and among the top five to ten producers in the world in major petrochemical products. Presently, Reliance Group has more than 25,000 employees on its rolls and exports products in excess of US$ 15 billion to more than 100 countries in the world.

The success of Reliance is typically because of principles which are hard driving in terms of the means and ends. The company sets very high and ambitious targets for its employees with adequate performance incentives' tied up to the business results. Directions are well set as also the means of coordination and decisions taken. Reliance has been extracting the best of these management models since inception. However it is to be seen whether with globalization these model shifts to being a reformist or a hybrid form.

Retorting Organizations

These types of organizations has a management model structure which tries to weave the Direct means of the management model with loosely controlled ends. Such types of organizations are typically high growth organizations in which the management model spells out some of the values management and code of business practices are defined succinctly. These type of organizations are bound by these means to achieve loose ends as deemed fit. Typically Unilever Plc, Infosys, General Electric, etc would fall in such category.

Infosys Technologies is a leading Information Technology (IT) company which provides end-to-end business solutions that leverage technology. Infosys serves the client globally and as one of the pioneers in strategic offshore outsourcing of software services, it has leveraged the global trend of offshore outsourcing. Infosys helps large global corporations and new generation technology companies in building new products or services and in implementing prudent business and technology strategies in the contemporary dynamic digital environment Founded in 1981. In 1999, Infosys crossed $100 Million in annual revenue and was listed on NASDAQ. It was the first Indian company to be listed on NASDAQ. In the same year Infosys opened offices in Germany, Sweden, Belgium, and Australia. In 2000, Infosys crossed $200 Million in annual revenue. In 2004, Infosys crossed US $1 Billion in annual revenue. In 2006, Infosys completed 25 years of its existence and its revenues crossed $ 2 billion. Today Infosys has more than 50,000 employees and has presence in more than 20 countries across the world. Its corporate headquarters is in Bangalore. Infosys follows highest standards of corporate governance. No relative of the founders is eligible to work in Infosys and all the employees including founders are to retire at the age of 60.

The management model is driven by the fact that the top management creates a sense of purpose for the organization by creating a framework which it is tied to deliver the ends. The means of working are guided by a framework within which the employees are free to experiment. This management model has also delivered outstanding business results as per the study.

Reformist Organizations

The alternative to the retorting type in this model, Organizations of the reformist mode are those that typically are not bound by means but bound by ends. The management model is driven by the fact that coordination in terms of resources and decisions are quite indirect, however the ends are tied up in terms of how directions are set for business results. Such types of organizations are created with the view that experimentation is allowed but found by a framework. Notable examples of such would be Whole Foods Market, HCL Technologies, etc.

Whole Foods Market (WFM) is the world's leading supermarket chain of natural and organic foods and is America's first national certified "organic grocer." It operates 275 stores and generates nearly $ 8 billion a year in sales. It is also America's most

profitable food retailer when measured by profit per square foot. The company is well-known for its team-based operations and employee-oriented work culture, which were thought to be the main drivers of its growth and profitability in an industry that was characterized by negligible growth rates and declining profits (Hamel, 2007).

"Customers experience the food and the space, but what they really experience is the work culture. The true hidden secret of the company is the work culture. That's what delivers the stores to the customers."

Chris, Hitt, Former President of Whole Foods in 2004 (Fortune, 2003).

WFM is well-known for its employee- oriented work culture and team based operations, which were thought to be the main drivers of the company's success. According to analysts, several companies talked about teamwork, autonomy and empowerment, but very few actually put these ideals into practice. WFM was considered by some to be one of those rare companies that not only had a clear vision, but also the commitment to pursue it.

Business Model

Whole Foods' business model is built around a simple but powerful premise: people will pay a premium for food that's good for them, good-tasting, and good for the environment. Ever since cofounder, chairman and CEO John Mackey opened the original Whole Foods Natural Market, one of the country's first super markets - style natural food stores, in Austin, Texas, the company has focused its attentions on health - minded shoppers. Mackey had the foresight to see the customer's changing preferences and tastes in terms of a fast growing population of food-aware customers eager - to buy - out of the ordinary stuff; and an increasing desire among many to live in more ecologically sustainable ways.

Culture

WFM had a culture where employees at all levels were empowered to take decisions and had a voice in the company's policies at whole Foods; the basic organizational unit is not the store, but the team. Small, empowered work groups are granted a degree of autonomy nearly unprecedented in retailing. Teams are the focal point of the operations of WFM, and they formed the core of the company's culture.

The spirit of radical decentralization - The Hiring Vote: A unique practice at WFM was that all recruitment for full-time employees was done at the team level. The powers of the store leaders were restricted to screening candidates and recommending them for the job. Team members were also careful about whom they allowed on their team, because hiring a poor performer could affect their productivity as a team and show them up in a bad light during the reviews. This exceptional degree of autonomy conveys a simple but invigorating message: it is you, rather than some distant manager, who controls your success.

The Benefits Vote – exemplification of a high trust organization**:** The extent of decentralization at WFM was demonstrated in 2003, when the company put the entire benefits package, from medical plans to vacation time, up for a company-wide vote (CRA Newsletter, 2004). The employees themselves voted on what benefits they were to get (generally a corporate- level decision) rather than have headquarters decide on the package. Competitiveness and Gain sharing: WFM's culture of teamwork and transparency promoted intense competition between its different teams, stores, and regions, with each trying to outdo the other in service, quality, and profitability (Boyle, 2006). The company encouraged comparisons of performance and competitiveness among the employees, and leveraged on competition to create a culture of excellence. It did this by linking bonuses, rewards, and promotions directly to the performance of the team or the store.

Revolutionary Organizations

The fourth type of organizations is one in which the means and ends of management are deliberately loose. Revolutionary

organizations are basically a case of total experimentation in the management model. Such type of organizations is probably in the self discovery mode. It may basically be many new start-ups with culture yet to be standardized. Though such organizations are quite new and few, these are revolutionary organizations and are trying to redefine the definition of management and total experimentation is the norm. Typically example of such organizations would be W.L. Gore and Associates, Sasken Technologies, etc.

Sasken Technologies is an embedded communications and Solutions Company based in India that helps businesses across the communications value chain accelerate product development life cycles. Established in 1989, Sasken employs more than 3,200 people, operating from state-of-the-art research and development centers in Bangalore, Pune, Chennai and Hyderabad in India; Kaustinen, Tampere and Oulu in Finland and Monterrey in Mexico. Sasken is also present in Beijing (China), Bochum (Germany), Kanagawa (Japan), Guildford (UK) and Chicago, Dallas and Santa Clara (USA). Committed to innovation, Sasken works with customers to help them get to market ahead of the competition, and stay focused on new product development and manufacturing. With deep understanding of the communications industry, access to current and emerging technologies, mature development processes, global resources and a proven track record, Sasken creates complete solutions to help clients succeed. Clients choose Sasken for the comprehensive range of application solutions and services, backed by a proven reputation for expert support and high quality. Sasken is SEI CMM Level 5 certified and its' solutions are backed by ISO 900: 2000, ISO 27001 and TL 9000 certifications. The management model basically lays stress on the fact that people are free to experiment their ideas in all matters so long as business results are being delivered which are also kept loose. As such typically critics would comment that such a model would result in chaos for the company, however so long as the alignment of the business model and management model exists, it is delivering high performance.

Some Innovative Policies of Sasken

A few radical practices at Sasken include its "single status" policy. This implies that everyone in the organization enjoys the same level of perks and benefits (loan limits, leave rules and even access to STD/ISD phone). There is no dress code and there is absolute flexibility in timings. The hierarchy is minimal with just five levels including the CEO. With 24-hour access to cafeteria, sabbatical policy that encourages learning, nearly 50 percent of the people with advanced degrees, and company-wide Christmas vacation (Dec 25-31). Sasken enjoyed a low attrition rate of 11 percent even in 1999 when the industry attrition rate was in excess of 30 percent. Even now, for all these years, when all the other IT companies specially, are riddled with retention problems, Sasken has managed to maintain single digit attrition rate. There is some "Intel Inside" in Sasken (by way of Investment from Intel Capital). Sasken saw a dramatic growth from 300+ employees in 1997 to more than 1100 employees by 2001. Sasken handled even the crisis that most telecom-focussed IT companies faced in the year 2001 very differently. There was an across the board "Pay Cut;" not the usual "hush-hush" pink slips that many corporations across the globe adopted. Criteria that determine incentives are uniformly applied since the company truly believes that the only differentiator is performance. Even the attendance is not monitored.

So how does one maintain a balance between giving freedom on one side and maintaining professionalism and deriving productivity on the other end? Hari Iyer, Senior Vice-president, HR, justifies his company's unique policy, "Our workforce comprises intelligent people who rank high on the achievement rate. They prefer challenging assignments and generate utmost output. We truly believe that instead of monitoring the input control, it is better to keep a tab on the output control i.e. results." One of the other policies that differentiate Sasken from similar companies in the industry is the six weeks of hibernation leave, in addition to all other paid leave, granted to employees who complete four years with the organisation. This step is undertaken to ensure rejuvenation and avoid burn out. Other policies include unlimited need-based sick leave and equal privileges for employees across all levels. Their well-established flex-time policy allows an employee to manage work-life balance while ensuring that deliverables do not suffer.The excellent reputation that Sasken has maintained among its existing employees through its effective and innovative policies is also reflected by the fact that Sasken was voted Rank 1 as the "Best Company to Work for" by Business Today magazine, in 2004. Again it ranked second as the "Best Company to Work for" the very next year, in 2005. Then for the last four consecutive four years, Sasken has maintained its position

among the "Top 5 Companies to Work for in India." The trust Sasken has placed in these policies has been validated and a testimony to its success is the fact that a whopping 32 percent of new recruits join the workforce through internal referral programmes. Thus we can see a great management model which is wrapped inside a business model. These are revolutionary as both means and ends are loosely defined.

Findings

Categorization of organizations into four types in the form of a managerial framework explained above. The broad studies of the 20 companies have revealed the following in terms of the configuration model that applies to them broadly.

So how does one know which organization model is right for your company? (Refer table 2).

Table 2: Organization Model vs. Suitability

Organization Model	Suitability
Regimental Type	1. Mature business, operating in a stable, predictable industry. 2. Command and control culture is in place and hierarchical norms are strictly followed. 3. Management approach of the leaders is that of master strategists and administrative controllers. 4. Turnaround or Transformational situations,where clear rules are needed
Retorting Type	1. Organizations which seek huge growth opportunities across geographies. 2. Management draws up a framework within which the company is supposed to operate 3. Management seeks to address itself as vision upholders and not as grand strategists. 4. Typical middlre management role is of developmental coaches and not administrative controllers.
Reformist Type	1. Businesses which are driven with human intellectual capital like research and development labs, professional service firms, suitable for firms in established and growing businesses. 2. Organizational structures are very flat in nature. 3. Market conditions are dynamic and competitive. 4. Management which is focused on outputs and not on inputs
Revolutionary Type	1. Businesses which are highly uncertain and operating in fast changing environment. 2. Uses cutting edge technology for sustainable competitive advantage 3. Conventional organizational structures and reporting systems are not followed. 4. Philosophy of shared fate.

Source : Developed by the author

Applicability of the Management Model on the Business Model:

By Direct Intervention / Involvement (Campbell, Goold and Alexander, 1995):

a) Where the organization is seeking to leverage existing knowledge across the group directly by intervening or by involvement, the skills required are primarily those of system and process management. The vital role of the organization is to codify know-how that already exists in a single business. By codifying know-how, the centre transforms it into corporate knowledge that can be exploited across the group. Systems and process management skills are needed for the codification/ distillation of the existing knowledge prior to its being leveraged

across the group. In addition, the organization must have an excellent understanding of the businesses within the group, in order to identify those other businesses where this particular competitive advantage is applicable.

b) The other combination of type and source also involves direct intervention but with a focus on reducing total group costs. The resulting emphasis tends to be on the centre actually doing things for an on behalf of its business units. Thus the centre's primary role can be described as centralizing, in order to achieve cost advantages for the group as a whole. As such the corporate centre needs high degree of supply chain management skills, so that it can centralize those processes that generate a high level of true net savings for the group.

By Indirect Intervention / Involvement (Goold and Campbell, 2002)**:**

a) The primary role for an indirect type of involvement combined with a cost-reducing, economies of scale based source of corporate advantage is to establish appropriate control processes for the businesses within the groups. The key skills needed at the corporate centre for this type of role is that of financial management.

b) The other type of indirect corporate involvement involving knowledge as a source of advantage has a fundamentally different primary role, which requires an almost diametrically opposed set of skills required by the corporate. Where the corporate advantage is based on knowledge and the value added by the corporate centre is facilitating the creation of new corporate know-how, the emphasis is on stimulating creativity and innovation across the group and particularly among separate business units. The key skills of vision / values management are thus vital if a strong group identity is to be developed and a high degree of trust can be built up between both the businesses and the top executives. Therefore its management team requires highly developed communication and counseling skills, if the group's vision and values are to be widely and accurately adopted. Table 3 summarizes the broad applicability of the above mentioned argument.

Table 3: Applicability of the Management Model on the Business Model

Goal	Nature of Involvement	Role	Skills	Configuration
Cost advantages	Direct	Centralizing	Supply Chain Management	Managerial
Cost advantages	Indirect	controlling	Financial Management	Shareholder
Knowledge creation	Direct	leveraging	Systems/ Process Management	Consultant
Knowledge creation	indirect	creative	Vision/ Values Management	Leader

Source : Ward K, Bowmann C & Kakabadse A (2005)," Designing World Class Corporate Strategies, Elsevier

Conclusions

Taking the learnings from the 20 companies studied, and as per the illustrations of the four companies cited above, it is possible to categorize companies following a particular type of management model based on the management practices. The purpose of this paper is not to point out the flaws or deficiencies in any of the model, but to question the management of companies in terms of following a characteristic management model (Malone, 2004). As internet based technologies are here to disrupt traditional ways how the work of management was perceived, each company's management model could be unique

in the way by which value creation is being done, and as such there is no right or no wrong configuration.

The paper tries to examine the issue of management model in terms of forming a framework by which the core issues of management can be addressed in trying to deliver sustainable competitive advantage which can aid in renewal. It tries to find out the type of organizational model that may suit a company based on its management model.

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Restructuring the Corporate: Measuring Performance

Jagdish R. Raiyani

Abstract

In the context of policy reforms in the 1990s in general and three important amendments made to the Indian Patent Act (1970) in 1999, 2002 and 2005 in particular, the present paper makes an attempt to examine the impact of MA on financial performance of Indian pharmaceutical companies. It is found that the profitability of a firm depends directly on its size, selling efforts and exports and imports intensities but inversely on their market share and demand for the products. However, MA do not have any significant impact on profitability of the firms in the long run possibly due to the resultant X-inefficiency and entry of new firms into the market. In addition, in-house R&D and foreign technology purchase also do not have any significant impact on profitability of the firms.

Key words:

Mergers, Acquisitions, Pharmaceutical Industries, Patent, India.

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Introduction of deregulatory policy measures in general and competition policies in particular since 1991 have resulted in a significant increase in the number of mergers and acquisitions (MA) in Indian corporate sector (e.g., Khanna, 1997; Venkiteswaran, 1997; Chandrasekhar, 1999; Roy, 1999; Basant, 2000; Beena, 2000, 2004 and 2008, Das, 2000; Kumar, 2000; Agarwal, 2002; Dasgupta, 2004; Mishra, 2005; Agarwal and Bhattacharya, 2006; Mantravadi and Reddy, 2008). While majority of these deals are horizontal in nature (Khanna, 1997; Beena 2000 and 2008; Mishra, 2005), the number varies significantly across the industries (Basant, 2000; Das, 2000; Dasgupta, 2004; Agarwal, 2002; Mishra, 2005). The broad industry groups that experienced a large number of MA include financial and other services, chemicals including drugs and pharmaceuticals, electrical machinery, electronics and beverages including spirits and vinegars, etc. (Basant, 2000; Das, 2000; Agarwal, 2002, Mishra, 2005).

There are two broad theories explaining why firms acquire other firms or merge with other firm. The monopoly theory postulates that the firms use the route MA to raise their market power (Steiner, 1975, Chatterjee, 1986), whereas, according to the efficiency theory, MA are planned and executed to reduce costs by achieving scale economies (Porter, 1985; Shelton, 1988). Either way firms are expected to have better financial performance following MA. Many of the existing studies (e.g., Healy et al. 1992; Grabowski et al., 1995; Switzer, 1996; Waldfogel and Smart, 1994; Vander, 1996) empirically support the proposition that MA lead to better financial performance of the firms. Contrary to this, there are also studies (e.g., Dickerson et al., 1997; Ravenscraft and Scherer, 1987a and 1987b; Mueller, 1985; Ghosh, 2001) that report results at odds with the view that MA improve corporate performance. Further, Ikeda and Doi (1983), Cosh et al (1984), Kumar (1984), Geroski (1988), Odagiri (1992) also find either such negative results or little changes in operating performance following MA.

Thus, the existing studies report mixed impact of MA on financial performance of the firms, with the findings ranging from slightly positive improvement to significantly negative or no improvement. This raises an important question; has the wave of MA in the post-reform era helped Indian firms in improving their financial performance? While addressing this question is very important to understand the implications of the wave of MA, the research on financial performance following MA in India so far is very limited. Besides, although most of these existing studies (e.g., Pawaskar, 2001; Beena, 2004; Mantravadi and Reddy, 2008) find decline or very little increase in post-merger profitability, their empirical testing is based on either small sample of deals (e.g., Pawaskar, 2001) or shorter time-frame (e.g., Beena, 2004). A small sample fails to capture adequately the variations in impact of MA, especially, when the sample is drawn from diverse product groups/industries (e.g., Mantravadi and Reddy, 2008). A shorter timeframe, on the other hand, undermines the process of adjustment and the conclusion on impact therefore may be misleading. Further, a better understanding of the impact of MA on financial performance also requires controlling for the influence of various structure, conduct (other than MA) and policy related variables, which is missing in the existing studies.

In this perspective, the present paper makes an attempt to examine the impact of MA on financial performance of pharmaceutical companies with a sample of 52 firms over the period of 2000-01 to 2007-08 by using the multi-directional structure-conduct-performance-policy relationships. The reasons for selecting pharmaceutical industry are of many folds. First, drugs and pharmaceutical industry appears to be one of the most active sectors in the game of MA accounting for about 8.6 percent of total mergers and 11.6 percent of total acquisitions in the 1990s and majority of these MA were horizontal in nature (Mishra, 2005). Second, the wave of MA in Indian pharmaceutical industry did not help the firms much in raising their market share. This contradicts with the basic proposition of the monopoly theory that the firms use the route MA to raise their market power (Steiner, 1975, Chatterjee, 1986). But, as a large number of deals in the industry were guided by the motives of business consolidation and strengthening R&D bases, the firms may be benefited through efficiency gains.

Third, since the market remain highly competitive despite the wave of MA, Mishra (2006) infers that MA have very little impact on performance of Indian pharmaceutical industry, rather performance of industry is determined mainly by the extent of market concentration, import competition, marketing expenses and technology strategies by the firms. However, such inference on causal linkages between MA and performance is not empirically verified.

Finally, the Pharmaceutical Policy (2002) is expected to ensure availability of abundant good quality and essential drugs, strengthening indigenous capabilities and quality control system, creating a framework to encourage new investment and new technologies, increasing exports by reducing barriers to international trade, and encouraging R&D compatible with the country's needs particularly in the context of the commitment regarding TRIPS Agreement. This coupled with delicensing of the sector, removal of a large number of drugs from price control, and three important amendments to the Indian Patent Act (1970) by the parliament before TRIPS became effective in 2005, viz., Patent First Amendment Act in 1999, Patent (Second Amendment) Bill in 2002 and Patent (Amendment) Bill in 2005 have made a marked shift from the process patent regime towards an era of product patent.

The rest of the paper is organized in the following way: Section II specifies the functional model applied in the present paper and discusses the possible impact of MA on firms' performance controlling for that of other variables. Section III deals with the methodology and the data used. Section IV analyses the empirical results and Section V concludes the paper.

Specification of Functional Model

The impact of MA on financial performance of the firms can be examined by using the structure-conduct-performance (SCP) framework. The traditional SCP paradigm, based on the early work of Edward Mason (1939) and developed further by Bain (1959), postulates a unidirectional relationship between market structure, conduct and performance. However, the successive developments in the industrial organization literature have resulted in multidirectional structure-conduct performance- policy relationships (Scherer and Ross, 1990). In the new framework, the causal relationships amongst structure, conduct and performance are not necessarily being unidirectional. Instead, dual causalities between structure and conduct, between conduct and performance, and between structure and performance are very likely. Another important development in the modern SCP paradigm is inclusion of public policies relating to taxes, subsidies, international trade, investment, etc. Further, the relationships may not necessarily be instantaneous in nature (Kambhampati, 1996) and there may be lagged relationships amongst many of the constituent variables.

Seen in this line, let us assume that current profitability ($PROF_t$) of a firm is a function of its current size (FSZ_t), current market size (MSZ_t) current market share ($SHARE_t$), lagged mergers and acquisitions (MA_{t-1}), lagged selling intensity ($SELL_{t-1}$), lagged R&D intensity (RD_{t-1}), lagged foreign technology purchase intensity ($FTECH_{t-1}$),current export intensity (EXP_t), and current import intensity (IMP_t), i.e.,

$$PFOR_{it} = \alpha_1 + \alpha_2 FSZ_{it} + \alpha_3 MSZ_{it} + \alpha_4 SHARE_{it} +$$
$$\alpha_5 MA_{t,t-1} + \alpha_6 SELL_{t,t-1} + \alpha_7 RD_{t,t-1} + \alpha_8 FTPI_{t,t-1} +$$
$$\alpha_9 EXP_{it} + \alpha_{10} IMP_{it} + u_{it}$$

Here, MSZ_t is used as a proxy for demand for the firms' product. On the other hand, FSZ_t, $SHARE_t$ and IMP_t stand for structural aspects of the market, MA_{t-1}, $SELL_{t-1}$, RD_{t-1}, $FTECH_{t-1}$, EXP_t and IMP_t for firms' conducts and EXP_t for their performance. In addition, MA_{t-1} is also likely to capture changes in investment policies in general and competition policy in particular. Similarly, EXP_t and IMP_t are also expected to capture the impact of trade related policy changes on performance of the firms. Further, the present paper uses two alternatives measures of profitability, viz., the ratio of profit before interest and taxes to sales (PBIT) and the ratio of profit after taxes (PAT) to sales to substantiate the findings.

Possible Impact of the Independent Variables

Current Firm Size (FSZ_t): Firm size is generally hypothesized to have a positive impact on profit rates due to scale economies and other efficiencies associated with large-firm size (Hall and Weiss, 1967; Scherer, 1973; Majumdar, 1997). In a competitive market like Indian pharmaceutical industry with little difference in market share and availability of large number of alternatives, efficiency gains from being larger in size help a firm to raise its profitability. This is particularly so as the prices of a number of medicines are still controlled.

Current Market Size (MSZ_t): As pointed out earlier, in the present paper current market size of a firm is used as a proxy for the demand for its product. It is expected that the firms with greater market demand will have greater profitability. However, when firms reduce prices to raise market demand for their products or restrict entry, they may not necessarily experience greater profitability.

Current Market Share ($SHARE_t$): The basic theory of industrial economics suggests that high market share raises profitability. However, such a positive relationship between market share and profitability may not be so straight forward. Feeny and Rogers (1999) find a U-shaped relationship between market share and profitability. This may be so when the objective of the firm is to grow in size through greater market penetration. In this case, higher market share may be a consequence of lower prices charged by the firm. Further, higher market share may encourage entry of new firms or results in X-inefficiency of the existing ones. So, in the long run, market share may not have any significant impact on

profitability. For example, McDonald (1999) fails to find any significant relationship between profitability and market share of Australian manufacturing firms.

Mergers and Acquisitions (MA_{t-1}): According to the efficiency theory, MA are planned and executed for reducing costs by achieving scale economies (Porter, 1985; Shelton, 1988). The monopoly theory, on the other hand, considers MA as the routes to raise market power (Steiner, 1975, Chatterjee, 1986). Therefore, one may expect MA to help the firms to improve their financial performance through greater market power and efficiency gains. However, in addition to MA, market power of a firm may also be influenced by number and size distribution of firms in the industry, entry of new firms into the market, extent of import competition, expansion of the market, etc. Further, whether a merger or an acquisition will lead to greater market power may also depend on the motive of the particular synergy. If, for example, a merger or an acquisition is motivated by more efficient operation rather monopoly power, it may not lead to increase in market concentration (Banerjee and Eckward, 1998). Similarly, monopoly power arising out of a merger or an acquisition may result in X-inefficiency. This means that, when controlled for other factors, a merger or an acquisition may not necessarily improve financial performance of the firms.

Lagged Selling Intensity ($SELL_t$): Selling efforts by a firm that include advertising, marketing and distribution may raise its profitability in a number of ways. On the one hand, advertising can help the firm to have image advantage over the rivals. Advertising can also create entry barriers. Comanor and Wilson (1967) hypothesize that industries with high advertising expenditures have high product differentiation barriers to entry. The Comanor-Wilson hypothesis has been tested extensively resulting in a positive relationship between profitability and advertising to sales ratio (Scherer and Ross, 1990). On the other hand, firms also spend heavily on distribution and marketing activities to gain increased market shares, with a consequent impact on profitability (Majumdar, 1997). Thus, product differentiation and image advantage through advertising, coupled with creation of marketing and distribution related complementary assets are expected to improve the financial performance of a firm. In other words, higher the selling intensity of a firm in any year, greater the profitability is likely to be in the next year.

Lagged R&D Intensity (RD_{t-1}): Product innovations through in-house R&D efforts strengthen and extend market orientation while process innovations reduce the cost of production. Sustained innovation may also act as an important instrument of maintaining entry barriers (Mueller, 1990) and thereby resulting in higher profitability in the long run. Cefis (1998) confirms that the firms that are persistent innovators continue to innovate and earn above average profit. However, in the absence of effective regulation, the extra profit due to innovation may diminish when the competitors start to imitate the products and the processes of the innovative leading firms. This coupled with the current accounting practices that allow firms to express R&D expenses entirely in the year incurred instead of amortizing it to recognize its future benefits creates the possibility of negative impact of in-house R&D on - profitability.

Lagged Foreign Technology Purchase Intensity (FTP_{t-1}): Acquisition of new technology helps a firm in lowering operating costs and hence the price (Hinomoto, 1965; Balcer and Lippman, 1984). It may, therefore, be assumed that acquisition of foreign technology raises the profitability of a firm by modifying the level and composition of its productive capacity, reducing per unit production costs and enhancing demand. Greater access to foreign technology not only enhances competitive edge of the firm in the market place, but also helps it in creating strategic entry barriers. Firms may purchase foreign technology or they may have access to the same through licensing, foreign investment and mergers and acquisitions.

Current Export Intensity (EXP_t): Although there is no specific theory, per-se, which links the export-orientation of firms to performance, one may expect the impact of exports on observed performance of firm to be positive (Majumdar, 1997). This is particularly so when the competition intensity differs between the domestic and the international marketplace. Larger penetration through exports in the international market is backed by greater competitiveness and it also provides the domestic firm opportunities to operate at optimal scale, especially, when domestic demand constraints are present. This helps a firm to reduce its costs of operations and hence to raise profitability.

Current Import Intensity (IMP_{t-1}): With greater penetration of imported goods, a firm can raise its market share and hence

profitability. Further, higher import intensity of a firm may also pressurize others to perform better (Majumdar, 1997), and failure in this regard may force many of the incumbents to exit the market raising profitability of the existing firms. Therefore, one may expect a positive impact of import intensity on the profitability of a firm. However, the existence of a quota system and import licensing, which has been the case in India may engender rent-seeking and make the impact of imports on profitability negative.

Methodology

The above equation is estimated by applying panel data estimation techniques for a set of 52 listed drugs and pharmaceutical companies over the period from 2000- 01 to 2007-08. Use of panel data not only helps in raising the sample size and hence the degrees of freedom considerably, it also incorporates the dynamics of firms' behaviour in the marketplace. This is very important in having a better understanding of complicated issue like the impact of MA on financial performance of firms. Necessary data on all the variables are collected from the PROWESS database of Centre for Monitoring Indian Economy (CMIE), Mumbai.

We estimate both the fixed effects model (FEM) and the random effects model (REM). While in the FEM the intercept is allowed to vary across the firms to incorporate special characteristics of the cross-sectional units, in REM it is assumed that the intercept of an individual is a random drawing from a large population with a constant mean value (Gujarati and Sangeetha, 2007). In other words, in REM the intercept of an individual unit is expressed as a deviation from the constant population mean. Therefore, the choice between the FEM and the REM is very important as it largely influences conclusion.

In the present paper, we apply the test developed by Hausman (1978) to decide between the FEM and REM. The test is based on the null hypothesis that the estimators of FEM and REM do not differ significantly and uses a test statistic that has an asymptotic $\chi 2$ distribution. When the null hypothesis is rejected, the FEM is better suited as compared to REM. Further, the decision made on the basis of Hausman test is verified by using Breusch and Pagan (1980) Lagrange Multiplier test for testing random individual effects, if any. The test is based on the null hypothesis that the variance of the random disturbance term is zero and uses a test statistic that follows distribution. Rejection of the null hypothesis suggests that there are random effects in the relationships.

Table 1: Summary Statistics for the Variables used in the Regression Model

Variable	Number of Observations	Mean Deviation	Standard	Minimum	Maximum
PBIT	260	38.16	121.19	-120.64	1212.57
PAT	260	24.95	85.22	-140.55	844.37
MA	260	0.78	1.25	0.00	7.00
SELL	260	14.71	32.75	0.00	354.48
DR	260	2.66	4.23	0.00	31.16
FTP	260	0.15	0.97	0.00	13.27
MSZ	260	4.38	2.35	-1.92	8.06
SHARE	260	1.92	2.94	0.00	16.20
FSZ	260	4.11	2.23	-2.18	8.20
EXP	260	21.54	25.62	0.00	123.97
1MP	260	20.86	47.96	0.00	457.78

Empirical Results and Analysis

Table 1 gives summary statistics of the variables used in the estimated model. Table 2 and Table 3 represent the regression results of the two estimated models by using PBIT and PAT respectively as the dependent variable. It is observed that the F-statistic in FEM and the Wald in REM are statistically significant. Further, the R2 value is reasonably high in FEM and it is very high in REM. This indicates that both the estimated models are statistically significant with high explanatory power. However, as mentioned in the earlier section, in order to select between the FEM and REM, the present paper applies the test developed by Hausman (1978).

The test statistic as presented in Table 2 and Table 3 is not statistically significant. This means that the estimates of REM are appropriate as compared to that of FEM in the present context. Further, the Breusch-Pagan test statistic is also statistically significant indicating randomness of the relationships. We, therefore, use the regression results of the REM for testing the statistical significance of the individual coefficients as well as for their interpretation.

White's heteroscedasticity consistent standard errors are used to compute z-statistics of the individual coefficients. This makes the regression results robust, as these standard errors control for heteroscedasticity. It is observed that the coefficients of FSZ, SHARE, MSZ, SELL, EXP and IMP are statistically significant. Further, while the coefficients of SHARE and MSZ are negative that of FSZ, SELL, EXP and IMP are positive. This implies that the firms with larger demand for their products or larger share in the market have lower profitability. On the other hand, the firms that are larger in size or that make greater selling efforts or have higher exports and imports intensities experience higher profitability.

Table 2: Regression Results with PBIT as the Dependent Variable

Fixed Effects Model			Random Effects Model		
Variable	**Coeffcient**	**t-Stat**	**Variable**	**Conefficient**	**z-State**
Intercept	138.2138	1.32	Intercept	-15.4494	-1.20
FSZ	40.7814	2.11**	FSZ	27.0706	2.40**
SHARE	-7.9332	-1.35	SHARE	-3.4810	-2.24**
MSZ	-67.7423	-1.69***	MSZ	-23.0511	-2.16**
MA	-1.9850	-084	MA	3.4304	1.28
SELL	2.2170	3.14*	SELL	2.6386	4.02*
RD	-5.6641	-2.26**	RD	-2.4374	-1.26
FTP	-4.8933	-0.64	FTPI	-7.6865	-0.99
EXP	1.1666	2.50**	EXP	0.4720	2.28**
IMP	0.1864	0.96	IMP	0.2858	1.72***
F-Statistic		8.49	Wald X^2		169.57
R^2-Within		0.76	R^2-Within		0.73
R^2-Between		0.33	R^2-Between		0.85
R^2-Overall		0.40	R^2-Overall		0.81
No. of Obversations		260	No. of Observations		260
Hausman X^2					3.32
Breusch - Pagan X^2					75,72

*Statistically significant at 1 percent.

**Statistically significant at 5 percent.

***Statistically significant at 10 percent.

It is interesting to note that the coefficients of MA, RD and FTP are not statistically significant. This means that mergers and acquisitions in Indian pharmaceutical firms do not have any statistically significant impact on their financial performance. Similarly, in-house R&D efforts or purchase of foreign technology also do not influence firms' financial performance in a significant way.

Table 3: Regression Results with PAT as the Dependent Variable

Fixed Effects Model			Random Effects Model		
Variable	**Coeffcient**	**t-Stat**	**Variable**	**Conefficient**	**z-State**
Intercept	71.7654	0.87	Intercept	-20.4236	-1.81***
FSZ	27.7219	1.88**	FSZ	19.3612	2.28**
SHARE	-8.0098	-1.62	SHARE	-3.3430	-2.58**
MSZ	-40.9989	-1.29	MSZ	-14.6181	-1.71**
MA	-1.9273	-1.12	MA	2.4565	1.18
SELL	1.5109	2.88*	SELL	1.7741	3.75
RD	-3.9907	-2.17**	RD	-1.3290	-0.90
FTP	-4.1717	-0.75	FTPI	-6.0874	-1.11
EXP	1.0372	2.90*	EXP	0.3894	2.48
IMP	0.1139	0.79	IMP	0.2055	1.75***
F-Statistic		8.49	Wald X^2		169.57
R^2-Within		0.76	R^2-Within		0.73
R^2-Between		0.33	R^2-Between		0.85
R^2-Overall		0.40	R^2-Overall		0.81
No. of Obversations		260	No. of Observations		260
Hausman X^2					4.34
Breusch - Pagan X^2					75.34

*Statistically significant at 1 percent.
**Statistically significant at 5 percent.
***Statistically significant at 10 percent.

The empirical results presented above suggest that profitability of a firm depends inversely on its market share. Firms with larger market share experience lower profitability in the long run. This may contradict to the general perception that larger market share results in higher profitability, but is not surprising. A firm may experience lower profitability despite having greater market share due to the entry of new firms into the industry and X-inefficiency of the incumbents. The firms with larger share in the market may enjoy higher profitability in the short run, which may encourage new firms to enter into the industry. In the long run, absence of legal entry barriers and failure of the incumbents to create strategic entry barriers make entry of new firms possible and thereby reduce profitability of the incumbents. Similarly, when firms raise market demand for their products by reducing the prices, they may not necessarily experience greater profitability. In other words, a firm with greater demand for products in the market may experience lower profitability.

The larger firms are found to record higher profitability possibly due to scale economies and other efficiencies associated with large-firm size. This is quite consistent with Hall and Weiss (1967), Scherer (1973) and Majumdar (1997). Thus, in a competitive market like Indian pharmaceutical industry with availability of large number of alternatives and controlling of prices of many of the drugs, efficiency gains

from larger size is very important for a firm to raise its profitability.

The firms with greater selling efforts experience larger profitability through information dissemination, product differentiation, and easy movement of the products and better reach to the consumers. This is consistent with Robinson (1933), Kaldor (1950), Bain (1956) and Comanor and Wilson (1974), though this contradicts with Greuner et al. (2000) and Delorme et al. (2002). Similarly, firms with greater intensity towards exports and imports of final products are found to record higher profitability. Such a positive association of profitability with exports and imports intensity is consistent with Majumdar (1997).

Technology strategies of the firms in the form of either in-house R&D or purchase of foreign technology do not influence their profitability in a significant way. This may largely be due to the low R&D as well as foreign technology purchase intensity of most of the pharmaceutical companies operating in India. Further, purchase of obsolete technologies and failure in innovating new products or processes also restrict the firms from raising their profitability.

Interestingly, MA does not have any statistically significant influence on profitability of Indian pharmaceutical companies. In other words, firms do not necessarily benefit from MA in terms of profitability in the long-run, which is largely in the line of observations made by Ikeda and Doi (1983), Cosh et al (1984), Kumar (1984), Geroski (1988) and Odagiri (1992) that either confirm negative results or find little changes in operating performance following MA. However, the observation of no statistically significant influence of MA on profitability contradicts with the findings of Healy et al. (1992), Grabowski et al. (1995), Switzer (1996), Smart and Waldfogel (1994) and Vander (1996) that MA improve corporate performance. The contradiction may largely be due to multi-directional structure-conduct performance- policy relationships used in the present paper. As pointed out by Scheerer and Ross (1990), MA as business strategies influence firms' financial performance either by enhancing operational efficiency or raising market power. But, strategic reactions of other firms or policy intervention of the government may limit the benefits through MA. Further, many of the firms use the route of MA to consolidate their business/operation or to increase scale of operation for enhancing their competitiveness in the market. When it is so, MA may not necessarily have significant influence on firms' profitability.

Conclusions and Policy Implications

In the context of introduction of large-scale deregulatory policy measures in the 1990s in general and three important amendments made to the Indian Patent Act (1970) in 1999, 2002 and 2005 in particular, the present paper makes an attempt to examine the impact of MA on financial performance of Indian pharmaceutical companies. It is found that the profitability of a firm depends directly on its size, selling efforts and exports and imports intensities but inversely on their market share and demand for the products. In other words, firms larger in size or having greater selling efforts or higher presence in the international market or larger proportion of imported goods in the selling basket experience greater profitability. On the other hand, the firms with greater demand for products or larger dominance in the domestic market record lower profitability in the long-run. However, MA do not have any significant impact on profitability of the firms in the long run possibly due to the resultant X-inefficiency and entry of new firms into the market. In addition, in-house R&D and foreign technology purchase also do not have any significant impact on profitability of the firms.

Thus, Indian pharmaceutical firms fail to reap the benefits of MA in terms of profitability. In other words, MA in Indian pharmaceutical industry is not necessarily counterproductive and detrimental to the interests of the consumers. Rather, MA may benefit the firms in enhancing their competitiveness and thereby facing acute competition from the MNCs. This in turn ensures consumer welfare. Improvement in efficiency and competitiveness is reflected in large number of acquisition of foreign firms abroad by Indian pharmaceutical companies. The findings of the present paper, therefore, raise an important question, is there any necessity to regulate MA in Indian pharmaceutical industry? In other words, should there be uniform thresholds of assets and turnover in regulating MA across industries, especially when the combinations are not detrimental rather beneficial to consumers' interests? More importantly, should there be any flexibility in the competition law for objective-specific assessment of MA? Addressing these questions in future research is very

important, particularly for Indian pharmaceutical industry, as the new product patent regime may encourage innovation and restrict competition in the marketplace.

Finally, in-house R&D fails to provide any distinct advantage to the firms in terms of their profitability. This may largely be because of their low R&D intensity vis-à-vis the pharmaceutical companies of the industrially developed countries operating in India. Therefore, the very basic question is, can introduction of product patent law be enough to encourage the firms towards in-house R&D? If not, what should be the policy measures to encourage in-house R&D in a greater way in Indian pharmaceutical industry? This is very important, as there are serious doubts on the positive impact of patents on R&D 13 and alternatives are being talked about. A comprehensive pharmaceutical policy should address these issues adequately and, therefore, requires further research in this line.

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Faculty Perceptions: Expectation and Fulfilment

Shahaida P. and H. Rajashekar

Abstract

Literature in management education indicates that very few studies have considered the role of faculty in a B-School. In this paper we propose that faculty members are internal customers of the B-School. Faculty are primarily responsible for the teaching-learning activities in the B-School but their role encompasses many more areas-research, consultancy, mentoring, participation in the admissions process, institution building activities, community service, enabling industry interface etc. The gaps between faculty expectations and perceptions have been identified. The findings indicate that faculty expectations have not been met by their B-Schools and this can create serious concerns for B-School top management.

Key words:

Faculty in B-Schools, Faculty Perceptions and Expectations, Measurement.

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The first business programme was started in 1954 by the Indian Institute of Social Welfare and Business Management in Calcutta. The growth of B-Schools was fairly slow till the 1980's. From 135 B-Schools in 1985 the number went up to 712 B-Schools in September 2000 (Prasad, 2006) and 1761 B-Schools in 2007 (National Knowledge Commission Report, 2007).

Management education is led by the Indian Institutes of Management (IIMs), there are several autonomous institutes such as Indian School of Business (Hyderabad), S.P. Jain Institute of Management and Research (Mumbai), NMIMS (Mumbai), LIBA (Chennai) etc. There are presently six types of management education organizations (National Knowledge Commission, 2007). These are: (1) Indian Institutes of Management (IIMs) set up by the Government of India (2) University departments of management studies (State and Central Universities), (3) Colleges (government or private) affiliated to universities (4) Private or government institutes approved by the All India Council for Technical Education (AICTE) (5) Private colleges or institutes not affiliated to

any universities nor approved by AICTE (6). Private colleges or institutes offer MBA courses in India in collaboration with foreign universities, where degree/diploma/certificate is awarded by the foreign university.

Management education is governed by three regulatory authorities: All India Council for Technical Education (AICTE), University Grants Commission (UGC) and National Assessment and Accreditation Council (NAAC). There is no separate body to regulate Management education in India.

Before we review the literature about faculty role in management education, the context of this study has to be addressed. The challenges faced by Indian management education due to shortage in the number of faculty and the quality of available faculty, the attitude of government and private top managements towards faculty in B-Schools have to be considered.

This paper begins with the current status of management education in India, outlines the role of faculty in a B-School, and reviews the literature pertaining to all the spheres of activity in which faculty are involved in a B-School.

Research Objectives

R1: To establish the backdrop of this study by highlighting the current major concerns faced by B-schools in India such as paucity of faculty and quality of faculty and to analyze the role of faculty in a B-School through literature.

R2: To explore the dimensions of faculty expectations from B-Schools through exploratory factor analysis and propose a scale to measure faculty expectations from B-Schools using Churchill's (1979) methodology.

R3: To find out the difference between faculty expectations and perceptions.

R4: To find out the importance of shared vision between organization's goals and faculty's vision.

R1 - Analysis on Objective

To establish the background context of this study by highlighting the current major concerns faced by B-schools in India such as paucity of faculty and quality of faculty and to analyze the role of faculty and teaching in a B-School.

- **Paucity of Faculty**

Higher education in India has been facing faculty shortage. Leading B-Schools are also facing this problem. In 2007, IIM Kozhikode had only 17 faculty against the sanctioned strength of 40 having 58 percent shortage followed by IIM Kolkota with 20 percent shortage and IIM Bangalore with 17 percent faculty shortage (March 2007, PTI). The Indian Institute of Management, Ahmedabad (in Sep, 2007) withdrew its proposal to expand seats of its post-graduate programme for executives (PGPX) because of lack of faculty.

According to the report of UGC pay review committee, there are about 30-40 percent vacancies of faculty in the Central Universities. The percentage of vacancies is about 50 percent in certain universities. The existing seven IIMs have 95 vacant posts. The proposed new seven IIMs would require 392 faculty members over the next three years.

The top 22 universities in India have 34 percent vacancy in teaching jobs. Twenty-two central universities with 11,085 sanctioned posts have 3,777 vacant posts (TOI, 2010). Sikkim University has the highest shortage at 84 percent, Allahabad University-43.5 percent, JNU- 32.5 percent, IGNOU- 40 percent, DU- 51 percent and Hyderabad University- 29 percent (TOI, 2010).

- **Quality of Faculty**

A study by Overdorf (2008) states that as a long term career option teaching jobs are not very attractive and hence best qualified people do not opt for teaching jobs. While leading institutions can continue to attract qualified faculty, it is not clear whether for less prestigious institutions this is the case. They are in some cases reduced to hiring faculty that may have been passed over for better appointments in the private sector or admissions to more prestigious graduate programmes. These individuals may themselves have graduated from lower tier institutions with the corresponding issues of programme quality, further exacerbating a 'vicious circle' (Kannan, 2008).

Phatak (2005) states that according to the criteria of AACSB, 90 percent of faculty resources should be either academically qualified or professionally qualified and a minimum of 50 percent should be academically qualified. Achieving these ratios

is extremely difficult for Indian B-Schools. Kannan (2008) highlights that the doctoral degree has a social stigma attached to it in India, while gaining wisdom or 'Gyan' is considered very sacred, there is a stereotype that the students who opt for doctoral degrees have not been able to enter the prestigious corporate sector or other prestigious MBA programmes. The supply of academically qualified business school faculty is further compromised.

☐ The Role of Faculty

The crucial role of faculty is highlighted by the importance given to faculty and faculty related activities in B-School by international accreditation agencies such as The *Association to Advance Collegiate Schools of Business (*AACSB International), The European Quality Improvement System (EQUIS) and Indian regulatory bodies such as All India Council for Technical Education (AICTE) and *National Assessment and Accreditation Council* (NAAC) include faculty qualifications, experience, research output, institution building and teaching-learning process in their criteria for evaluating B-Schools.

The AACSB International standards (2010) clearly emphasizes on the importance of intellectual capital in the B-School. The European Foundation for Management Development has the following assessment criteria: Positioning within the School, marketing and sales, participant management, product portfolio, programme quality and impact, faculty, research and development and internationalization (EFMD, 2010).

☐ Teaching: A Calling?

There is a belief that academic work retains the fundamental nature of a calling, although not in any religious sense. Harman (1988) studied four disciplines at the University of Melbourne and found that a commonly expressed view was that academic life should be seen as a calling rather than a job. Bellamy (1999) conducted an ethnographic study, with most academic accountants feeling a much stronger affinity with academic work than with their onetime industry work. Research is not conclusive on the percentage of faculty who feel that an academic career is a vocation and not a job.

Guru-Shishya Relationship

Kumar and Sankaran (2007) write that India has a strong tradition of guru-shishya (teacher-student) relationship, which though hierarchical in nature has not been dysfunctional. Ancient Indian scriptures like Upnishad make a special mention of the relationship between a teacher and a student: *O almighty God, you protect both of us (the teacher and the student) together; you bear both of us together, may both earn the shakti (power of learning) together, may our learning be luminous (impressive); may we never bear ill-will towards each other* (kathopnishad shwetayashawaro pnishad).

Even in modern India, a student always addresses his/her teacher by 'sir/madam,' and never by the teacher's name – even decades after he/she passes out from school/college. But this respect, this differential power relationship does not stifle discussion or difference of opinion. While the relationships between students and faculty in Indian B-Schools have become very professional they still retain a blend of respect and friendship. Though it is an accepted fact that faculty perform very vital roles in the educational institutions, somehow the same importance has not translated into real faculty empowerment.

Current Scenario

Jagadeesh (2000) cites the common reasons for high faculty turnover in Indian B-Schools as: disillusionment with the profession, lack of support from the top management, absence of autonomy in academic and non-academic matters, poor monetary rewards, work load not appealing or uninteresting, and not able to cope with young students. In University Departments and Private Colleges Affiliated to Universities, the university pattern has to be adopted. In Autonomous institutions the larger interests of top management and value attached to student feedback supersedes faculty inputs. Apart from the leading B-Schools, the other B-Schools do not consider faculty empowerment as a part of the top management responsibility. Faculty members are not provided adequate facilities to pursue research, consulting or training assignments. To remain competitive and current in their fields these activities are crucial for faculty enhancement. In terms of faculty research, even the best Chinese and Indian business schools pale in comparison with any of the top 25 Western

business schools. Building the necessary research culture and assembling a critical mass of top scholars requires resources and even then can take years (Phatek, 2005).

Literature Review

With a variety of stakeholders/customers, the educational system finds itself in a state of confusion over the identification of such design characteristics that would impact the processes part, integrate the interests of the various stakeholders and lead to customer satisfaction (Sahney, Banwet and Karunes, 2008). A B-School has different stakeholders: Students, recruiters, faculty, society, government etc. Exhaustive research is available on the "Student as Customer" model in higher education both in theory and practice (Harris, 1992; Bejou, 2005; Delucci and Korgen, 2002). According to Delucci and Korgen (2002), if students are treated as customers, are we compromising on the broad, overall benefits (Good citizenship, professionalism, ethical values, life skills, etc) of B-school education, with immediate, short-term student goals of lucrative employment? Carlson and Fliesher (2002) opine, "This treating of the student body as customers has lessened the rigour of the curricula and teaching methods." According to Clayson and Haley, 2005, in a student-customer orientation, it is difficult to define the "product," it could be education, but this is a slippery construct even for educators, let alone for students Belohav (1984) proposes to consider the student as the final customer and second to consider government and business sectors (recruiters) as the ultimate consumers.

Recruiters are considered the next relevant group to whom the B-Schools cater to. Many studies Aiken, Martin and Paolillo (1994), Eberhardt, McGee and Mosey (1997) and Vincente Safon (2007), have broadly studied the skill sets that recruiters look for in B-School graduates, this indicates that recruiters are considered crucial for the B-School growth as they are the ultimate providers of jobs and careers to B-School graduates.

Cheng and Tam (1997) have suggested the process model of analyzing quality in education and they have proposed that quality is an internal process of transformation where in, different members perform different tasks. Administrative staff performs administrative work; teachers perform teaching task and students gain knowledge.

Sahney, Banwet and Karunes, (2008) have considered the faculty as an internal customer of the institution. According to them a satisfied internal customer would in most cases be an effective and efficient service provider who would follow a customer centric paradigm. Based on this premise, Comm and Mathaisel (2003) have measured academic and administrative satisfaction, their case study focused on the satisfaction of faculty with workload, salary and benefits.

Laha (2002) has identified the following determinants of management education (a) academic environment- library facilities, journals available, computer facilities etc. (b) intellectual capital- number of faculty, books and journal articles published, seminars and conferences attended etc (c) physical infrastructure- classrooms, laboratories, campus, hostels etc (d) industry interface- number of MDPs (Management Development Programmes), in-company programmes, consultancy projects, industry professionals visiting campus etc (e) placements- percentage of students recruited through campus selection, average salary offered etc (f) stakeholder satisfaction and perception- faculty, student and recruiter's perception and satisfaction and (g) innovation- Courses modified, updated, new innovative courses launched etc.

Gupta, Gollakota and Sreekumar, (2003) have proposed five yardsticks to measure quality of business education in India which are, (1) quality of students including the admission process, (2) pedagogy, (3) placement (4) faculty development and (5) infrastructure.

Faculty Development

The term faculty development has been used in many ways in the business education literature. Faculty development has been used synonymously with the enhancement of teaching (Millis, 1994) and research (Bland and Schmitz. 1990). Festervand and Tillery (2001) defined faculty development as a "set of activities that promote the creation of knowledge." According to them the outcomes of faculty development can be measured through each faculty member's teaching, research, and service. DiLorenzo and Heppner (1994) approach faculty development from a departmental perspective and recommend grouping faculty development efforts into four categories: (a) morale, (b) Teaching, (c) research, and (d) time and developmental growth. Coaldrake and Stedman (1999)

considered the 'implications of the changing higher education landscape for policies and practices governing the work of staff within universities.' The authors concluded that as a result of external demands placed upon universities, a number of changes in academic work had resulted. The changes identified by the authors were: growing pressures on time, workload and morale, increasing emphasis on performance, professional standards and accountability; a shift in staffing policies from local control and individual autonomy to a more collective and institutional focus; academic work becoming more specialized and demanding; and new tasks are blurring old distinctions between categories of staff.

Koys (2008) describes the standards set by AACSB for evaluating academically qualified faculty- publishing in journals and books, publishing case studies, teaching aids, editorial activities and work in progress. The standards for professionally qualified faculty are: Job consulting, writing in professional journals, leadership positions, presentations in practitioner conferences and professional development. Petersen et al (2008) studied the factors considered for student evaluations of faculty in a B-School. They considered two types of factors teaching related factors and non teaching factors.

Teaching-Related Factors

Suggested by Crawford and Bradshaw, (1968) the factors are: "complete knowledge of the subject, real interest in teaching the material and ability to create interest in students for the subject, well-planned and organized class sessions, clear and understandable explanation, using relevant examples, Flexibility and concern for students' needs" (Costin, 1968; French, 1957; and Pohlmann, 1975).

Non-Teaching Factors

Grading related factors suggested by Voeks and French (1960) are: attributes of students (cultural differences, educational background, grade expectations, performance etc), attributes of teachers (position, experience, communication skills, age, etc), attributes of the course (tough or easy, duration; and environmental factors, such as class size).

In a paper titled "Assessing Service Quality in Business Schools" Pariseau and McDaniel (1997) have used SERVQUAL approach to measure the expectations and perceptions of students and faculty. The findings indicated that students' expectations were higher than their perceptions of service quality and faculty expectations were also not met. The faculty differences were higher than student differences.

Boya and Robicheaux (1992) surveyed over 600 marketing faculty regarding the relative importance of teaching, research, service, and consulting in promotion, tenure, and salary decisions. The respondents were asked about their actual distribution of effort among the four areas. The results indicate that research was perceived to be most important, followed closely by teaching. Service and consulting were far behind. Interestingly, the respondents spent the greatest amount of time on teaching, followed by research, service, and consulting.

Tompkins, IV, Hermanson and Hermanson (1996) examined the expectations and resources associated with new finance faculty positions in US B-Schools and found that if a new faculty joins an accredited doctoral institution the work-time distribution would be approximately 45 percent teaching, 45 percent research, and under ten percent service. In a non-doctoral accredited institution the work-time distribution would be approximately 48 percent teaching, 42 percent research, and 10 percent service. In a non-accredited institution the work-time distribution would be approximately 66 percent teaching, 21 percent research, and 13 percent service. (Service includes departmental service, college service, university service and professional service).

Research Methodology

There are three major types of B-Schools, we have used non probability quota sampling method having near equal representation of faculty from the three types of B-Schools: Autonomous, Private Colleges Affiliated to Universities and University Departments. In the initial focus group discussion and interviews with B-School deans, faculty working in leading B-Schools from all over India participated. In the pilot study (n=91) and the main study (n=231) data was collected through personal interviews and e-mails from faculty teaching in B-Schools in Karnataka State. We have used exploratory factor analysis and bi-variate correlations for the proposed scale to measure faculty expectations from B-Schools. Paired samples 't' test is used to measure the difference between

faculty expectations and perceptions and one sample t test to measure the importance attached by faculty for shared vision.

Profile of B-Schools in Karnataka

In 2005, Karnataka had seven University department programmes, 75 Private Colleges affiliated to universities, 16 Autonomous B-Schools (AICTE list, 2006). In 2007, Karnataka had a total estimated number of 116 B-Schools (NKC report). In 2008, Karnataka had 20 University Departments offering MBA from eight Universities. There are 137 Private Colleges Affiliated to Universities (PGCET cell, August 2008). An estimated number of 25 Autonomous B-Schools and five Deemed/ Private Universities. The total number of institutions offering MBA degree are 187.

Table 1: Demographic Profile of Respondents (Faculty)

Sample Size	231		
Type of B-School	Autonomous 32%	Private College Affiliated to University 35%	University Department 33%
Designation	Professors 30%	Assistant professors 40%	Lecturers 40%
Doctoral qualification Ph. D.	Yes 54%	No 46%	
Industrial work experience 74% (173)	<5 years 60%	6-10 years 30%	>10 years 10%
Previous teaching experience 81 % (189)	<5 years 30%	6-10 years 30%	>10 years 40%

R2: Analysis on Objective: To explore the dimensions of faculty expectations from B-Schools through exploratory factor analysis and propose a scale to measure faculty expectations from B-Schools using Churchill's (1979) methodology.

Stage 1: Focus Group Discussion

Nine faculty, three each from the major types of B-Schools in India (University Departments, Autonomous B-Schools and Private Colleges Affiliated to Universities) participated in a group discussion in Bangalore on the topic 'Faculty Expectations from B-Schools in India.' The faculty comprised three lecturers, three assistant professors and three professors representing different Indian B-Schools from different parts of India. The discussion lasted for two hours and issues related to faculty, obtained from literature were put forward to the participants. The results of the discussion revealed that faculty expectations belonged to the following six factors: Teaching factors (academic rigor, learner-centered teaching and quality of incoming students), support for research and consultancy (seminar sponsorship, financial incentives for research output, sharing of earnings from management development programmes and consultancy projects, research databases and tools), faculty development (encouragement to faculty development programmes), administrative responsibilities (admissions, placements, etc), human resource practices (recruitment, selection, remuneration and performance appraisal) and Work Culture (Career development programs, motivation to perform, clear policies and two-way communication).

Stage 2: Interviews with B-School Deans

Face to face interviews were conducted with nine B-School deans from B-Schools in Karnataka, three each from the major types of B-Schools (University Departments, Autonomous B-Schools and Private Colleges Affiliated to Universities). The five dimensions and their items which emerged out of the focus group discussion were checked for their representativeness and relevance. The deans were prompted

to provide feedback and make suggestions to improve the quality and scope of the proposed scale. All the deans agreed with the six dimensions and majority of them proposed that reputation of the B-School and shared vision of faculty with the organization has to be included in the measurement.

Stage 3: Pilot study

Ninety one faculty were sampled with a questionnaire containing 22 statements in six dimensions: Teaching, support for research, faculty development, administrative responsibilities, human resource practices and work culture. A five point likert scale was used, 1=strongly disagree and 5= strongly agree. Faculty teaching in three types of B-Schools (Autonomous B-Schools, Private Colleges Affiliated to Universities and University Departments) in Karnataka state, India, were sampled using non probability quota sampling. The data was collected through personal interview and e-mail. The data was collected during the period of January to June 2008.

Exploratory factor analysis was performed using Principal components method, factors having Eigen values over 1 were extracted, varimax rotation was used (Nargundkar, 2003). The total variance explained was 73.8 percent. Seven components were extracted with factor loadings above 0.55. Nunnally (1967) suggests that for preliminary research, cronbach alpha values between 0.5- 0.6 are acceptable (Peterson, 1994). The factors and their factor loadings were as follows:

Table: 2

Factors	Items
Work Culture	Motivation to perform: 0.755, shared vision: 0.635, clear policies: 0.747, faculty evaluation by students: 0.587, and two-way communication: 0.802
Faculty development and research	Sponsorship for seminars: 0.810, databases for research: 0.830, encouragement for attending industry programmes: 0.575
Financial and career benefits	career development plan: 0.614, proper revenue sharing for consultancy: 0.583, financial incentives for publishing research: 0.730, remuneration: 0.723
Recognition and work load	recognition: 0.886, appropriate workload: 0.624
Teaching and administration	additional administration responsibilities: 0.829, learner-centered teaching: 0.591
Selection and promotion	rigorous faculty selection: 0.614 and higher roles in administration: 0.754
Performance appraisal	fair performance appraisal: 0.854 and Balanced score card approach to performance appraisal: 0.558

Pilot Study: EFA Factor Loadings

Stage 4: Scale Validation: Reliability and Validity testing

Fresh data was collected from 245 faculty of which, we got 231 usable questionnaires during the period June 2008- June 2009. The KMO value was 0.612 and Bartlett's test was significant (0.00). The total variance explained was 72.198 percent. The factor loadings and component structure is very similar to the findings from the pilot study. The Rotated Component Matrix is shown in Table 1.

Exploratory factor analysis was performed using Principal components method, factors having Eigen values over 1 were extracted, varimax rotation was used. The total variance explained was 72.168 percent. Seven components were extracted with factor loadings above 0.55. The factors and their factor loadings were as follows: Work Culture (Motivation to perform: 0.739, shared vision: 0.648, clear policies: 0.752, Faculty evaluation by students: 0.587 and two-way communication: 0.744, Cronbach alpha= 0.810), Faculty development and research (Sponsorship for seminars: 0.800, databases for research: 0.850, Cronbach alpha= 0.754),

Table: 3

	Rotated Component Matrix							
				Component				
		1	2	3	4	5	6	7
1	rigorous faculty selection	.144	-.090	.103	-.218	.076	.207	**.761**
2	fair performance appraisal	-.009	.012	.250	.109	.173	**.763**	.120
3	BSC approach	.125	.460	.072	-.025	-.245	**.601**	.028
4	Career development programmes	.122	.001	**.674**	.419	-.083	.157	.113
5	Proper recognition for work	.148	.158	.145	**.834**	-.033	.085	-.153
6	Brand Image	.336	-.052	-.061	.516	.153	.529	.028
7	Sponsorship for FDP	.094	**.800**	.067	.141	.117	.065	.001
8	Electronic databases and statistical software	.148	**.850**	.209	-.004	.037	.049	.024
9	encouragement for industry seminars	-.141	.530	.191	.188	-.054	.208	.489
10	proper revenue sharing for MDP/ Consultancy projects	-.005	.162	**.622**	.021	.399	.011	.446
11	Financial incentives for publishing	.179	.209	**.798**	-.078	.031	.042	-.080
12	additional administrative responsibilities	.035	-.088	.204	.140	**.809**	.045	.204
13	higher roles in administration	.355	.392	-.106	.120	.093	-.271	**.554**
14	Motivation to perform	**.739**	.020	.292	.356	.041	-.042	.111
15	Shared Vision	**.648**	.401	.389	-.034	.185	-.129	.045
16	Clear Policies	**.752**	.189	.166	.270	-.011	.018	.277
17	Faculty evaluation by students	**.587**	.176	-.100	-.174	.369	.438	.187
18	Remuneration	.259	.091	**.659**	.219	.042	.163	.068
19	academic rigor	.187	.524	.037	.187	.535	-.006	.046
20	Appropriate work load	.358	.238	.264	**.602**	.329	-.044	.055
21	two way communication	**.744**	-.007	.161	.151	.170	.309	-.135
22	Learner-centred teaching	.328	.257	-.172	-.168	**.645**	.148	-.208

Financial and career benefits (career development plan: 0.674, proper revenue sharing for consultancy: 0.622, financial incentives for publishing research: 0.798, remuneration: 0.659, Cronbach alpha= 0.758), Recognition and work load (recognition: 0.834, appropriate workload:0.602, Cronbach alpha=0.703), Teaching and administration (additional administration responsibilities: 0.809, learner-centered teaching: 0.645, Cronbach alpha=0.575), Selection and promotion (rigorous faculty selection: 0.761 and higher roles in administration: 0.554, Cronbach alpha=0.312), Performance appraisal (fair performance appraisal: 0.763 and Balanced score card approach to performance appraisal: 0.601, Cronbach appha=0.486). One item: encouragement for attending industry programmes, which had a loading higher than 0.55 in the pilot study was dropped as the factor loading was 0.530.

Reliability Analysis

As the Cronbach alpha value is lesser than 0.6 for three components: Teaching and Administration (0.575), Selection and Promotion (0.312) and Performance Appraisal (0.486) these factors are not reliable. Therefore the factors which have a Cronbach alpha which are greater than 0.6 have been chosen for calculating the discriminant validity of the scale. These are:

Work Culture (Cronbach alpha= 0.810), Faculty development and research (Cronbach alpha= 0.754), Financial and career benefits (Cronbach alpha= 0.758), Recognition and work load (Cronbach alpha= 0.703).

The major source of error within a test or measure is the sampling of items, if the sample is appropriate and the items

"look right" the measure is said to have *face or content* validity (Churchill, 1979). We have confirmed face validity of the final items selected by an exhaustive literature survey and one focus group study with faculty working in different types of B-Schools and one pilot survey.

Discriminant validity is the extent to which the measure is indeed novel and not simply a reflection of some other variable. We have checked *discriminant* validity by two methods, one by using factor analysis and second by using correlation matrix. *Discriminant* validity of the scale by using exploratory factor analyses of the scale items with items from other constructs. If items from other constructs are distinct from the selected scale items (i.e., load on different factors), it is evidence of discriminant validity (DeVellis, 1991). By observing the factor loadings in the rotated component matrix, shown in table 1, it is evident, that the selected scale items do not have cross loadings with other items. *Discriminant* validity is indicated by "predictably low correlations between the measure of interest and other measures that are supposedly not measuring the same variable or concept (Heeler and Ray, 1972). To check for *discriminant* validity we conducted a correlation matrix as suggested by Churchill (1979). The matrix is as shown in table 2.

Table 4

		Work culture	Faculty Development and Research	Career Development and Monetary Benefits	Recognition and Work load
Work culture	Pearson Correlation	1.000			
	Sig. (2-tailed)				
Faculty Development and Research	Pearson Correlation	.370	1.000		
	Sig. (2-tailed)	.000			
Career Development and Monetary Benefits	Pearson Correlation	.453	.343	1.000	
	Sig. (2-tailed)	.000	.000		
Recognition and Work load	Pearson Correlation	.481	.336	.442	1.000
	Sig. (2-tailed)	.000	.000	.000	

Correlation Matrix

An analysis of the correlation matrix indicates that the factor Work culture has low to moderate correlations with Faculty development (0.330), Career development and monetary benefits (0.511) and with Recognition and work load (0.556). The factor Career development and monetary benefits has low correlation with Faculty development (0.398) and the factor Recognition and work load has low correlations with Faculty development (0.344) and with Career development and monetary benefits (0.442). Overall out of the six correlation values, four are below 0.4 and two are below 0.6. The low correlation coefficient values between factors indicate that the scale possesses *discriminant* validity. This indicates that the proposed scale has both *face validity* and *discriminant validity*.

R3: Analysis on Objective: To find out the difference between faculty expectations and perceptions.

Table: 5

	Paired Differences						T	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	E Rigorous selection process - P rigorous selection process	1.15172	1.44015	.11960	.91533	1.38812	9.630	230	**.000**
Pair 2	E Fair performance appraisal - P fair performance appraisal	2.06897	1.36247	.11315	1.84532	2.29261	18.286	230	**.000**
Pair 3	E BSC approach - P BSC approach	1.54483	1.34360	.11158	1.32428	1.76537	13.845	230	**.000**
Pair 4	E Career development programs - P career development programs	2.05517	1.21780	.10113	1.85528	2.25507	20.321	230	**.000**
Pair 5	E Recognition – P recognition	1.78621	1.37531	.11421	1.56046	2.01196	15.639	230	**.000**
Pair 6	E Brand image - P brand image	1.23448	1.08662	.09024	1.05612	1.41285	13.680	230	**.000**
Pair 7	E Sponsorship for FDPs etc - P sponsorships for FDPs etc	1.37241	1.22443	.10168	1.17143	1.57340	13.497	230	**.000**
Pair 8	E Database and statistical tools - P database and statistical tools	1.70345	1.46308	.12150	1.46329	1.94361	14.020	230	**.000**
Pair 9	E Encouragement for industry seminars - P encouragement for industry seminars	1.49655	1.30769	.10860	1.28190	1.71120	13.781	230	**.000**
Pair 10	E proper revenue sharing - P proper revenue sharing	1.54483	1.52743	.12685	1.29411	1.79555	12.179	230	**.000**
Pair 11	E Financial incentives for publishing - P financial incentives for publishing	2.28276	1.39296	.11568	2.05411	2.51141	19.734	230	**.000**
Pair 12	E Additional administrative roles- P Additional administrative roles	1.71034	1.26336	.10492	1.50297	1.91772	16.302	230	**.000**

Pair 13	E Higher roles in administration	2.04138	1.33269	.11067	1.82262	2.26013	18.445	230	**.000**
Pair 14	E Motivation to perform - P motivation to perform	1.85517	1.39930	.11621	1.62548	2.08486	15.965	230	**.000**
Pair 15	E Shared vision - P shared vision	1.78621	1.19714	.09942	1.58970	1.98271	17.967	230	**.000**
Pair 16	E Clear policies - P clear operational policies	1.88276	1.34631	.11180	1.66177	2.10375	16.840	230	**.000**
Pair 17	E Faculty evaluation by students - P faculty evaluation by students	1.28966	1.80631	.15001	.99316	1.58615	8.597	230	**.000**
Pair 18	E Remuneration equal to efforts - P remuneration equal to efforts	1.54483	1.38433	.11496	1.31760	1.77206	13.438	230	**.000**
Pair 19	E Academic rigor - P academic rigor	1.57241	1.50344	.12485	1.32563	1.81920	12.594	230	**.000**
Pair 20	E Appropriate work load- P Appropriate work load	1.64828	1.32566	.11009	1.43067	1.86588	14.972	230	**.000**
Pair 21	E Two-way communication - P two way communication	1.85517	1.16654	.09688	1.66369	2.04666	19.150	230	**.000**
Pair 22	E Learner centred techniques are used - P learner centred techniques are used	1.28276	1.49399	.12407	1.03753	1.52799	10.339	230	**.000**

A paired samples 't' test is conducted to find if the expectations and perceptions were different from each other. If samples are related paired 't' test is recommended (Nargundkar, 2003, Sherry et al, 2004).

Paired Samples Test

Discussion

As it is seen in table 3 the t test is significant p=.000<.05 for all twenty two pairs. This means that faculty expectations are higher for all the items compared to their perceptions (current reality) on the same.

Hypothesis Testing

H0: Expectations of faculty from B-Schools are not met
H1: Expectations of faculty from B-Schools are met

As the p value is <.05 for all 22 statements, this indicates that faculty are dissatisfied with the existing practices prevailing in their B-Schools. There is a difference between faculty expectations and perceptions. Null hypothesis cannot be rejected. Faculty expectations are not met for even a single statement; this indicates that B-School top management is not concerned with the requirements of faculty.

While B-Schools are facing faculty shortage, discontent among existing faculty can lead to further complications in delivering quality programmes. While leading B-Schools consider faculty empowerment seriously the others do not accord it with importance. With fewer doctorates available in India, the onus of developing faculty now rests with the top managements of the B-Schools.

R4: Analysis on Objective: To find out the importance of shared vision between organization's goals and personal goals of faculty.

The initial focus group discussion revealed that the most important reason for a faculty to continue working in a B-School was shared vision with the B-School. Therefore a question was asked using a five point likert type importance scale, regarding the importance of alignment of personal goals with organizational goals.

Hypothesis Testing

H0: Alignment of faculty's personal goals with organizational goals is not important.

H1: Alignment of faculty's personal goals with organizational goals is important.

Discussion

Majority of B-School faculty (66.4 percent) feel alignment of personal goals with organizational goals is important. 36.4 percent of faculty has responded as "extremely important" and 30 percent as "somewhat important." 15.7 percent have no opinion. 17.9 percent feel alignment of personal goals with organizational goals is unimportant (10 percent for "somewhat unimportant" and 7.9 percent for "Not important").

Major Findings

The exploratory factor analysis has revealed the following important expectations that faculty has: encouraging work culture, focus on faculty development and research, Financial and career benefits and recognition and appropriate work load. The paired 't' test has revealed that faculty expectations are not met for any one of the 22 items which emerged from the focus group. This indicates a high level of discontent among the faculty with respect to all aspects of their work profile. Majority of the faculty consider alignment of their personal goals with that of organizational goals as important but as their expectations are not met, this indicates a lack of focus on faculty opinions from the B-School managements.

Implications to B-Schools

This study has researched into an area not given adequate importance in the past. With the entry of foreign universities in India and the intense competition among Indian B-Schools, the need to focus on faculty as an important stakeholder is urgent. The study has clearly demonstrated the gaps existing in B-School education from the faculty perspective.

The scale to measure faculty expectations has resulted in four factors. They are: Work Culture Faculty development and research, Financial and career benefits, Recognition and work load. B- Schools in India have to ensure that these expectations have to be considered for attracting and retaining skilled faculty.

The study has clearly demonstrated that expectations of quality of faculty are not met by the B-Schools. The faculty wish to have shared vision with the top management's goals (as proved by the second hypothesis). The findings clearly indicate that B-Schools do not consider faculty as important stakeholders of the B-School. The dearth of qualified faculty in most Government and private institutions is indicative of the fact that faculty empowerment is very much essential especially in the areas of research, consulting, contemporary teaching techniques etc. The current crunch in quality faculty needs to be addressed immediately.

The top schools from both Government and Private B-Schools need to develop a shared learning system to ensure best practices in all areas of faculty development. There has to be a holistic approach in building the competencies of the B-Schools and their faculty. Better remuneration packages, more Universities and private B-Schools should be enabled to offer doctoral programmes. Leading institutions should mentor the other institutions in all areas of B-School management to enable more B-Schools to benchmark with the leaders. Career development programmes for faculty have to be adopted in line with the personal interests of faculty in research, consulting teaching etc. The role of regulatory bodies such as AICTE (All India Council for Technical Education) have been criticized at various platforms and in previous research, a separate body for regulating management education is essential to set the proper standards for a B-School both for granting permissions and accreditations. Addressing the needs of B-School faculty is crucial to take B-School education to the next level of growth in India.

The findings of this study will serve as a proposal to consider the role and importance of faculty in a B-School and it's functioning.

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Spot and Futures: Market Relative Volatility

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Abstract

The main objective of the study is to investigate whether there has been significant change in relative volatility of the underlying spot return and futures return in the Indian stock market due to the introduction of futures trading. The study used three stock indices of NSE namely Nifty, CNX IT and CNX Bank. The study using four measures of volatility found that for the three NSE indices, the study rejects the null hypothesis of 'no significant change in relative inter-day volatility between spot prices and futures prices' over the entire period 2000-2007, but cannot reject the hypothesis fully for all the individual years. There is significant change in relative intra-day volatility between spot prices and futures prices for all the three NSE indices.

Key words:

Future Training, Derivatives, Spot Volatility, NSE Indices.

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Derivatives play a very important role in the price discovery process and risk management. It is widely used by mutual funds and institutional investors for risk management purposes. Two main bodies of theories exist in the literature about the relationship between derivatives markets and underlying spot markets. The theoretical literature proposes both a 'destabilizing forces' hypothesis that predicts increased volatility and a 'market completion' hypothesis in which decreased volatility is predicted. For the former hypothesis, it is argued that the inflow and existence of speculation in futures markets may induce destabilizing forces, which among other things create undesirable 'bubbles.' However, the contrary view is that the introduction of futures trading leads to more complete markets, enhances information flow, and thereby improves the investment choices faced by the investors. Moreover, futures trading may bring more (private) information to the market and allow for a quicker dissemination of information. Further, speculative activity may be transferred from the spot market to the futures market that can dampen spot market

volatility. Since the proposed logical arguments both support and reject the proposition of futures markets having a destabilizing effects on spot markets, it is self-evident that the theoretical debate on how futures markets affect underlying stock markets still remains rather inconclusive. In the Indian scenario, the NSE (national stock exchange) introduced stock index futures and options on the National Stock Exchange's index of 50 stocks (S&P CNX NIFTY) in June 12, 2000 and June 4, 2001 respectively. Subsequently single stock futures were launched at NSE on November 9, 2001. The advent of stock index futures has profoundly changed the nature of trading on stock exchanges. The concern over how trading in futures contracts affects the spot market for underlying assets has been an interesting subject for investors, market makers, academicians, exchanges and regulators alike.

Any increase in stock market volatility that has followed the onset of futures trading has generally been taken as justifying the traditional view that the introduction of futures markets induces destabilizing speculation. This has led to a necessity for greater regulation to minimise any detrimental effects. An alternative view is that futures markets provide an additional route by which information can be transmitted and therefore, increased spot market volatility may simply be a consequence of the more frequent arrival and more rapid processing of information. Thus, futures trading may be fully consistent with efficiently functioning markets. There has been widespread interest in the effects of futures trading on prices in the underlying spot market. It has been often claimed that the onset of derivative trading will destabilize the associated spot market and thus lead to increase in spot price volatility. Others have argued to the contrary, stating that the introduction of futures trading will stabilize prices and so lead to decrease in price volatility. Why should the introduction of futures trading increase the volatility of cash market? Conventional wisdom suggests, to the contrary, that futures trading should bring more traders to the cash market, making cash market more liquid and therefore, less volatile. The view that futures trading may increase volatility appears to stem from a belief that futures markets bring with them uninformed (or irrational) speculators who then trade in the cash market as well as the futures market. Such speculators, it is argued, drive prices up or down in the quest for short-run 'bandwagon' profits. Economists have analysed this "irrational speculation" argument and have concluded that it would take a considerable number of such speculators to destabilize the cash markets.

Since futures encourage speculation, the debate on the impact of speculators intensified when futures contracts were first introduced for trading, beginning with commodity futures and moving on to financial futures. Before further regulations are introduced, it is essential to determine whether in fact there is a causal link between the introduction of futures and spot market volatility. It therefore becomes imperative that we seek answers to questions like: What is the impact of derivatives upon market efficiency and liquidity of the underlying cash market? To what extent do derivatives destabilize the financial system, and how should these risks be addressed? Can the results from studies of developed markets be extended to emerging markets?

The launch of derivative products has significantly altered the movement of the share prices in the spot market. The spot and futures market prices are linked by arbitrage, i.e., participants liquidating positions in one market and taking comparable positions at better prices in another market, or choosing to acquire positions in the market with the most favourable prices. If, for example, the observed futures price is above (below) the theoretical futures price, arbitrageurs sell (buy) futures and buy (sell) the underlying security, driving down (up) the price of the futures and driving up (down) the prices of security. This raises important questions about the effect that index derivatives have on volatility of the spot market. While there is still disagreement as to whether futures trading increases or decreases the volatility of spot prices, the question is still an empirical one.

Objectives and Hypothesis

This study attempts to investigate the change, if any, in the volatility observed in the Indian stock market due to the introduction of futures trading. The change in the volatility is compared in terms of the structure of the volatility. This is done to give insights into the way the futures market is influencing the Indian spot market's volatility. The main objectives of the study are to investigate whether there has been significant change in relative volatility of the underlying spot return and futures return.

The following null hypotheses were tested for significance:

a) There is no significant change in Relative Inter-Day volatility between spot prices and futures prices.

b) There is no significant change in Relative Intra-Day volatility between spot prices and futures prices.

The above two hypotheses were tested for the three NSE indices.

Literature Review

There is a common belief that stock index futures are more volatile than the underlying spot market because of their operational and institutional properties. The close relationship between the two markets makes possible the transference of volatility from futures market to the underlying spot market. It is, therefore, not surprising that since the inception of index futures contracts in 1982 the issue of volatility of futures contracts relative to the stock market has attracted the attention of researchers, world over. In their study, Chu and Bubnys (1990) examined relative volatility using daily returns for the S&P 500 and the NYSE for the period 1982 to 1988. They reported that futures volatility was higher in comparison to the underlying indices. Yadav and Pope (1990) used several volatility measures such as those based on daily close-to-close, open-to-open prices and the Parkinson Extreme Value Estimator to compare FTSE 100 index and futures volatility. They found futures volatility to be higher in comparison to the FTSE index. In one study on the Japanese market, Brenner, Subramanyam and Uno (1990) examined daily closing prices of the Nikkei Futures contract traded on SIMEX. They found that the volatility of the underlying Nikkei Stock index was marginally higher than the futures contracts traded in Osaka but no different from that of SIMEX. In another study, Koutmas and Tucker (1996) reported that the volatility in both the futures and stock markets were persistent. Choudhury (1997) studied the short-run relative volatility on the Hang Seng, the Australian All Ordinaries, and the Nikkei. He reported that with the exception of the Nikkei, the other futures contracts were found to be more volatile than their underlying spot markets.

Several studies have been conducted to examine the behaviour of spot market volatility since the inception of futures trading. Edwards (1988) tried to gather evidence to verify the fact that stock index futures trading have de-stabilised the spot market in the long run. Using variance ratio F tests from June 1973 to May 1987, he found that the introduction of futures trading has not induced a change in the volatility in the long run. He observed that there was some evidence of futures-induced short-run volatility, particularly on futures contract expiration days, but this volatility did not appear to carry over to longer periods of time. It is seen that the results on the effect of index futures on the underlying spot market volatility are mixed. One view is that derivative securities increase volatility in the spot market caused by more highly levered and speculative participants in the futures market. The introduction of stock index futures causes an increase in volatility in the short run while there is no significant change in volatility in the long-run (Edwards 1988). This is because futures markets result in uninformed (irrational) speculators trading in both futures and cash markets, shocking prices in search of short-term gains. Ross (1989) demonstrated that, under conditions of no arbitrage, variance of price change must be equal to the variance of information flow. This implied that the volatility of the asset price will increase as the rate of information flow increases. If this is not the case, arbitrage opportunities will be available. It follows, therefore, that if futures trading increase the flow of information, then in absence of arbitrage opportunities the volatility of the spot price must change.

Gordon and David (2002) examined the intra-day and intra-week volatility patterns and test the wait-to-trade hypothesis using 24-hour inter-day returns and 15-minute intraday returns on the Hang Seng Index (HSI) and Hang Seng Index Futures (HSIF). Empirical results showed that for all weekdays, inter-day returns of HSIF are more volatile than those of HSI. An intra-week pattern had existed at 2.45 p.m. for both markets with highest volatility on Monday. For the intraday returns, HSI was found to be significantly more volatile than HSIF for the first 15-30 minutes after the markets open on all weekdays except Monday on which HSI is more volatile for the first one hour. An intra-week pattern exists at 11.30 a.m. for both markets with lowest volatility on Thursday. Through an analysis on the intraday correlations between HSI and HSIF, they argued that the significantly larger open intraday volatility in HSI, which is inconsistent with the wait-to-trade hypothesis, is mainly caused by noise trading unrelated to information arrival.

A study by Bose (2007) examined the characteristics of return volatilities in the equity market and the index futures market in India. Volatility in the NSE Nifty index and that in its futures market were both seen to exhibit features of mean reversion, volatility clustering and a fair degree of volatility persistence, estimates of which give an idea of the impact and duration of a particular information shock to the market. The returns volatility was found to exhibit significant asymmetric response in times of market retreats and advances, with volatility arising in times of market decline being much sharper and more persistent. The study also provided evidence of volatility linkages between the spot and futures markets. Contemporaneous transmission effects across volatilities of the Indian (NSE) Stock and Index futures markets were tested on daily data, using an asymmetric (threshold) GARCH framework. These results had implications for understanding the pattern of information flows between the two markets. The results indicated that the futures market plays a leading role in assimilating information and thus moderating, though to a small extent, the spot market volatility.

Pati and Kumar (2007) examined the volatility dynamics and investigated the Samuelson Maturity Hypothesis (a source of non-stationary in the volatility of futures price) in the context of the Indian Futures Market by taking Nifty Index Futures traded on NSE. The sample data consisted of daily closing price, volume and open interest of Nifty Index futures from the period January 1, 2002 to December 29, 2005 for near-month contract with 1009 sample data points. They constructed data sample by switching or rolling over to the next maturing contract, four days before the expiration date. For empirical issues, univariate GARCH, E-GARCH family models was employed. The conditional variance was augmented by including open interest and trading volume as exogenous explanatory variables. The empirical evidence suggested that there was time-varying volatility, volatility clustering and leverage effect in the Indian futures market. Their study found a positive contemporaneous relationship between futures price volatility and volume. Their study concluded that time-to-maturity is not a strong determinant of futures price volatility, but the rate of information arrival proxied by volume and open interest are the important sources of volatility.

Bagchi (2007) analyzed the relative impact of volatility measure computed from the four parameters, such as closing, high and low quotes of the day as well as a combination of these three on the stock index return. In addition, various time-steps were also selected for such computation. The study selected a middle capitalization stock index in India called CNX Midcap 200, which represented around 72 percent of middle order firms listed on the National Stock Exchange (NSE) of India. He used entropy of volatility to measure information content on various time steps as well as using various pricing parameters. The study used GARCH (1, 1) to find out the impact of volatility. Based on the analysis of entropy, the results indicated that there had been a relatively high impact of the volatility computed on high-low-closing prices and the lowest impact is found for volatility computed on high prices of the securities. The above results also confirmed that the entropy of volatility was a valuable indicator for evaluating the performance of the volatility.

Data and Sources

The study has used data on daily opening, low, high and closing prices of the selected indices and individual stocks traded in the spot market. The futures data include the near-month prices of daily opening, low, high and closing. The spot prices and the one-month futures prices of the selected stocks and indices are taken for the study. The futures time series analyzed here uses data on the near month contract as they are most heavily traded. The study used data on daily opening, low, high and closing prices of the selected indices and individual stocks traded in the spot market. The futures data include the near-month prices of daily opening, low, high and closing.

The spot market volatility of selected NSE indices was studied by a statistical comparison of volatility between pre-futures and post-futures (i.e., after the introduction of futures trading). The two kinds of volatility studied were inter-day volatility and intra-day volatility. The study investigated presence of any significant changes in spot volatility between these sub-periods. The Null hypothesis of 'no significant difference in spot volatility between pre-futures and post-futures period' was tested at one percent, five percent and ten percent levels of significance.

The period of study is from 1st January 1997 to 31st May 2007 for the spot prices. The futures trading on most of the

individual stocks at NSE commenced from 9th November 2001 and for few at a later period. Hence, the futures data on indices and stocks cover period from their futures trading commencement till 31st May 2007. For the futures data, the trading on stock indices started on 12th June 2000 for NSE Nifty, 29th August 2003 for CNX IT and on 12th June 2005 for CNX Bank. The index futures time series analyzed here uses data on the near month contract as they are most heavily traded. For the futures data, the trading on stock indices started on 12th June 2000 for Nifty, 29th August 2003 for CNX IT and on 13-June-2005 for CNX Bank.

S&P CNX Nifty

S&P (Standard & Poor) NSE Nifty is a well diversified 50 stock index accounting for over 23 sectors of the Indian economy. S&P NSE Nifty is owned and managed by India Index Services and Products Ltd. (IISL), which is a joint venture between NSE and CRISIL. Nifty stocks represent about 59.49 percent of the total market capitalization as on 31st May, 2007 (i.e., the last date of our study period).

Research Methodology

The study starts with analyzing absolute intra-day and inter-day volatility on spot prices and comparing these during the pre-futures and post-futures period. The study has used four measures of volatility. These are:

(a) Volatility based upon close-to-close prices,
(b) Volatility based upon open-to-open prices,
(c) Parkinson's Extreme Value Estimator (intra-day price range estimator), and
(d) Garman-Klass volatility (GKV) measure.

The null hypothesis of significant difference in volatility in spot prices between pre-futures and spot-futures period is tested using F-test. This is repeated for several sub-periods. Next, the study measure relative volatility between spot prices and futures prices taking half-yearly sub-periods starting from the commencement of futures trading on the concerned indices and stocks. All the above four measures of volatility are again utilized for this purpose and F-test is employed for null hypothesis testing of significant difference in volatility between spot and futures prices during the post-futures period.

In the first place, the daily returns based on spot and futures prices were computed. The price series consisted of open price, low, high, and closing prices for both spot and futures market. The returns for the futures contract and the spot index are defined as $RF_t = \{Ln (F_t / F_{t-1})\}$ and $RS_t = \{Ln (S_t / S_{t-1})\}$, respectively where Ft and S_t are the futures prices and spot prices on day t, respectively

The study has used four measures of volatility as provided by research studies of Ibrahim, Othman and Bacha (1999). These are (a) the first is based upon close-to-close prices, (b) the second is based upon open-to-open prices, c) Parkinson's High-Low Extreme Value Estimator, and (d) Garman-Klass volatility (GKV) measure.

(a) Close-to-Close Volatility (CCV):

This measure of volatility is based upon close-to-close prices. Close-to-Close Volatility is computed from the variance of close-to close daily return as given by eq.(1):

$$CCV = {}^{T}\Sigma_{t=1} (R_t - R_m)^2 / T\text{-}1 \quad (1)$$

$$\text{where } R_t = Ln(C_t / C_{t-1}) \quad (2)$$

with C_t and C_{t-1} being the closing prices on day t and t-1 respectively; R_m representing the return on day t; representing the mean or average return based on closing prices.

(b) Open-to-Open Volatility (OOV)

This measure of volatility is based upon close-to-close prices. Close-to-Close Volatility is computed from the variance of close-to close daily return as given by eq.(3):

$$OOV = {}^{T}\Sigma_{t=1} (R_t - R_m)^2 / T\text{-}1 \quad (3)$$

$$\text{where } R_t = Ln(O_t / O_{t-1}) \quad (4)$$

with O_t and O_{t-1} being the closing prices on day t and t-1 respectively; R_m representing the return on day t; representing the mean or average return based on opening prices.

(c) Parkinson's High-Low Volatility Estimator (PHLE)

This measure of volatility estimates intra-day volatility. Parkinson's High-Low Volatility Estimator (PHLE) can be computed using eq.(5) as given below. PHLE

$$PHLE = K\sqrt{\frac{\ln(H_t / L_t)\times 2}{N}} \quad (5)$$

where K=0.601; ln symbolized log; N is the total number of trading days considered; H_t and L_t denote intra-day high and low prices respectively. Beckers (1983) has empirically concluded that Parkinson's high-low estimator contains new information and is an accurate estimator of true volatility.

(d) Garman-Klass Volatility (GKV) measure

Garman-Klass Volatility (GKV) uses four intra-day variations of prices namely, daily opening prices, daily highest price, daily lowest prices and daily closing prices. GKV can be computed as given in eq.(6).

$$GKV = \sqrt{1/n\sum[(0.5)[Log(H_t / L_t)]_2 - [2\,Log(2)-1][\log(C_t / O_t)]_2} \quad (6)$$

where H_t, L_t, C_t , and O_t denote intra-day high, low, close and open prices respectively.

For measuring relative volatility, the study computes the volatility of spot prices and futures prices using each of the four volatility measures.

The null hypothesis tested is as follows:
Null Hypothesis: There is no significant difference between the relative volatility of the post market and the futures market i.e., the volatility of the underlying spot market is not significantly different from the volatility of the futures market. In statistical terms, the null and alternative hypothesis is specified as under:

H_0 : σ (spot) = σ (futures)
H_1 : σ (spot) ≠ σ (futures)

where H0 and H_1 denote the null and alternative hypothesis, respectively; is the standard deviation (measure of volatility); 'spot' represents the spot market; 'after' denotes the futures market.

The volatility is computed for yearly periods after the introduction of futures trading, ie from year 2001 to year 2007 (for individual stocks), and the entire post-futures period of 2001-2007. This is because for most of the companies selected, the futures trading started in year 2001 For NSE Nifty, the volatility is computed from year 2000 since futures started on Nifty on 12th June, 2000. But for other two indices namely CNX IT and CNX Bank, the volatility is computed after futures introduction in year 2003 and 2005, respectively. The relative volatility of the two markets (futures and spot) have been studied on a contemporaneous basis and tested for statistical significance by using F-Test.

Table-1: Relative Inter-day Volatility of Spot and Futures market using Close-to-close prices (CTCP) in NSE Stock Indices

Year	Type of Market / Test Measure	Relative volatility using CTCP: Standard Deviation (S.D.) – Indices		
		NSE Nifty	NSE CNX-IT	NSE CNX-BANK
2000	Spot	0.0156	0.0241	0.0214
	Futures	0.0160	N.A.	N.A.
	F-test Prob.	0.7929		
2001	Spot	0.0163	0.0213	0.0206
	Futures	0.0167	N.A.	N.A.
	F-test Prob.	0.7264		
2002	Spot	0.0106	0.0209	0.0198
	Futures	0.0102	N.A.	N.A.
	F-test Prob.	0.5523		

2003	Spot	0.0123	0.0197	0.0194
	Futures	0.0126	0.0218	N.A.
	F-test Prob.	0.7193	0.0714***	
2004	Spot	0.0176	0.0189	0.0186
	Futures	0.0196	0.0213	N.A.
	F-test Prob.	0.0904***	0.023**	
2005	Spot	0.0111	0.0175	0.0185
	Futures	0.0121	0.0189	0.0211
	F-test Prob.	0.1732	0.1392	0.0329**
2006	Spot	0.0165	0.0171	0.0179
	Futures	0.0181	0.0188	0.0197
	F-test Prob.	0.1470	0.0781***	0.0429**
2007	Spot	0.0151	0.0165	0.0170
	Futures	0.0167	0.0176	0.0182
	F-test Prob.	0.3211	0.0211**	0.0391**
2000-2007	Spot	0.0145	0.0169	0.0177
	Futures	0.0154	0.0172	0.0182
	F-test Prob.	0.0114**	0.0023*	0.046**

Note: F-test Prob. denotes the probability of the F-test on the two sub-periods, called pre-futures and post-futures. * ,** and *** denote significance at 1%, 5% and 10% levels , respectively.
N.A.- Not applicable; Futures trading in NSE CNX –IT and NSE CNX-Bank commenced on 29th August 2003 and 13th June,2005, respectively. Futures trading on NSE Nifty started on 12th June,2000.

Analysis and Findings

Inter-day Relative Volatility in Spot and Futures Market for Selected NSE Stock Indices

Table-1 presents the inter-day volatility of spot and futures market year-wise for the three selected NSE indices. For NSE Nifty, the volatility is higher for futures market for all the individual years under study. Further, the inter-day volatility of NSE Nifty futures is 0.0154 in comparison 0.0145 for spot market over the entire period of 2000-2007. Only for year 2004, the relative inter-day volatility of Nifty is statistically significant with futures volatility higher at 0.0196 and spot volatility at 0.0176. For CNX-IT and CNX-Bank, the futures volatility is relatively higher than spot inter-day volatility for all the years.

During the period 2000-2007, the inter-day volatility of CNX-IT for spot and futures was found to be 0.0169 and 0.0172 respectively, and for CNX-Bank the volatilities were 0.0177 and 0.0182 for spot and futures market, respectively. Thus, the futures market volatility is lesser than that of spot volatility for the three indices. Further, it is observed that the values of inter-day spot volatility of all the three indices consistently decreased from year 2001 to year 2007. This indicates a stabilizing effect of futures introduction on spot volatility for the selected NSE indices.

Table-2 presents the open-to-open prices based inter-day volatility for the three selected NSE indices in spot and futures market over the period 2000-2007. The spot volatility of NSE Nifty is relatively higher than that of futures market for all the years under study, and this has decreased from 0.0157 in 2001 to 0.0152 in 2007. Over the entire period, the spot volatility of NSE Nifty is lesser (0.0146) than futures market (0.0168) with statistical significance at one percent level. Spot volatility was found to be highest in year 2004 (0.0178) while highest futures volatility was observed in year 2001 (0.0208). For CNX-IT, highest spot volatility was in year 2006 (0.0272) and lowest in year 2004 (0.0146). For all the individual years

Table- 2 : Relative Inter-day Volatility of Spot and Futures market using Open-to-Open prices (OTOP) in NSE Stock Indices

Year	Type of Market / Test Measure	Relative volatility using OTOP: Standard Deviation (S.D.) – Indices		
		NSE Nifty	NSE CNX-IT	NSE CNX-BANK
2000	Spot	0.0157	0.0257	0.0232
	Futures	0.0201	N.A.	N.A.
	F-test Prob.	0.0039*		
2001	Spot	0.0164	0.0187	0.0172
	Futures	0.0208	N.A.	N.A.
	F-test Prob.	0.0002*		
2002	Spot	0.0106	0.0182	0.0173
	Futures	0.0109	N.A.	N.A.
	F-test Prob.	0.6028		
2003	Spot	0.0125	0.0193	0.0174
	Futures	0.0132	0.0222	N.A.
	F-test Prob.	0.4230	0.0315**	
2004	Spot	0.0178	0.0191	0.0291
	Futures	0.0191	0.0214	N.A.
	F-test Prob.	0.2724	0.3710	
2005	Spot	0.0112	0.0146	0.0192
	Futures	0.0123	0.0186	0.0205
	F-test Prob.	0.1249	0.1291	0.0842***
2006	Spot	0.0167	0.0272	0.0178
	Futures	0.0198	0.0283	0.0183
	F-test Prob.	0.0076*	0.0419**	0.1494
2007	Spot	0.0152	0.0182	0.0164
	Futures	0.0171	0.0191	0.0167
	F-test Prob.	0.2423	0.1891	0.1275
2000-2007	Spot	0.0146	0.0156	0.0149
	Futures	0.0168	0.0171	0.0152
	F-test Prob.	0.0000*	0.0011**	0.0000*

Note: F-test Prob. denotes the probability of the F-test on the two sub-periods, called pre-futures and post-futures.
* ,** and *** denote significance at 1%, 5% and 10% levels , respectively.
N.A.- Not applicable; Futures trading in NSE CNX –IT and NSE CNX-Bank commenced on 29th August 2003 and 13th June,2005, respectively. Futures trading on NSE Nifty started on 12th June,2000.

under study, futures volatility is found to be relatively higher than spot market with highest value in year 2006 (0.0283) significant at five percent level, and lowest in year 2005 (0.0186) without any statistical significance. For CNX-Bank, highest spot volatility was in year 2000 (0.0232) and lowest in year 2007 (0.0164). For all the years, futures volatility is relatively higher than spot market. Over the entire study period 2000-07, the spot volatility of CNX-Bank was lower (0.0149) than futures market (0.0152) with statistical significance.

Note: F-test Prob. denotes the probability of the F-test on the two sub-periods, called pre-futures and post-futures. *,** and *** denote significance at one percent, five percent and ten percent levels, respectively.

N.A.- Not applicable; Futures trading in NSE CNX –IT and NSE CNX-Bank commenced on 29th August 2003 and 13th June, 2005, respectively. Futures trading on NSE Nifty started on 12th June, 2000.

Thus, from table 2 and table 3, we can reject the null hypothesis of "no significant change in Relative Inter-Day volatility between spot prices and futures prices" over the entire period 2000-2007, but we could not reject the hypothesis fully for all the individual years.

Intra-day Relative Volatility in Spot and Futures for Selected NSE Stock Indices

Note: F-test Prob. denotes the probability of the F-test on the two sub-periods, called pre-futures and post-futures. *,** and *** denote significance at one percent, five percent and ten percent levels, respectively.

N.A.- Not applicable; Futures trading in NSE CNX –IT and NSE CNX-Bank commenced on 29th August 2003 and 13th June, 2005, respectively. Futures trading on NSE Nifty started on 12th June, 2000.

Table-3 presents the intra-day (high-low) volatility of spot and futures market for the NSE indices. It is observed that for all the three indices, the relative volatility of futures market is lower than the corresponding spot volatility with statistical significance. For the period 2000-07, futures' market volatility of NSE Nifty is lower (0.0812) than spot volatility (0.1187) and this difference is significant at one percent level. For

Table-3 : Relative Intra-day Volatility of Spot and Futures market using High-Low prices (HLP) in NSE Stock Indices

Year	Type of Market / Test Measure	Relative Intra-day volatility using HLP: Standard Deviation (S.D.) – Indices		
		NSE Nifty	NSE CNX-IT	NSE CNX-BANK
2000	Spot	0.1274	0.1455	0.1287
	Futures	0.0848	N.A.	N.A.
	F-test Prob.	0.0001*		
2001	Spot	0.1265	0.1370	0.1287
	Futures	0.0898	N.A.	N.A.
	F-test Prob.	0.0000*		
2002	Spot	0.1057	0.1182	0.1202
	Futures	0.0680	N.A.	N.A.
	F-test Prob.	0.0000*		
2003	Spot	0.1145	0.1089	0.1124
	Futures	0.0780	0.0941	N.A.
	F-test Prob.	0.0000*	0.0315**	
2004	Spot	0.1243	0.1391	0.1288
	Futures	0.0879	0.1123	N.A.
	F-test Prob.	0.0000*	0.0811***	
2005	Spot	0.1098	0.1722	0.0945
	Futures	0.0776	0.1564	0.0781
	F-test Prob.	0.0000*	0.0419**	0.0216**
2006	Spot	0.1244	0.1049	0.1902
	Futures	0.0880	0.0912	0.1540
	F-test Prob.	0.0000*	0.0029*	0.0091*
2007	Spot	0.1197	0.1238	0.1390
	Futures	0.0824	0.1194	0.1176
	F-test Prob.	0.0000*	0.0011*	0.0761***

2000-2007	Spot	0.1187	0.1301	0.1287
	Futures	0.0812	0.1129	0.1129
	F-test Prob.	0.0000*	0.0028*	0.0001*

Note: F-test Prob. denotes the probability of the F-test on the two sub-periods, called pre-futures and post-futures.
* ,** and *** denote significance at 1%, 5% and 10% levels , respectively.
N.A.- Not applicable; Futures trading in NSE CNX –IT and NSE CNX-Bank commenced on 29th August 2003 and 13th June,2005, respectively. Futures trading on NSE Nifty started on 12th June,2000.

CNX-IT, the spot volatility is the highest in year 2000 (0.1455) and the lowest in year 2006 at 0.1049 (post-futures). This supports our view that intra-day spot volatility has stabilized after futures introduction. The relative intra-day volatility of CNX-IT over period 2000-07 is lesser for futures market (0.1129) than spot market (0.1301) but with statistical significance. Highest futures volatility of CNX-IT was observed during year 2005 (0.1564) and lowest futures volatility during year 2003 (0.0941). Similarly for CNX-Bank, the futures volatility in all the individual years is significantly lower than spot volatility. Highest intra-day futures volatility for CNX- Bank was witnessed during year 2006 (0.1540) and lowest during year 2005(0.0781). Over the entire period, the intra-day volatility of CNX-Bank is relatively lower for futures market (0.1129) than spot market (0.1287).

Table-4 depicts the intra-day GKV volatility of spot and futures market for the NSE indices over the period 2000-07. For NSE Nifty, the spot volatility was higher than futures volatility during the years 2001, 2002, 2003 and 2007, and the opposite for the remaining years under study. Over the entire study period, there was significant difference between spot (0.009) and futures (0.0010) volatility in NSE Nifty. For CNX-IT, the intra-day spot volatility was higher than futures volatility for all the years with spot volatility being the highest in year 2001 (0.0382) and the lowest in year 2007(0.0192). Highest futures volatility of CNX-IT was observed during year 2003 (0.0209) and lowest futures volatility during year 2005 (0.0148). There was evidence of difference between spot and futures intra-day volatility tested statistically significant at various levels for all the years under study. Similarly, for CNX-Bank, the intra-day futures volatility was lesser than spot volatility for all the years under study. Highest intra-day futures volatility for CNX-Bank was witnessed during year 2005 (0.0201) and lowest during year 2007 (0.0167). Over the period 2000-07, the volatility is found to be lower in futures market (0.0017) than spot market (0.0019) with the difference being significant at one percent level. The intra-day spot volatility is always found to be higher than futures volatility for most of the individual years under study period.

Table-4: Relative Intra-day GKV Volatility of Spot and Futures market in NSE Stock Indices

Year	Type of Market / Test Measure	Relative Intra-day GKV volatility: Standard Deviation (S.D.) – Indices		
		NSE Nifty	NSE CNX-IT	NSE CNX-BANK
2000	Spot	0.0201	0.0245	0.0289
	Futures	0.0203	N.A.	N.A.
	F-test Prob.	0.0000*		
2001	Spot	0.0211	0.0382	0.0319
	Futures	0.0200	N.A.	N.A.
	F-test Prob.	0.0016*		
2002	Spot	0.0137	0.0287	0.0217
	Futures	0.0117	N.A.	N.A.
	F-test Prob.	0.0003*		

2003	Spot	0.0162	0.0245	0.0271
	Futures	0.0153	0.0209	N.A.
	F-test Prob.	0.1548	0.0142**	
2004	Spot	0.0222	0.0211	0.0288
	Futures	0.0228	0.0192	N.A.
	F-test Prob.	0.0440**	0.0023*	
2005	Spot	0.0146	0.0187	0.0212
	Futures	0.0148	0.0148	0.0201
	F-test Prob.	0.3763	0.0091*	0.0154**
2006	Spot	0.0217	0.0199	0.0187
	Futures	0.0221	0.0183	0.0172
	F-test Prob.	0.6374	0.0814***	0.0021*
2007	Spot	0.0183	0.0192	0.0181
	Futures	0.0170	0.0188	0.0167
	F-test Prob.	0.0012*	0.0491**	0.0619***
2000-2007	Spot	0.0009	0.0012	0.0019
	Futures	0.0010	0.0011	0.0017
	F-test Prob.	0.0000*	0.0028*	0.0000*

Note: F-test prob. denotes the probability of the F-test on the two sub-periods, called pre-futures and post-futures.

* ,** and *** denote significance at 1%, 5% and 10% levels , respectively.

N.A.- Not applicable; Futures trading in NSE CNX –IT and NSE CNX-Bank commenced on 29th August 2003 and 13th June,2005, respectively. Futures trading on NSE Nifty started on 12th June,2000

Note: F-test prob. denotes the probability of the F-test on the two sub-periods, called pre-futures and post-futures. *,** and *** denote significance at one percent, five percent and ten percent levels, respectively.

N.A.- Not applicable; Futures trading in NSE CNX –IT and NSE CNX-Bank commenced on 29th August 2003 and 13th June,2005, respectively. Futures trading on NSE Nifty started on 12th June, 2000.

Thus, from table 3 and table 4, we can reject the null hypothesis of "No significant change in Relative Intra-Day volatility between spot prices and futures prices" for all the three selected NSE indices.

Conclusion

For the three NSE indices, the study rejects the null hypothesis of 'no significant change in relative inter-day volatility between spot prices and futures prices' over the entire period 2000-2007, but cannot reject the hypothesis fully for all the individual years. There is significant change in relative intra-day volatility between spot prices and futures prices for all the three NSE indices. Another area of research could be a study on stock market volatility before and after the introduction of index futures trading in multi-county scenario, using models that account for movements in the world market portfolio, asynchronous data and conditional heteroskedasticity.

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Price Earnings Multiples: Actual Determinants

R. Kasilingam and G. Ramasundaram

Abstract

PE ratio is the one of the important tools used by the investor to take investment decision in capital market. To take right decision it is not only necessary to know about PE of particular stock but also the different factors which are having impact on PE ratio. For the purpose of study 30 companies which are included in the sensex are taken. The study results shows that the P/E ratio of the public sector companies always tend to be higher than that of the private sector companies. The market capitalization of the companies has a great impact over the P/E ratio. Further, it could be said that the P/E ratio could not be predicted accurately using the past information and only the future expectations of the investors decide the P/E ratio of a company.

Key words:

Determination of PE ratio, Determinants of PE ratio, Impact of market capital on PE, Determinants of PE using constant growth model and whitebeck kisor model.

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Among the financial ratios from the viewpoint of stock selection, the P/E ratio occupies the most important place. Interestingly, one of the books written by Peter Lynch to share his experiences about how he achieved great investment success is titled as *Learn to Earn: A Beginner's Guide to Basics of Investing and Business* in which he has stated that, of course there are many things to be learned step by step but basic requirement is understanding about P/E ratio. Investors and stock analysts have used price-earnings ratio for quite long time, (usually called P/E ratio), to determine whether individual stocks is reasonably priced or not. More recently, some economists have argued that the average price-earnings ratio for a stock market index can help to predict long-term changes in that index. According to this view, a low P/E ratio tends to be followed by rapid growth in stock prices in the subsequent decade and a high P/E ratio by slow growth in stock prices. As PE is the important factor used by the investors to take decision, it is necessary to determine the factors which influence the PE ratio of company to take better decision.

Computation of P/E Ratio

The P/E is the relationship between the stock price and the company's earnings. Generally, the P/E is calculated as P/E Ratio = Market price of the share / Earnings per share. In this study P/E ratio is calculated using two methods viz. (i) Constant growth model and (ii) Whitbeck Kisor model.

Constant Growth Model

In this model, the cash dividends are expected to increase at constant rate each year. According to this model price of security is equivalent to the present value of the stream of constantly rising future dividends. The investors can use the following equation Price = D/ (r – g), Where, D = Dividend, g = growth = ROE (1 – D/E), r = expected return which can be calculated using CAPM. With the help of above equation the equation for the P/E can be derived, which can be stated as P/E = Dividend Payout / (r – (ROE* (1-Dividend Pay out))).

Whitbeck Kisor Model

This is similar to the constant growth model. Here, the growth is considered as a single variable and the risk in growth rate is also considered as the variable predicting the price of the equity. Thus, P/E = Dividend Payout / (r – g) Where, r = expected return which can be calculated using CAPM, g = growth rate.

Review of Literature

Over seventy years ago, Graham and Dodd (1940) stated unequivocally, "People who habitually purchase common stocks at more than about twenty times their average earnings are likely to lose considerable money in the long run." Some twenty years later, the British economist, I. M. D. Little (1962) claimed that the subsequent earnings of growth stocks are no better than those of other stocks, and therefore their premium prices are not warranted.

Goodman and John (1983) analyzed the validity of industry-relative P/E ratio as an indicator of investment return and found that P/E ratio is a significant factor related to excess returns. Low P/E ratio portfolios tend to outperform high P/E ratio portfolios. Furthermore, as P/E ratio increases, returns decline consistently.

The low P/E ratio investing has been a popular investment strategy for many years. A number of academic studies document that low P/E ratio strategies have historically generated, on average, above-normal returns. Some examples are Basu (1977), Goodman and Peavey (1986), and Jaffe, Keim and Westerfield (1989). Fama and French (1992) also found positive abnormal returns associated with low P/E stocks. Do stocks with high P/E ratios, often called "growth stocks," generally fulfill their promise of generating returns consistent with their lofty valuation? The answer remains controversial.

Kane *et al*. (1996) tested the relationship between P/E ratio and various factors related to market volatility and found that the market multiple is highly sensitive to volatility and suggested that a permanent one percent point increase in market volatility can reduce the market multiple by 1.8. Hence, any assessment of market valuation that ignores the impact of volatility on the equilibrium P/E is inherently perilous.

Barry (2000) examined the determinants of the earnings in the US stock market (proxied by S&P 500 Index) and found that when P/E or E/P was used as the dependent variable, several regression models were found to be significant. He also found that the final E/P model had eight significant variables which has explained more than 88 percent of P/E variation. This model indicates that today's multiples of 30 to 35 are not justified by current or expected economic conditions.

Jones (2000) published a report from Standard and Poors, in which he has analysed why would the largest capitalization stocks warrant high P/E ratios? From 1994 through much of 1999, investors favoured large cap stocks. In 1998, for example, the largest 25 stocks in the S&P 500 accounted for almost two-thirds of the gain in the S&P 500 for the year. The popularity of the large cap stocks occurs for two reasons: they are perceived as less risky, as economists forecast a slowdown in the economy, and they show strong earnings growth.

According to Anderson and Brooks (2005a and 2005b), P/E ratio is a widely used measure of the expected performance of companies, and it has almost invariably been calculated as the ratio of the current share price to the previous year's earnings. However, the P/E of a particular stock is partly determined by outside influences, such as the year in which it is measured, the size of the company, and the sector in which the company operates. Their study considered all the UK companies, since 1975, and found that the decomposed P/E ratio is able to double

the gap in annual returns between the value and glamour deciles, and thus constitutes a useful tool for value fund managers and hedge funds.

Shen (2007) studied the long-term outlook of the stock prices, based on the past relationship of stock market performance to the P/E ratio, and the short-term outlook of the stock market, based on the past relationship of stock market performance to the P/E ratio. He found that when P/E ratios have been high, stock prices have usually grown slowly in the following decade. He also found that when high P/E ratios have reduced the earnings yield on stocks relative to interest rates; stock prices have also tended to grow slowly in the short-term.

Research Methodology

The main purpose of the study is to determine the factors which influence the PE of the company. For the purpose of the study 30 companies which included in the sensex calculation are taken. Since the SENSEX is regarded as the pulse of the domestic stock markets in India, these 30 companies were included in the sample. This study is purely based on the Secondary Data. The financial data such as capital structure, earnings, tax, market price of the shares, dividend history, etc. are collected from various websites such as www.bseindia.com www.rediffmoney.com, finance.yahoo.com, www.justtrade.in, www.moneycontrol.com, rbi.org.in, etc. The statistical tools such as correlation, regression, analysis of variance, independent samples t-test, Levene's test and ARIMA technique have been used to analyze the relationship of P/E ratio with its determinants and other factors. The statistical packages such as SPSS and EViews have been used to carry out these analyses.

Determinants of P/E

P/E is price paid by the investor to buy one earnings of the company. Different companies have different P/E. Some companies have very high P/E and some other companies have abnormally low. Apart from that the average P/E ratio varies from country to country. This means that some other factors drive of the P/E ratio of the company. This study is meant to study the factors which determine the PE of the company.

Company-wise Analysis

As stated earlier the P/E ratios of different companies vary from each other. However, it is essential to study whether the average P/E ratios of various companies differ significantly from each other. The analysis of variance is performed to test whether the sensex companies have different P/E or not.

Table 1: Analysis of Variance

Factors	F	Sig.
Company wise analysis	35.275	0.000
Year wise analysis	0.711	0.586
Industry wise analysis	7.450	0.000
Market Capitalization wise analysis	5.298	0.006

The significance value of the analysis of variance is zero. This implies that there is a significance difference among the P/E ratios of sensex companies.

The Duncan's Post-hoc test divides the companies into four homogeneous subsets. For the sake of simplicity one company has been taken for each subset for the interpretation purpose. ITC Ltd. is in the first subset which has the average P/E ratio of 23.028. Sterlite Industries Ltd. is in the second subset with the average P/E ratio of 71.054. State Bank of India is in the third subset with the average P/E ratio of 102.296. And finally, the HDFC Bank Ltd. is in the fourth subset with the average P/E ratio of 249.02. The HDFC bank had the highest average P/E ratio among all other banks. This is more than the double of the average P/E ratio of the State Bank of India (SBI). Similarly, the average P/E ratio of the HDFC Bank is more than three times that the Sterlite Industries. Further, the ITC Ltd has the least average P/E ratio in the past five years. This is approximately one tenth of the average P/E ratio of the HDFC Bank. Thus, it is inferred that the P/E ratio significantly varies

Table 2: Company wise P/E

Company	N	Subset for alpha = 0.05			
		1	2	3	4
ITC	5	23.0280			
Sterlite Industries	5		71.0540		
SBI	5			102.2960	
HDFC Bank	5				249.0200

from companies to companies. The P/E ratio of a company is considered as an important factor for considering the investment in the shares of that company.

Year-wise Analysis

The performance of the company may vary in different years. This variance in the company's performance may be due to various factors. Thus, it is required to analyze whether the P/E ratios differ with respect to the financial year using the analysis of variance. The significance value for the anova test is 0.589. This means that the P/E ratios do not differ from year to year. Alternatively, the period do not have influence on P/E ratio. No boom period is noticed in the previous five years. In a particular year, the P/E ratio of some companies may increase and that the other companies may decrease. This change in P/E is due to the expectations of the investors.

Table 3: Year-wise P/E

Year	N	Subset for alpha = 0.05
		1
2008-2009	30	21.1293
2004-2005	27	28.8200
2006-2007	29	32.6514
2007-2008	30	35.2393
2005-2006	28	41.3364

Fig. 1: Yearwise P/E Ratio

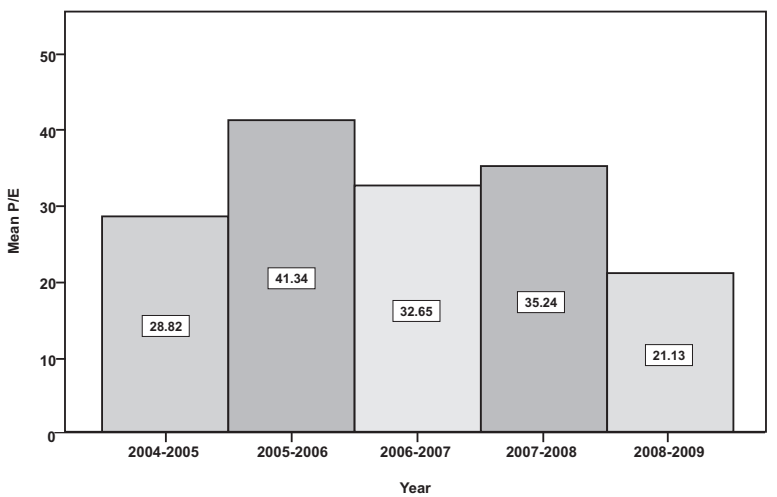
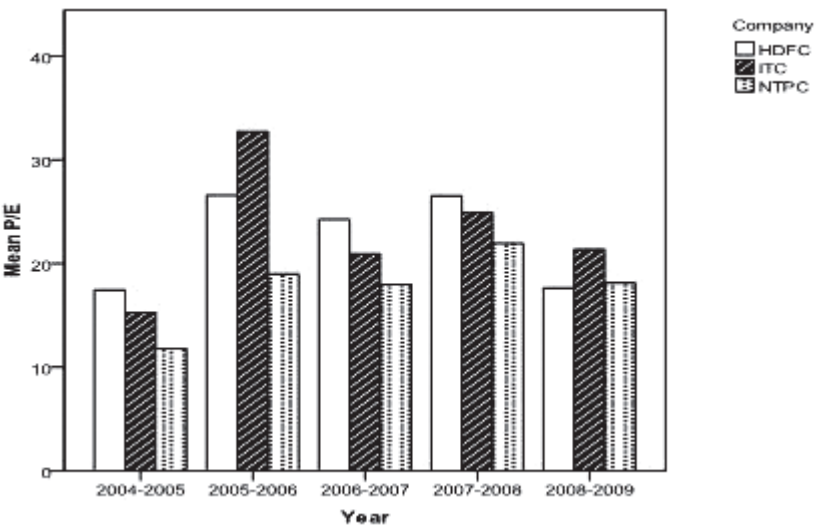


Table 3 shows the Duncan's homogenous subset of various years with respect to their average P/E ratios. Here, all the five years have been grouped into a single subset. This implies that the P/E ratios of different years do not vary among the groups and have the homogeneity of variance within the group.

The average P/E ratios in the five financial years can be clearly seen from fig. 1. In the year 2004-2005, the average P/E ratio is 28.82. In the next financial year, the average P/E ratio has increased to 41.34. The average P/E ratio in the financial years 2006-2007, 2007-2008 and 2008-2009 are 32.65, 35.24 and 21.13 respectively. Thus, there is no much difference in P/E ratio in those years. Hence, it could be stated that the year is not a determining factor for the P/E ratio. But it is also essential to assess individual companies whether the individual companies have different P/E ratio with respect to the year.

Figure 2 shows the individual P/E ratios of three companies, HDFC Ltd., Larsen & Toubro Ltd., and NTPC Ltd., for the past five financial years. In the year 2004-2005, the P/E ratio of HDFC was higher than that of the other two companies. In the year 2005-2006 PE ratio of HDFC Ltd., has increased but is less than that of P/E ratio of the Larsen & Toubro Ltd. This position is maintained by L&T till the end of the financial year 2007-2008 but in the year 2008-2009 the P/E ratio of L&T has declined to the least among the three companies. NTPC Ltd., has the highest P/E in the year 2008-2009. From this it is clear that the P/E ratios of the companies vary differently irrespective of the year. In a particular year, if one company has faced a decline in P/E ratio, the other company might have faced an increase in P/E ratio. Thus, it cannot be stated that PE has increased significantly over a period of time.

Fig. 2: P/E Ratios of Companies



Industry-wise Analysis

Companies in an industry are assumed to be alike in all economically important dimensions except for their size. Hence, the industry can be viewed as a homogenous unit. Hence, it needs to be analyzed whether the industry has any influence over the P/E ratio. For the study 30 companies are taken from 13 different industries.

The significance value of the difference among the P/E ratios of different industries is zero. Thus, it can be inferred that the P/E ratios of different industries significantly differ from each other. On the other hand, it can be said that the industry has significant influence on the P/E ratio. Out of the 13 industries, 12 industries are in the first subset and the Banking industry is in the second subset. This means that the twelve sectors do not differ significantly with respect to PE. The significant

Table 4: Industry wise P/E

Industry	N	Subset for alpha = 0.05	
		1	2
Oil & Gas	10	12.9160	
Diversified	5	13.2500	
Automobile	20	15.1505	
Power	15	18.0860	
Housing Related	12	20.4500	
Housing Finance	5	22.4840	
FMCG	10	24.3380	
IT	15	25.9207	
Capital Goods	10	26.1430	
Healthcare	5	27.0880	
Telecom	7	28.2600	
Metals	15	28.3107	
Banking	15		119.6293

difference is due to the Banking industry only, which has the average P/E ratio of 119.6293.

Holding-wise Analysis

The investors' views over the public sector companies are different from those over the private sector companies. In India, the public sector companies are considered to have less operational efficiency than the private sector companies. On the other hand, the investment in public sector companies is considered to be less risky than the private sector companies. Hence, it is essential to analyze whether, there is any difference between the P/E ratios of the public sector companies with that of the private sector companies. The independent samples t-test has been used to test this difference.

Table 5: P/E Ratio of Public Sector and Private Sector

Sector	N	Mean	Std. Deviation	Std. Error Mean
Public Sector	20	39.5435	39.25596	8.77790
Private Sector	124	30.5052	49.18038	4.41653

Table 6: Equality of Variances of P/E ratio- Sector wise

		Levene's Test for Equality of Variances	
		F	Sig.
P/E	Equal variances assumed	.772	.381

The average P/E of the public sector companies is 39.5435 and the average P/E of the private sector companies is 30.5052. It is required to check whether the public sector companies and the private sector companies have equal variances of the P/E ratio, using the Levene's test for equality of variance.

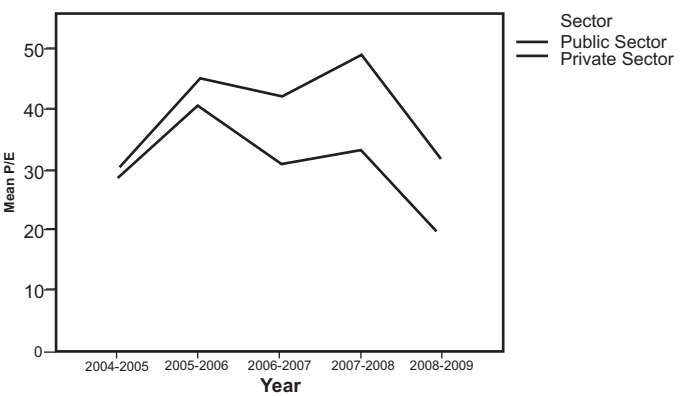
The significance value in the Levene's test is 0.381. Hence, it can be inferred that the public sector companies and the private sector companies have equal variances of the P/E ratio. Since the private sector companies have equal variances of the P/E ratio, the significance value of the equal variances assumed has to be considered. The significance value is 0.436. Hence, the P/E ratio of the public sector companies does not differ from the mean P/E ratio of the private sector companies.

From the fig. 3 it is seen that the P/E ratio of the public sector companies are higher than the P/E ratio of the private sector companies in the last five years. When the P/E ratios declined in the year 2005-2006, the P/E ratio of the public sector companies showed a less decrease than that of the private companies. Further, the P/E ratio of the public sector companies is in increasing trend, whereas the P/E ratio of the private sector companies is in decreasing trend.

Table 7: Sector-wise PE – Independent Sample t-test

		t	df	Sig.	Mean Difference	Std. Error Difference
P/E	Equal variances assumed	0.782	142	0.436	9.03834	11.55951
	Equal variances not assumed			0.365	9.03834	9.82635

Fig. 3: Sector-wise P/E Ratio



Market Capitalization-wise Analysis

The P/E ratio of a company will increase with rise in market price. Similarly, the market capitalization will also increase when the market price of the share increases. The market capitalization of the companies ranges from ₹ 184.275 Billion to ₹ 3700.3108 Billion. Hence, the companies which are having less than ₹ 400 Billion have been categorized as small-cap companies, the companies having the market capitalization from ₹ 400 Billion to ₹ 1000 Billion as mid-cap companies and the companies having the market capitalization more than ₹ 1000 Billion as large-cap companies. The significance value in the analysis of variance is 0.006. This implies that there exists a significant relationship between the market capitalization and the P/E ratio.

There are two homogenous subsets of market capitalization with respect to P/E ratio. The small-cap and the large-cap companies are in the first subset and the mid-cap companies are in the second subset. The average P/E ratio of the mid-cap companies is the highest when compared to the other two.

Fig. 4 shows that the average P/E of the mid-cap companies is the highest and the average P/E ratios of the Small-cap

Table 8: Market Capitalization and P/E

Market Capitalization	N	Subset for alpha = 0.05	
		1	2
Small-cap	43	17.6644	
Large-cap	54	28.1333	
Mid-cap	47		48.8243

Fig. 4: P/E Ratios and Market Capitalization

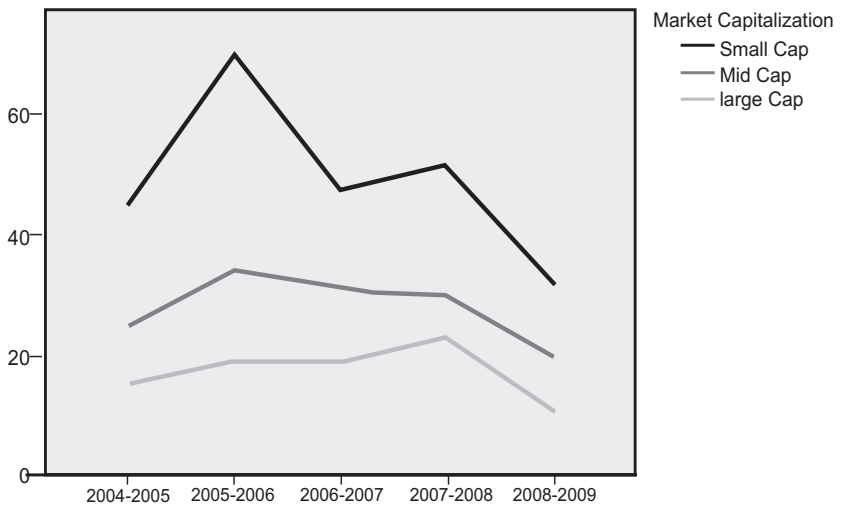


Table 9: P/E Ratio of Debt/Equity Ratio Categories

	Debt/Equity	N	Mean	Std. Deviation	Std. Error Mean
P/E	Less than 1	131	32.4004	50.11226	4.37833
	Greater than 1	13	25.3123	9.71520	2.69451

companies are the lowest in all the five financial years. The average P/E ratio of the mid-cap companies is more than the average P/E ratios of the large-cap companies. This may be because of the growth of the companies. The companies with stable growth, commands a higher P/E ratio. Thus, it is clear that there is a significant relationship between the market capitalization and the P/E ratio.

Impact of Debt/Equity Ratio

The debt/equity ratio is the measure of a company's financial leverage. If the equity is higher than the debt, the earning of the companies would give more return to the share holders. On the other hand, if the debt is more than the equity, major portion of the earnings of the companies would be covered by the debt and the share holders will get comparatively less return. Hence, the debt/equity ratio of the company could also be a factor which determines the P/E ratio of the company. However, the analysis needs to be performed to test whether the debt/equity ratio has any impact on the P/E ratio.

The average P/E ratio of the companies having the debt/equity ratio less than one is 32.4004 and the companies having the

debt/equity ratio greater than one is 25.3123. However, it is essential to test whether this difference is significant or not.

The significance value for the independent sample t-test is 0.613. Hence, the average P/E of the companies with debt/equity ratio less than one is not significantly different from the P/E of the companies with debt/equity ratio greater than one. In the year 2008-2009, PE ratio of both the types of companies has declined to the lowest among the last five financial years. Further, the deviation of the average P/E ratios of the companies

Table 10: Equality of Means of P/E Ratio and Debt/Equity

	t	df	Sig.	Mean Difference	Std. Error Difference
Equal variances assumed	0.507	142	0.613	7.08807	13.96682
Equal variances not assumed	1.379	96.759	0.171	7.08807	5.14103

Fig. 5: P/E Ratio and Debt/Equity Ratio

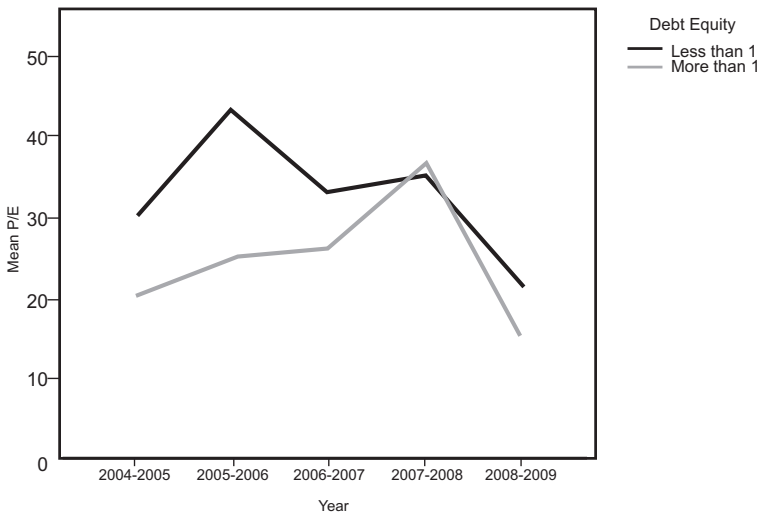


Table 11: Relationship among P/E Ratio and its Determinants

		Dividend Payout	Return on Equity	Expected Return	Growth	P/E
Dividend Payout	Correlation	1				
	Sig.					
Return on Equity	Correlation	0.362	1			
	Sig.	0				
Expected Return	Correlation	0.198	0.156	1		
	Sig.	0.016	0.057			
Growth	Correlation	-0.196	0.801	0.072	1	-0.084
	Sig.	0.017	0	0.38		0.314
P/E	Correlation	-0.083	-0.114	0.026	-0.084	1
	Sig.	0.325	0.174	0.759	0.314	

with the debt/equity ratio less than one is more than that of the companies with the debt/equity ratio greater than one.

Relationship among P/E Ratio and its Determinants

As per the constant growth model, the P/E ratio is the function of the dividend payout ratio, expected return and the return on equity. Further as per the Whitbeck Kisor model, the P/E ratio is the function of the dividend payout ratio, expected return and the growth rate. Thus, the relationship among those determinants and the P/E ratio has to be analyzed.

Table 11 shows the correlation coefficients among the determinants of P/E ratio and the P/E ratio. The correlation coefficient between the dividend payout ratio and the return on equity is 0.362 and the significance value is zero. Thus, there is a significant relationship between the dividend payout ratio and the return on equity. Similarly, the dividend payout ratio and the expected return also have significant relationship. Further, the correlation coefficient between the dividend payout ratio and the growth is -0.196 and the significance value is zero. Even though the correlation is weak negative, it is significant. Hence, the dividend payout ratio and the growth have significant negative relationship with each other. The correlation coefficient between the return on equity and the growth is 0.801 and the significance value is zero. Hence there exists a strong positive relationship between the return on equity and the growth. This implies that the increase in return on equity will increase the growth rate. In the above table, the significance value of correlation for the P/E ratio with the determinants dividend payout ratio, return on equity, expected return and growth rate are more than 0.05.

Fig. 6 represents the scatter plots between the dividend payout ratio and the P/E ratio. It can be seen that the plots are well scattered. This implies that there is no relationship between the dividend payout ratio and the P/E ratio.

Fig. 7 is a scatter plot diagram that has been drawn for return on equity and the P/E ratio. In this case also, the plots are well scattered implying that there is no significant relationship between the return on equity and the P/E ratio. It can be seen that there is no significant relationship between the P/E ratio and its determinants. With this, it can be summarized that the P/E ratio could not be predicted by the past information. Only the future expectations of the investors determine the P/E ratio.

Forecasting the Future P/E Ratio

Even though the P/E ratio could not be predicted by the past information, we could perform time series analysis to predict future P/E using the ARIMA Technique. The basic assumption for the ARIMA technique is that the data should not have the trend. Here, the P/E ratio of Tata Steel does not have any trend for the past five years. The line chart shows there is no trend.

Fig. 6: Scatter Plots between P/E and Dividend Payout Ratio

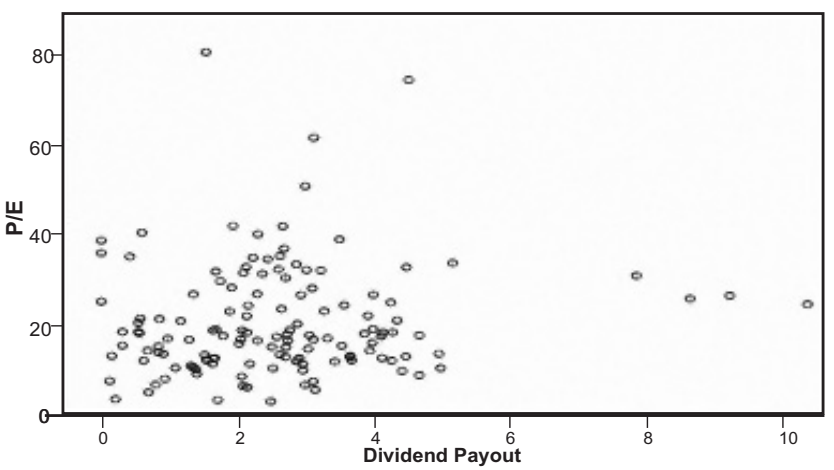


Fig. 7: Scatter Plots between P/E Ratio and Return on Equity

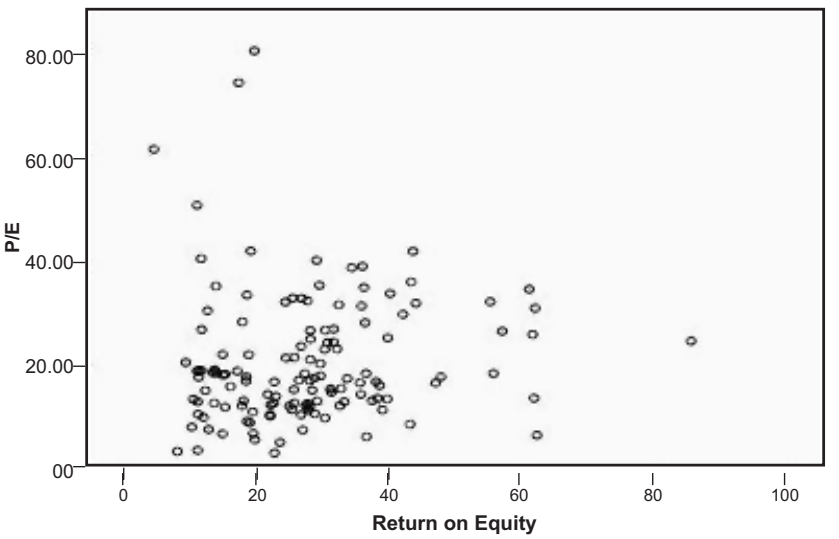
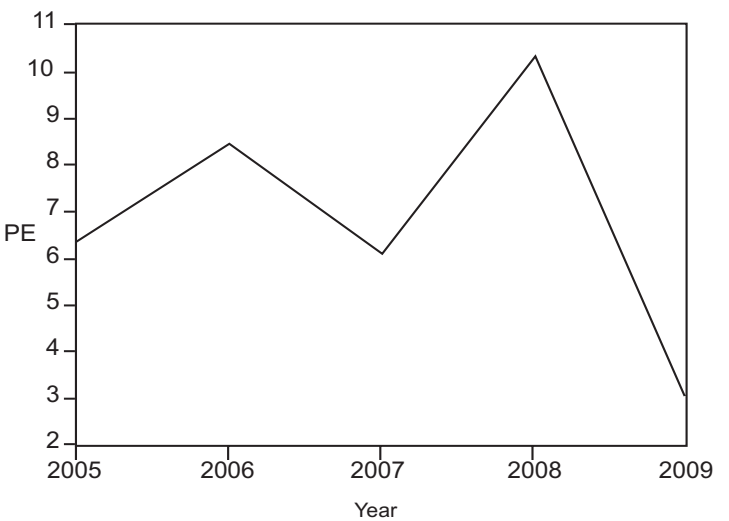


Fig. 8: Year wise P/E Ratio of Tata Steel



Before forecasting future using ARIMA, it is essential to check whether the data series is stationary. This can be done by the unit root test.

Null Hypothesis: P/E has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=0)

Table 12 shows that the significance value for Augmented Dickey-Fuller test statistic is 0.0007. Therefore, the null hypothesis has to be rejected. Thus, the P/E ratio has no unit root problem and the data series is stationery.

Table 13 shows the Augmented Dickey-Fuller test equation for the dependent variable, P/E ratio using least square method.

Table 12: Unit Root Test for P/E Forecast

		t-Statistic	Prob.
Augmented Dickey-Fuller test statistic		-12.455	0.0007
Test	1% level	-6.4236	
critical	5% level	-3.985	
values:	10% level	-3.1207	

Table 13: Augmented Dickey-Fuller test equation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
P/E(-1)	-2.5821	0.207312	-12.45521	0.0064
C	19.3372	1.659423	11.65295	0.0073

Table 14: Augmented Dickey-Fuller test Statistics

R-squared	0.98727	Mean dependent var	-0.855
Adjusted R-squared	0.98091	S.D. dependent var	5.12673
S.E. of regression	0.70838	Akaike info criterion	2.45519
Sum squared residual	1.00362	Schwarz criterion	2.14834
Log likelihood	-2.9104	Hannan-Quinn criter.	1.78183
F-statistic	155.132	Durbin-Watson stat	1.51721
Prob(F-statistic)	0.00638		

Table 15: Estimated Equation for Forecasting P/E Ratio

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	19.33717	1.659423	11.65295	0.0073
PE(-1)	-1.582119	0.207312	-7.631569	0.0167
R-squared	0.9668	Mean dependent var		6.965
Adjusted R-squared	0.9502	S.D. dependent var	3.17434	
S.E. of regression	0.708384	Akaike info criterion		2.455191
Sum squared residual	1.003615	Schwarz criterion	2.148338	
Log likelihood	-2.910382	Hannan-Quinn criterion		1.781825
F-statistic	58.24085	Durbin-Watson stat	1.517205	
Prob. (F-statistic)	0.01674			

Table 14 shows the Augmented Dickey-Fuller test statistics. Here, the variables included in the Augmented Dickey-Fuller test equation are the constant C and the P/E ratio of the previous year, P/E (-1). The significance value for the constant, C is 0.0073 and for the P/E(-1) is 0.0064. Hence, the equation has to be estimated using these two variables.

Table 15 shows that statistics for the estimated equation for the P/E ratio. Here, the dependent variable is the P/E ratio. The significance value for the constant C is 0.0073 and the significance value for P/E (-1) is 0.0167. Since both the values are less than 0.05. The variables, C and P/E(-1) could be taken into the equation. The value of the constant, C is 19.33717 and

the coefficient of P/E(-1) is -1.582119. Thus, the equation to forecast the P/E of Tata Steel can be written as P/E = 19.33717 – 1.582119 * P/E(-1)), where C is the constant and P/E(-1) is the P/E ratio of the previous year. With this equation we could forecast the P/E ratio for the future years. The forecasted P/E ratio of Tata Steel for the year 2010 is 14.64.

Conclusion

The P/E ratio differs from company to company. The P/E ratios do not vary with the period. Even though there is a difference in economic conditions of each year, the P/E ratios do not depend on the economic condition. This implies that irrespective of the economic condition, the P/E ratio changes with the expectations on the future growth. The difference among the P/E ratios of different industries is due to banking industry alone. When that industry is removed from the analysis, there is no difference among the P/E ratios of different industries. The P/E ratios of the public sector companies always tend to be higher than that of the private sector companies. The market capitalization has a great impact on the P/E ratio. There is a difference among the P/E ratios of the small-cap, mid-cap and large-cap companies. The small-cap and the large-cap companies have lower P/E ratios than the mid-cap companies. This implies that even though the market capitalization is low, the future expected growth determines the P/E ratio. The P/E ratio does not have significant relationship with dividend payout ratio, expected return and the return on equity. On the other hand, the determinants of P/E ratio such as dividend payout ratio, return on equity, expected return and the growth rate do not explain the P/E ratio significantly. Thus, the P/E ratio could not be predicted using the past information. Only the future expectations of the investors determine the P/E ratio. The main influencing factors of P/E Ratio are the expected return and the expected growth rate. Since both the factors are prospective, it is not easy to control the P/E ratio by the company.

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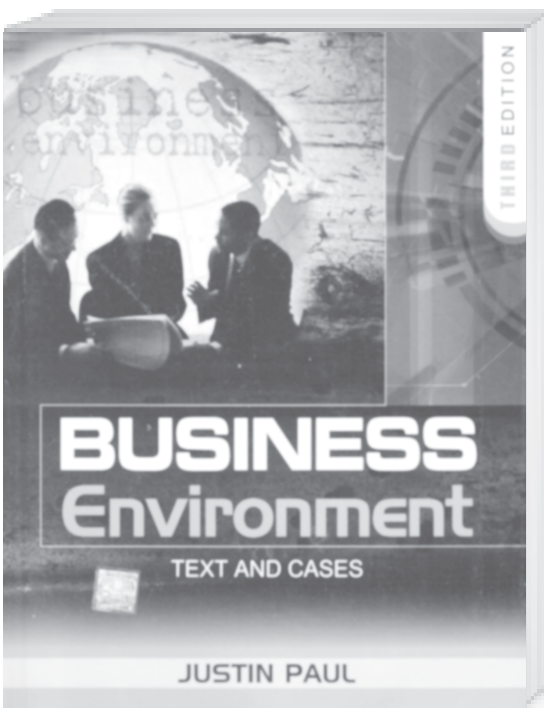
Skimming & Scanning

Reviewed by George K. Mathew,
Professor-Marketing, SCMS-COCHIN,
Email: georgemathew@scmsgroup.org

Book Title : *Business Environment – Text and Cases*
Author : Justin Paul
Edition : Third 2010
ISBN 13 : 978-0-07-070077-2
ISBN 10 : 0-07-070077-X
Pages : 507
Publisher : Tata Mc Graw Hill Education Pvt. Ltd., New Delhi.

The economic reforms implemented in the form of liberalization, globalization and privatization have brought about a wide range of challenges and opportunities in most countries, particularly India, during the last couple of decades. Understanding the implications of the resultant structural adjustment programmes on business, economy and society assumes great significance in this competitive era.

The third edition of *Business Environment – Text and Cases* by Justin Paul seeks to analyse the new policies, structures, measures and various steps taken in the context of the evolving legal framework, foreign investment, exports and imports, privatization, taxation, budget, competition, monetary policy, technology, capital market, foreign exchange transactions, corporate governance and social responsibility. Further the book captures the relevance of the changing economic environment on various sectors in India and globally.



Perhaps the global financial crisis and consequent recession has compelled the author to add four additional chapters in this third edition - on nature and dynamics of business environment (Chapter 1), global recession and new business environment (Chapter 4), multinational corporations and Foreign Direct Investment (Chapter 20) and the economic and business environments in East and South Eastern Countries (Chapter 25). The new edition also provides class/ field exercises including web links, practical problems based on numerical calculations, real life cases and statistical updates in each chapter.

Justin Paul, who is currently the Associate Professor at Nagoya University of Commerce and Business, Japan and Indian Institute of Foreign Trade, New Delhi, also draws on his previous experiences while teaching for Mumbai University's Master of Management Studies, Indian Institute of Management, Indore, University of Washington and Great Lake Institute

etc. to design a book for anyone who wishes to have a comprehensive knowledge of the prevailing business environment.

The book comprises 27 chapters divided into nine parts – clubbing together chapters of the same nature in each part- for the convenience of the reader. The first part broadly deals with topics such as political economy, environment and systems, government and society, development economics and economic growth to initiate the reader to the economic thought and processes.

The second and third part give an account of the anatomy of the Indian economy, the evolving business environment in the context of globalization and describes the evolution of the industrial policies and the regulatory structure along with analysis of some key industries like textiles, electronics, automobiles, FMCG, chemicals and pharmaceuticals.

The fourth part deals with the problems and prospects of the various economic policies being followed by government of India like disinvestment, privatization, fiscal and monetary policies and banking sector reforms. Fifth and sixth parts highlight the technological, legal and regulatory environment creating opportunities for investment and mergers and acquisitions.

Seventh part deals with the international economics and the new business environment arising out of global recession, WTO and consequent trade policies, balance of payments, currency/ foreign exchange management, ADR/GDR issues, global out sourcing and FDI investments.

Eighth part deals with corporate governance and social responsibility in India along with a comparison of social environment in India and China. Ninth part focuses entirely on the global economy in which business environments in Europe, SAARC countries; East and South East Asian Countries and South and North America are explained comprehensively.

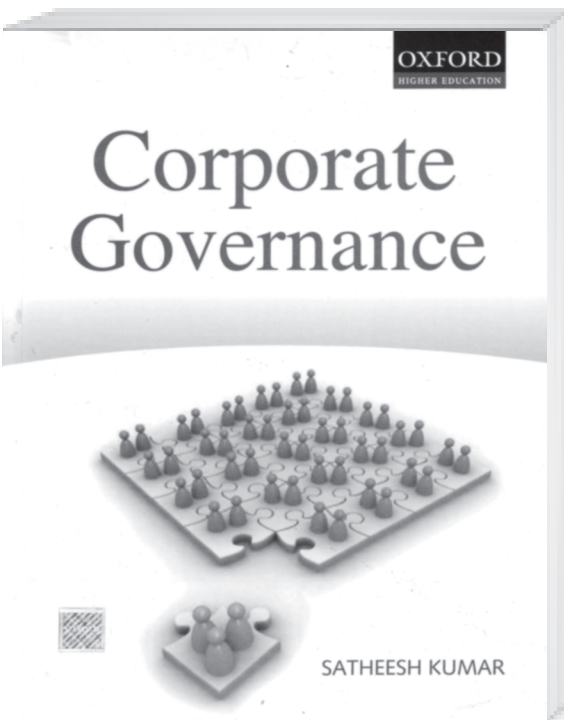
Though this book has been written in accordance with the courses outlined in the curriculum of University Grants Commission with a view to cater to the requirements of the students and teachers, it would be immensely useful for those preparing for interviews as well as practicing managers who need to understand the permutations and combinations of new business rules and opportunities.

Skimming & Scanning

Reviewed by V. Rajagopal, Professor-Quantitative Techniques and General Management, SCMS-COCHIN, Email: vrajagopal@scmsgroup.org

Book Title	:	***Corporate Governance***
Author	:	**Prof. T. N. Satheesh Kumar**
Edition	:	**2010**
ISBN 13	:	**978-0-19-806223-3**
Pages	:	**569**
Price	:	**Rs.345/-**
Publisher	:	**Oxford University Press, New Delhi.**

This is one of the good books I've seen for all spectra of Business Experts. A book on 'Corporate Governance' generally deals with external factors. But in this case, the author has taken all efforts to explain the self-regulation of boards through which he made an effort to shift the responsibility of ensuring good governance from external control to internal controls. Any professional including individual investors and institutional investors will find insights here on the difficulties of measuring good corporate performance and governance. The book is divided into four parts and each part is further divided into various topics which are closely related. In four parts, chock-full of informative figures and tables which describe why a corporation's shareholder mix is important, what institutional investors view as good corporate governance, and how companies can attract the investors they want.



This book represents an insight of the diverse aspects of the challenges confronting by companies today in corporate governance. It introduces executives, students and interested observers to the complex trends and developments as well as industry specific topics in corporate governance. In the Part I of this book, the author has explained the concept of corporate governance and the step by step progress made in achieving good governance by companies in India. Corporate Governance is based on the principles of integrity, fairness, equity, transparency, accountability and commitment to values. Governance ensures that the enterprise is being run well and being guided in the right direction. Current business environment is so dynamic; lot of care should be taken while taking decisions at the top most level. Hence, the author has taken proper care in analyzing the role of each individual in the board and how far they can take the company forward by protecting the

interest of the shareholders and stakeholders of the company. The thrust of the book is on what managers need to know about shareholders and how to attract shareholders who will support them. Several examples were given in this book where by problems have given rise to questions that are helped to bring out a number of corporate governance issues to the forefront. The investors pay close attention to the fundamental value of their investments. Hence, the board has the responsibility to fulfil the wants of the diverse set of shareholders. The author has explained very clearly the three values- accountability, openness and honesty of good governance. The role of board and management of a company for good governance is highlighted in this book. Another important aspect which is covered here is the 'investors' perception on corporate governance.'

Part II of the book deals with structure of the board and it helps to understand the constitution of the board, different categories of directors in the board, their role, responsibilities, best practices of the board and also the readers get a feeling of good governance as a competitive advantage as well as able to learn more about the effective functioning of the board. The book also covered the role of HR personnel in making a board very effective.

The author has taken good effort to explain the problems related to companies of different types of ownership patterns by illustrating examples and also discussed the role played by the capital market institutions and government in establishing various norms for corporate governance. In the closing chapter of the book, the author has defined the best practices of corporate governance and listed suggestions such as the activities of the future boards with different combinations and the need for governance to become a part of the corporate culture. The best part of this book is that the author's systematic approach in presenting the subject. Even a beginner of the subject could easily understand the topic by simple reading. The collection of papers in this book seeks to answer the question of how to understand and manage best practice approaches in corporate governance, which too often remain unarticulated. Corporate governance is not only a method firms use to discipline themselves while remaining profitable. It is also one of the principal ways they "make the society" in which they operate and which, in turn, "makes" them. Governance is required because there can be conflict of interest between owners and managers in the running of the enterprise.

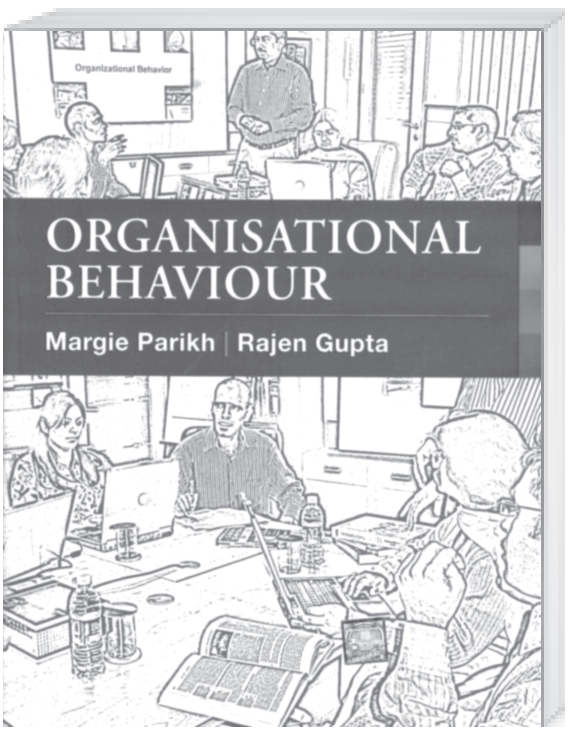
The author's effort to present the main issues concerned with each director of the board of a company has to be appreciated since the issues are presented in a very simple manner. The author has devoted more time in making comparative study in family owned business setups and other forms of businesses. Cases presented in this book are well suited to the topic and the analysis made is also good. On the whole, the selection of topics, presentation style and book lay out etc. are good and is helpful for any academicians or practicing management professionals. The lesson one learns from this book is "Good Corporate Governance is Good Business."

Skimming & Scanning

Reviewed by Shalini Nandwani, Associate Professor, Department of Human Resources, SCMS-COCHIN, E-mail: shalini@ scmsgroup.org

Book Title : *Organisational Behaviour*
Author : Margie Parikh and Rajen Gupta
Edition : First-2010
ISBN-13 : 978-0-07-015319-6
ISBN-10 : 0-07-015319-1
Pages : 639
Publisher : Tata McGraw-Hill Education Pvt Ltd., New Delhi.

Both the authors have firm grounding in industry as well as academic experience to their credit. Ms. Margie Parikh is a lecturer with BK School of Business Management, Gujrat University for over 10 years and has industry experience prior to that. Professor Rajen Gupta who is currently with MDI Gurgaon, has worked with State Bank of India and Jyoti Ltd., before joining the field of academics, where he has over 25 years of experience. He has authored three books and over 80 papers that are published in reputed journals.



The book has four modules that are colour coded for ease of locating and visual appeal and include 20 Chapters. The modules are arranged in sequential order for a progressive learning. The first module deals with 'Introduction to the context of behaviour in an organisation' and deals with the impact of culture on behaviour in the organization and the changes and challenges faced by the organizations and the managers who need to respond to these. The second module is entitled 'Understanding individuals in the organization,' it covers concepts such as perception, attitude, personality, values, motivation and its application. The third module 'Understanding groups in the organization' covers interpersonal behaviour, groups and team processes and effectiveness, managing conflict, stress and negotiation, decision making process, power and politics in organizations. The fourth module, namely, 'Understanding how organizations shape behaviour,' deals with effectiveness of organizational design, structure, roles and culture besides the concept of leadership and change.

This textbook on Organisational Behaviour is unlike the other texts available, in the sense that it caters to the needs of managers in the Indian scenario. Where other books are more related to what is

happening in the West, this book gives the Indian cases, perspectives of Indian managers through the interviews and then it also compares the practices in the West with that in India. The book follows the concept of Attention, Relevance and Interest Model – grabbing attention through 'lead story,' 'real world cases' and 'brief cases;' Showing the relevance through 'OB in News,' 'OB scenario' and 'field assignment;' and finally maintaining the continued interest in the topic through 'more on this' and the links provided for 'know yourself,' 'OB on the internet,' 'watch movies' and the 'online support.' The content covered in these chapters includes the latest statistics and the recent cases from the organizations in India. Where some of the basic concepts are explained in detail with examples, there are others like theories on Motivation that are not emphasized upon sufficiently for a fresher student to have a concrete take away.

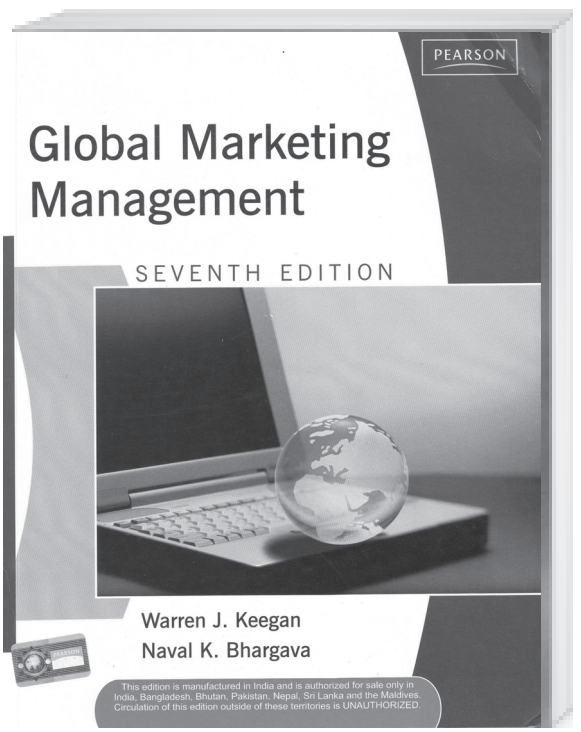
The book is an important resource for not only the HR managers but all working professional who would like to understand the concepts of organizational behaviour in the Indian context. It's a good resource and text book for the Executive Development Programmes and the Managerial Development Programmes.

Skimming & Scanning

Reviewed by Sreekumar B. Pillai, Professor, Department for Marketing, SCMS-COCHIN, E-mail: sreekumar pillai@scmsgroup.org

Book Title : *Global Marketing Management*
Author : Warren J. Keegan and Naval K. Bhargava
Edition : Seventh
ISBN 13 : 978-81-317-3091-1
Pages : 669
Price : Not given
Publisher : Pearson, Delhi.

As a teacher of Marketing for the PGDM students as well as that of Global Business Environment for the MBA students, I was really motivated to go through the book with a comb as I was sure to gain two fold advantage which would benefit me in handling both the subjects in future. And I should say in all sincerity that what resulted far exceeded my expectations. This text book is a treasure chest of information and knowledge for all those who aspire to learn and more for those who would like to teach the subjects effectively.



The role of possessing a Global business perspective in modern business cannot be over stressed. The time has come for small enterprises in Indian cities to rub shoulders with International giants such as Pizza Hut, Nike, Mac Donalds, Adidas and the like. Indian companies have also extended their visions and have spread to overseas markets. Many of the world famous brands like Jaguar, Tetley Tea, Land-rover and Arceclor steel are now owned by Indians. Marketing knowledge that is constrained by geographical or cultural restrictions is fast becoming redundant. The rise of the Internet as a medium for seamless, integrated marketing and customer relations management has in reality made the whole world an "open market."

The book has been conveniently divided into six parts which efficiently present the valuable information in modules. The main sections are as follows:

1) Part I which has been titled "Introduction and Overview" and consists of just one chapter that effectively introduces the concept of Global Marketing. The forces that constitute the components of Global integration and competence in marketing have been fully explained.

2) Part II has been titled "The Global Marketing Environment" and has been divided into three chapters. This section explains the Global Marketing environment with special stress on the social and cultural dimensions of the market. The political legal and regulatory environments of these markets make them unique and requiring special skills to succeed in business.

3) Part III has been titled "Analyzing and Targeting Global Marketing Opportunities "and consists of Three chapters which I personally consider to be the best written ones in the book. These chapters are ideal for students who are interested in understanding the market characteristics of the different regional markets as they exist today. Having worked directly in the Western European and North American Markets in my previous employment I can say with confidence that these two markets have been explained very extensively and I am confident that the other markets have also been explored with the same expertise.

4) Part 1V has been titled as "The Global Marketing Strategy" and consists of three chapters which explain all the important aspects of strategic marketing management for global markets whereby companies plan as to how and where they should enter and establish themselves. The chapters have been well written and also shed light on core concepts such as comparative advantage, country competitiveness, country productivity and also strategic partnerships and associations.

5) Part V has been titled "Creating Global marketing Programmes" and is very comprehensive having been constituted by six long chapters. What these chapters offer is basically a detailed explanation on the "Four P's' of Global Marketing. Thus the aspects of product design, pricing decisions, channel design and global advertising have been been very effectively handled by the authors.

6) Part VI has been titled "Managing the Global Marketing Programme" and consists of two chapters that sum-up the importance of Global marketing efforts in the success of a business venture. Sincere efforts have been taken by the authors to expose the future of Global marketing and the trends and paths that the complex subject is set to follow.

The experience of reviewing this book has been enjoyable as well as informative. The case studies that have been included at the end of each part have been relevant and current and some of the cases like the one on Hindustan Lever Limited have an Indian background. Though the book is deeply inspired by the future potential of the Chinese market, the contribution of Naval Bhargava has ensured that there is sufficient material in the book to keep the India-philes happy and contended.

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The *SCMS Journal of Indian Management* is a **blind peer-reviewed Journal.** The Journal deems it its mission to submit to the readers fresh fruit of management thoughts and rich cream of current innovative research. The format of the Journal is designed reader-friendly. The academia and the corporates have an easy access to the Journal.

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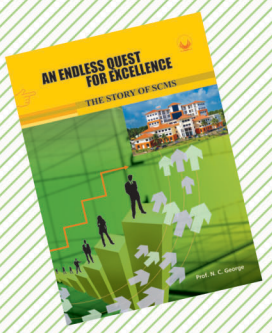

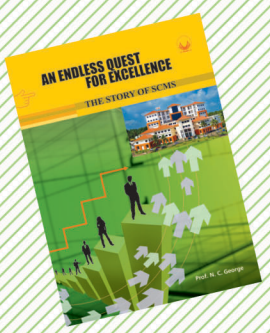

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