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Contents

Business Systems and Societal Context: Comparing Chinese and Indian Models

Richard John Grainger and Samir Ranjan Chatterjee***

China and India, in terms of geography, population size and regional cultural influence, are the most important Asian nations. Both have experienced consistently high economic growth rates over the past decade and it is widely assumed they will have a profound global and regional impact in the 21st century. The potential of these two nations suggests that a comprehensive understanding of their business systems is vital for competitors, trading partners, and those who would learn from their development experiences. An adaptation of Redding's (2005) model is utilized for the purpose of describing, analyzing and comparing the business systems of China and India. It is important to note that this approach does not attempt to derive causality between societal factors and economic performance, but within the limited scope and constraints of this relatively short document, demonstrates how enhanced understanding might be achieved through the use of the proposed model.

INTRODUCTION

It is clear that China and India, in terms of geography, population size and regional cultural influence, are the most important nations in Asia. Both have experienced consistently high economic growth rates over recent decades, a fact which is made all the more notable by the size of their respective populations. This economic reshaping is widely predicted to continue for some years, and it is assumed that these two nations, considered either separately or together, would provide global and regional models, which are beyond the narrow stereotypes currently associated with the democratic and socialist systems of the 20th century.

Despite the influence of apparently convergent global trends, divergent managerial assumptions and business practices persist in these two nations. The present paper, an early version of which (see Grainger and Chatterjee, 2007) was presented to the Asia Pacific Economics and Business History Conference in Sydney, Australia in February, 2007, utilizes an adaptation of Redding's (2005) comparative business systems model, adopting the premise that cultures underpin socially embedded economic institutions, and in turn, that institutions underwrite governance models, inter-firm networks and alliances, and approaches to corporate management. This approach is not aimed at establishing causal

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relationships between societal factors and economic performance, as is the case with many comparative management models in the academic literature. The approach in this paper is descriptive, and within the constraints of this relatively short document, and following a brief background to the economic potential of China and India, the contemporary business systems of these two critically important Asian nations are described, analyzed and compared.

THE ECONOMIC RISE OF CHINA AND INDIA

The world's two most populous nations (jointly accounting for about 40% of the world's population), are also the two fastest growing economies in the world ("A Survey of India and China", 2005), and have been so for some considerable time. Both have experienced consistently high economic growth rates since the opening of their economies to global market forces, and this is reflected in the growth patterns over recent decades (see Table 1).

This extraordinary long run economic expansion is predicted to continue (see Table 2). What makes the figures in Table 2 especially notable is the outcome after adjustment of gross domestic product, and gross domestic product per capita, to purchasing power equivalents. For example, after this conversion, China in 2007 is placed second only to the USA in terms of gross domestic product, and India is placed third. Again, on the basis of statistics such as those expressed in Table 2, it is widely assumed that these

Table 1: China and India: GDP Per Capita (US$), GDP Growth Rates Per Capita: 1996, 2000, 2004

Developing Asian Economies	GDP Per Capita 1996	Growth Rate GDP Per Capita 1996	GDP Per Capita 2000	Growth Rate GDP Per Capita 2000	GDP Per Capita 2004	Growth Rate GDP Per Capita 2004
China	2800	9.7%	3600	8.0%	5600	9.1%
India	1600	6.5%	2200	6.0%	3100	6.2%

Source: *Economist Intelligence Unit, 2006.*

Table 2: Selected Countries of the World: Forecast Economic Statistics for 2007

Nation	GDP (US$ bn)	GDP (US$ bn @ PPP)	GDP Per Capita (US$)	GDP Per Capita (US$ @ PPP)	GDP Growth Rate (%)	Population (millions)
China	3001	**10670**	2280	8070	9.8	1320
India	928	**4720**	830	4190	7.4	1130
Brazil	934	1770	4930	9340	3.3	189
USA	13980	**13980**	46280	46280	2.2	302
Germany	3280	2630	39710	31870	1.4	83
Japan	5290	4350	41480	34150	2.1	127
Malaysia	162	333	5950	12240	5.4	27

two nations, considered either separately or together, will have an outstandingly significant global and regional impact in the 21st century.

Even from the preliminary data presented above, it is obvious that other nations around the world, and especially those located in or near the Asia-Pacific region, should thoroughly acquaint themselves with the circumstances surrounding the economic rise of China and India. Towards this end, the purpose of this article is to address the following question: What is the nature of the business systems in China and India, and how are they similar and different? How have they survived and prospered into the modern age?

Over a period of almost half a century, China and India experimented with two contrasting axioms of economic management—China with centralized controls and planning and a heavy emphasis on state-owned enterprises, and India with a vigorous democratic political culture in combination with socialist economic planning. As one of the most astute Asian leaders of recent times, Singapore's Senior Minister Lee Kuan Yew suggested that comparative economic models needed to explore well beyond financial statistics. He argued "...even if China and India were both democratic, or authoritarian or communist, their performance would be different. We now believe that, besides the standard economic yardsticks for productivity and competitiveness, there are intangible factors like culture, religion and other ethnic characteristics and national ethos that affect the outcome" (Kelly *et al.*, 2006; vii).

UNDERSTANDING AND COMPARING BUSINESS SYSTEMS

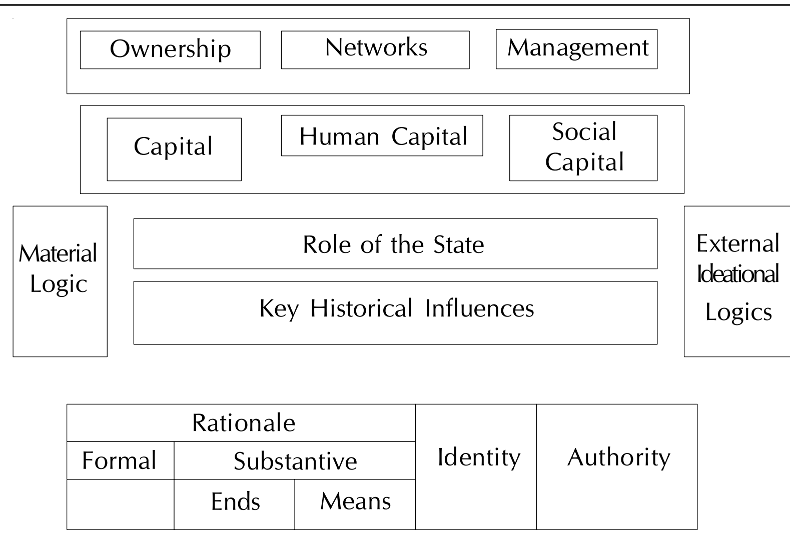
There is a significant dichotomy in the academic literature in relation to the conceptualization of business systems. Analysts often associated with the study and practice of mainstream economics (more accurately 'neo-liberal' or 'neo-classical' economists, or 'economic rationalists'), have tended to assert that all of the current variations of capitalist business systems were converging towards an ideal model under the pressure of globalization, a natural outcome of open markets for goods and services, unrestricted access to capital and labor, and minimalist direct government involvement in economic activity. A number of authors have asserted that the contemporary economic policies of the so-called Anglo nations, for example the US, Britain, and Australia, have been based on these ideas, as has the justification for economic globalization, which in this view, is often assumed to principally advantage developed, western nations. Many, often with sociology, social sciences or humanities discipline backgrounds, who are generally opposed to what they see as a ruthless and misguided market driven logic associated with neo-liberal or neo-classical economics positions, have argued that there are various types of capitalism, and that the underlying societal forces which define these systems should be respected since they are deeply embedded within national societies, inextricably associated with social institutions, and were better left to evolve for the ultimate well being of the various societies in which they were located (for some well argued discussion and analysis in this general area, see Kristensen, 1996; Guillen, 2001; Hall and Soskice, 2001; Streeck and Yamamura, 2003; Vogel, 2003; and Sorge, 2005).

Whitley (2002) asserted that a considerable amount of economic theory neglected to specify how particular competitive environments impacted on approaches to economic organization, and often tended to ignore social context and the impact of experiential learning. Because of this, the roles of particular interest groups and collective actors in the structuring of economic relations, and the organization of particular capitalist markets, were often overlooked. As opposed to accepting simplistic explanations often associated with globalization, and basing the analysis on the assumption that all capitalist systems were in various stages of convergence to a single model, he suggested that it would be more reasonable to focus on explaining how different forms of industrial capitalism in fact became established, and why they were different.

There is a certainly a case for the recognition of societal influences in the conceptualization of business systems. According to Redding's (2005: 132) analysis, this idea has been previously approached from three alternative and fundamental directions. These were Weber's idea that " a combination of the ideational (psychological) and the material (economic and technological) will explain societal variations in economic behavior", that economic action was essentially socially embedded (as per Granovetter cited in Redding, 2005), and as unique coordination arrangements of societal institutions and economic actors (as per Whitley, Albert, Dore and Hall and Soskice, cited in Redding, 2005).

With the foregoing in mind, Redding (2005) proposed a model (See Figure 1) for the purpose of

Figure 1: Constructing the Analysis of a Business System

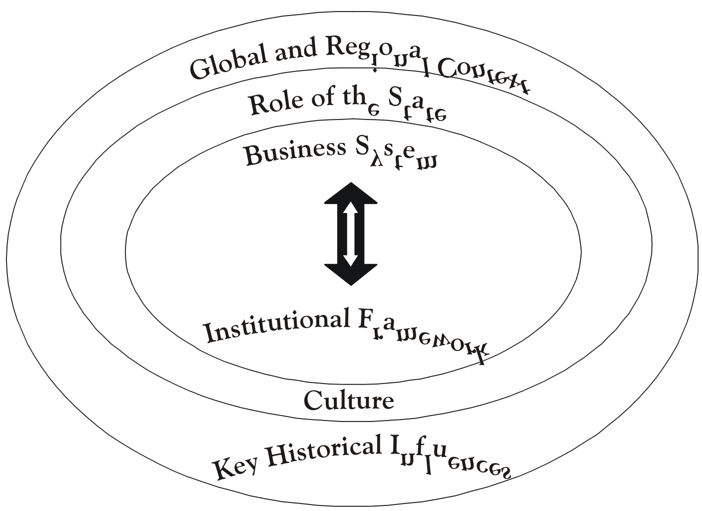


Source: Redding, 2005, Figure 3: 137.

describing and comparing capitalist business systems, which was based on for the influence of societal contextual factors. The model was based on the premises earlier developed by Whitley (cited in Redding, 2005), that culture underlaid societal institutions, and that, in turn, those institutions underpinned business systems. Redding's interpretation is a considerable advance because, through the model, Whitley's conceptualization has been, in effect, developed and operationalized. It has been made very usable, for practitioners and educationalists alike, emphasizing the notion that business systems were dynamically interrelated to seek to establish causal relationships, and therefore essentially avoids the controversy between neo-classical economists and those who favor socioeconomic explanations of economic performance, but sought understanding through holistic description and analysis of capitalist business systems across the world in a logically structured, systematic, and therefore comparable way.

The following model (see Figure 2), is a close adaptation of Redding's (2005) pioneering work, and is utilized in the current article to describe and compare the Chinese and Indian business systems. The most significant adaptation is the substitution of Redding's categories of

Figure 2: Comparative Business Systems Model



Source: Redding, 2005, Figure 3: 137.

culture, important societal institutions, culture, and the role of the state, also taking into account the effect upon them of key historical, as well as external ideational and material influences. A key point about the model was that it did not 'material and ideational logics' with 'global and regional context', which in fact subsumes the concepts of material and ideational logics, but adds the further dimensions of global and regional, political and economic influences, a reasonable modification in an increasingly globalizing and regionalizing international business context. As per Redding's (2005) conceptualization and the 'operationalized' versions of his theoretical model (see Redding 2005, Figures 2-6), the cultural or sociocultural factors which underpin institutional frameworks and business systems, are taken to include key historical influences, culture and the role of the state.

Following Redding, the institutional framework is constructed as the relevant institutions, which affect specific arrangements for the availability and deployment of financial, human and social capital in a particular society. In particular, social capital is interpreted as the formal or informal institutions, for example a commercial law system or established norms in the conduct of relations between employers and employees, which provide certainty, or trust, in the conduct of business in a national context. The business system is conceptualized as the dynamic interrelationships between enterprise owners (also taking into account the concept and nature of corporate governance), business networks and alliances, and management, with particular emphasis on the coordination and control of financial, technological and human resources.

Despite being presented in terms of concentric circles for ease of comprehension, and to try to avoid any impression of linear, or causal relationships, the proposed model is essentially faithful to Whitley's core ideas and Redding's subsequent development and interpretation, but, as explained in the preceding paragraphs, takes into account the global and regional business context.

The circular core of the model represents the dynamic interrelationship between the relevant business system and the institutional framework (following Redding, 2005). The business system represents a 'market hierarchy' of ownership (identifies the owners of enterprises, how control is exercised, and the nature of governance structures), networks (shows how firms are interconnected across the economy), and management (the role of managers in the coordination of financial, technical and human resources). The institutional framework is made up of the social institutions which are relevant to an understanding of the business system, and is made up of capital (essentially relates to the financial system, sources of finance, and the conditions of access to finance), human capital (how human resources are sourced, and how capability and skills are developed within society) and social capital (relates to formal as well as interpersonal arrangements to establish trust in transactions of economic exchange).

The second circle from the centre consists of the role of the state, and culture, implying that they are interrelated, and separately and jointly influence both the business system and the institutional framework. The role of the state relates to the level of direct government involvement in economic activity, the extent to which intermediaries such as professional and business associations, and private banks, are tolerated, and the level of formal market regulation. In this context, the state acts as an interpreter of culture in the formation of institutions (Redding, 2002, 2005).

The third circle from the center describes influence of the global and regional context (including external ideational and material influences), and the 'key historical influences' on the contemporary business system as per Redding (2005). Here the influence of globalization, especially economic globalization, is taken into account, as is a knowledge of "specific historical events, institutions or people, capable of changing a society (2005: 131)", and historical economic circumstances, such as resource cost and availability.

When utilizing the above model in the description and analysis of business systems, it is important to note Geertz's (cited in Redding, 2005) idea of 'thick description' is useful here, because it avoids the suggestion of linear causal relationships, rather invoking the concept of observation and description as a path to understanding context, as favored by anthropologists engaged in ethnographical research. Further, although the proposed model is layered in concentric circles in its graphical format, it is better understood and compared as interconnected parts making up a whole, as per Ragin (cited in Redding, 2005). Finally, for the sake of brevity, key historical influences are initially presented in this paper in tabular format only, and further details are provided as necessary in the explanation of the core institutional frameworks and the business systems.

CHINA'S BUSINESS SYSTEM

GLOBAL AND REGIONAL BUSINESS CONTEXT

Essentially because of its rapid economic growth since opening to foreign investment in 1978, China is on a trajectory to regain its traditional regional hegemony, and perhaps superpower status. The impact that China is likely to make in global and regional terms can be understood in terms of the following forecasts and facts (as per Guthrie, 2006):

- China has had the fastest growing economy in the world for past 25 years.
- In unadjusted terms, China is already the sixth largest economy in the world, and when adjusted for internal purchasing power, is number two in the world.
- Chinese demand for grain will outstrip world capacity to supply by 2030, because of the expected loss of land to industrialization and population growth.
- China is already the world's second largest consumer of oil.
- China will ultimately be the world's largest Internet and telecommunications market.

As Beeson (2007) has noted, although many East Asian governments in general have been ambivalent about the Washington agenda of liberalization, deregulation, privatization and minimalist government, the East Asian region has become a part of the global production network, and China is clearly no exception. In the case of China, questions of ownership and governance of the means of production are inevitably brought into the spotlight here, as the Chinese government has by no means relinquished its central role in the direction of the economy, notwithstanding the major changes, which have taken place since 1978.

However, it seems likely that China's 2001 accession to the World Trade

Organization (WTO) in 2001 will result in changes of similar significance to those brought about by the opening of the Chinese economy in 1978. Zhao *et al.* (2002) suggested that market mechanisms and economic institutions would need to adjust to global capitalist competition and standards, and this would have major consequences for state owned manufacturing industries and collectively managed agricultural enterprises, bringing both opportunities and challenges.

CHINESE CULTURE

Analyzing the behaviors of contemporary Chinese business people in terms of cultural values, is particularly difficult, as we have a veritable banquet of influences from which to choose. Alluding to this dilemma, Pan (1998: 23) note "They may pick something out of the Confucian world of thought and action, or alternatively choose some strain of Daoism or Buddhism, or of various superstitious cults and practices that might claim connection to either of these two traditions, both, or neither". Hickson and Pugh (2001) have also implicitly acknowledged this difficulty of entanglement, noting that Buddhism was imported from India to China, whence it was blended with Taosim, and that Confucianism was subsequently blended with Buddhism. Despite this, they were confident enough to assert that it was the indigenous philosophy, Confucianism, essentially a series of recommendations for how to live and to construct a good society based on the teachings of the scholar Confucius, which was to subsequently to have a dominant influence in Chinese society.

ROLE OF THE STATE

As noted by Milston (1978), state capitalism was not introduced to China by the communists, but existed in highly centralized Chinese regimes since at least the Eastern Chou period (771-221 BC). This continued in the Maoist and subsequent eras, in the name of Marxist-Leninist ideology (Redding, 2002). In contemporary China, the state has a significant if declining direct role in the economy as it attempts to divest itself of state-owned enterprises in all but strategically important sectors, but maintains a significant role in the regulation and control of private business via various arms of the state bureaucracy (Beeson, 2007). Fuelling China's global reach are a number of national champions with vast asset bases, leadership in cost control and technological development, unprecedented profitability and listings in global bourses. Twenty-four of these companies were included in the 2007 Fortune Global 500 list. As has been pointed out, "Chinese companies benefit from a high level of research and development, a rapidly growing, but still inadequate infrastructure of roads, ports and telecom networks (reducing costs and turnaround times) and an educated an low-cost workforce. The main order of the day for these companies is to digest a great deal of modern technology and make their way up the steep learning curve of acquiring the management skills necessary to compete domestically and globally (Silk and Malish, 2006: 106)".

CHINA'S INSTITUTIONAL FRAMEWORK: CAPITAL

As noted by Beeson (2007), since the opening of China in 1978 (See Table 3),

Table 3: Key Historical Influences on the Chinese Business System

Event/Period	Impact
Chinese Civilization (Circa 771-221BC)	Creation of China as a cultural and political entity. This era subsumes the life of Confucius (551-479BC) and establishment of lasting social and moral code
Han Dynasty (206-220AD)	Internal consolidation, regional expansion, incorporation of 'Mandate of Heaven'
Mongol Invasion (Circa 1200AD)	Motivation for Ming dynasty (1368-1644) to isolate China
Opium War (1839-1842)	Defeat by Great Britain, and China's military and technological weakness exposed
Nationalist Revolution (1911)	Collapse of Qing dynasty End of Chinese imperial system
Japanese Invasion (1937)	Humiliation of China, and catalyst for expansion of communist influence
Chinese Communism (1949)	CCP assumes power under Mao. One party rule and socialist command economy, collectivisation of agriculture
Great Leap Forward (1958-1966)	Radical attempt to modernize the economy using revolutionary methods
Cultural Revolution (1966-1976)	Mao uses 'Red Guards' to attack political enemies afterthe failure of economic reform. Social and economic chaos follows
Deng Opens China (1978)	Foreign investment a catalyst for long period of very strong economic growth
Tianenmen Square Massacre (1989)	Assertion of political control by CCP, suppression of pro-democracy movement
China Enters the WTO (2001)	Affirmation of willingness to conform to international trade and commercial rules

Sources: Beeson, 2007; Milston, 1978.

economic development has been essentially driven by massive levels of foreign direct investment, much of which has been from so-called 'Greater China' (Hong Kong, Taiwan, and elements of the Chinese diaspora in South East Asia), and within related networks. This has generally limited the control of the Chinese state over development, especially taken in combination with the progressive dismantlement of the state-owned enterprises, and the disparate centers of power and authority in the Chinese bureaucracy, often making policy decisions unclear and inconsistent. This has been expressed in a lack of capacity to plan development, and relative inability to facilitate reciprocity and cooperation between business and government (Amsden cited in Beeson, 2007). Public sources of capital are currently limited because, despite the fact that laws establishing individual property rights will soon exist, they are not yet appropriately enforced (see "China's Next Revolution", 2007), and the finance industry is still relatively immature.

CHINA'S INSTITUTIONAL FRAMEWORK: HUMAN CAPITAL

Ruthless exploitation by the Western powers of China's weaknesses, the collapse of the Emperor system, internal division and warfare, invasion by Japan, and despotic rule under Mao caused massive chaos in Chinese society in the 19th and 20th centuries (Milston, 1978), which did not leave a sound basis for the development of human capital to serve industrial development. Indeed, contemporary Chinese education and training systems, as well as labor market structure, are proving to be inadequate to cope with the demands of rapid industrialization (Redding, 2002).

In response to these shortcomings exposed by rapid economic development and massive foreign direct investment, as well as China's ascension to the WTO, the Chinese government has taken up membership of the International Labor Organization, and has enacted a number of laws aimed at modernizing the labor market. The 1995 Labor Law introduced the employment contract system, which enabled enterprises to hire and terminate staff according to organizational operational requirements (Nankervis and Lee, 2007). Although by no means universal, Western style HRM practices, "such as vacancy advertising and job hunting, application forms, testing, interviewing, reference checking and medical examinations may now be found in Chinese organizations (Sudhir in Nankervis and Lee, 2007)".

CHINA'S INSTITUTIONAL FRAMEWORK: SOCIAL CAPITAL

The maintenance and development of strong relationships and networks is a crucial element of Chinese life and society, and is highly compatible with traditionalist Confucianist teaching and practice (Chen, 2004), and as Redding (2002) has noted, in China, the use of relationships and networks to minimize risk in business remains generally essential because legal protections to those involved in business are inadequate, information is insufficiently accessible, and because supporting professions, procedures and monitoring systems are underdeveloped. The absence of an enforceable legal-rational system to support a capitalist business system might well be linked to the closure of China and the subsequent entrenchment of the Chinese imperial-bureaucratic system during the Ming dynasty (1368-1644), which was in contrast to what was occurring in the West at a similar time, and a reaction to prior domination and conquest of China by the Mongols (Beeson, 2007). During the

Maoist era in which the state owned and actively controlled all assets, a commercial law framework was more or less irrelevant.

CHINA'S BUSINESS SYSTEM: OWNERSHIP

The current ownership structure of China's enterprise system has ready explanations in Chinese history and culture. The establishment of China as a communist state under Mao Tse Tung in 1949 was an event which has had a profound effect on the shape of the contemporary Chinese business system—as is well known, between 1949 and 1976, under Mao, all of the China's productive assets were appropriated, and thereafter owned and controlled by the Chinese state. In the industrial sector, this was accomplished via so-called State-owned Enterprises (SOEs), and in the agricultural sector by means of workers managing collectively owned rural land. With respect to contemporary modernization of the SOEs, privatization has only been an option outside of state designated 'strategically important economic sectors', the policy enunciated by Prime Minister Zhu Rhongji in Deng's administration, which effectively allowed the indigenous private sector to operate freely in the small- to medium-sized area of the economy.

After the opening of China and economic reforms in 1978 under Deng Xiaoping, private and joint venture enterprises were permitted in particular areas of the economy. Many privately owned enterprises established in post-1978 have been funded by foreign multinational corporations, where production has been quite often aimed at export markets, as well as by Chinese capital from so-called 'Greater China', in particular from Hong Kong and Taiwan, where the market focus has been primarily internal or domestic (Beeson, 2007).

Overall, the influx of foreign capital after opening the economy in 1979 has been highly influential in the development of market institutions. The 1980s establishment of Special Economic Zones in coastal areas accelerated this influx, and Foreign Invested Enterprises have played a greater role in the growth of exports, than has been the case anywhere else in East Asia (Guthrie, 2006). Indeed, China's export economy is currently dominated by multinational corporations, which have invested either directly or via joint venture arrangements (Beeson, 2007). Apart from the export economy, the Chinese domestic market has also attracted multinationals such as Coca-Cola, Dupont, General Motors, Kodak, Motorola, and many other powerful consumer goods manufacturing companies (Guthrie, 2006).

CHINA'S BUSINESS SYSTEM: NETWORKS AND ALLIANCES

A number of books published in the mid-1990s highlighted the role of Overseas Chinese business networks in the economic development of East Asia in general, and China in particular. Seagrave (1995) in *Lords of the Rim*, Rohwer (1996) in *Asia Rising*, and Hiscock (1997) in *Asia's Wealth Club* have provided considerable detail about the influence and business expertise of the expatriate East Asian Chinese. Beeson (2007), refers to about 50 million Chinese resident in Asia outside of China, as an integral component of a so-called 'Greater China, which consists of mainland China itself, Hong Kong, Taiwan, and other elements of the regional Chinese diaspora. Generally, utilizing family and network connections, Chinese business interests in Hong Kong and Taiwan have had an especially important role in channeling FDI into China, and restructuring economic activity across the region. In fact, between 1979 and 2003, Hong Kong's average annual share of China's FDI inflows was around 40%, but this figure was somewhat overstated as capital from Caribbean tax havens as well as Taiwan comes through Hong Kong. Taiwan's share at 7% was therefore greatly understated.

In the Chinese cultural context, business networks cannot be separated from the sociocultural tradition of 'guanxi'. The term 'guanxi' refers to the development of human relationships within a uniquely designed social web of mutuality, reciprocity and notional debt. Guanxi in China is a unique social networking phenomenon built upon multiple layers of trust-commitment, or 'power-dependency' relationships with a long-term, cumulative and mostly instrumental obligation system. Guanxi is aimed at building individual, group and organizational coalitions that can be mobilized to share resources, information, market space and other business and social advantages. Guanxi has strong historical linkage to the social conditions of China where legal-rational norms were of limited importance. Guanxi relationships are deeply embedded in all relationships—social (in terms of birthplace, kinship, and alumni), political (in terms of hierarchies, institutions and bureaucracies) and economic (in terms of partnerships, alliances and networks). Redding (2002) suggested that networks in China act as a guide to the regulation of transactions in the absence of a well defined legal structure and state institutions. Failure to develop a coherent legal system alongside economic reforms over the past 30 years or so have contributed to the adaptation of guanxi as a coping mechanism in the new and dynamic Chinese business environment (Chatterjee *et al.,* 2006).

CHINA'S BUSINESS SYSTEM: MANAGEMENT

Chinese management today is eclectic, developing, and combines elements of Chinese traditional administrative practices, and as Nankervis and Lee (2007) noted, there remains a distinct contrast of styles and practices between Chinese managers in the private sector, foreign invested companies and joint ventures, and former state-owned or collective enterprises which have adopted the disciplines of the market place, and older, senior managers in unreformed state-owned enterprises and government bureaucracies.

In the contemporary context, especially in the private sector, we can see that imported management and human development systems are blended with traditional Confucian inspired ideas about the primacy of senior management, managerial paternalism, the maintenance of face and workplace harmony, socialist inspired ideas such as collective participation in decision-making, the desirability of worker representation through trade unions, and the importance of networks (Nankervis and Lee, 2007).

INDIA'S BUSINESS SYSTEM:

GLOBAL AND REGIONAL BUSINESS CONTEXT

India today is widely considered as one of the most exciting and vibrant emerging economies in the world. After a century and half of British rule, India became an independent and democratic country in 1947. A centrally planned economic system bedevilled Indian economy until the 1980's and the low economic growth of 3.5% was sometimes derisively described as the "Hindu growth rate". A decisive reform program was undertaken in 1991 and crucial changes have resulted in a remarkable improvement. A nation with about 0.7% annual average rate of growth for the first half of the 20th century had achieved around 8% growth over the first six years of the 21st century (Sachs *et al.*, 2000). Das (2006) has forecast that India's economy may well be larger than Japan's within the next few years.

INDIAN CULTURE

Over the past centuries, cultural forces have left a very strong residual influence on the Indian mindset. It is often suggested that Indians can maintain a duality of essence in their consciousness by accepting one type of behavior at the organizational level while a very different one at the personal level (Lannoy, 1971). The cultural influence of the Hindu tradition provides a framework called 'Guna dynamics' and this is being increasingly used in the workplace, employee training, team building and performance evaluation. Guna is a personality attribute that guides individual, group, or institutional behavior. The *sattava guna* (or virtue emphasis) refers to the pursuit of higher values. The *tamasik guna* (the darker or negativity emphasis) shows ignorance, corruption and a lack of values. The third *guna*, *rajas guna* (pro-activity emphasis) focuses on the virtues of action and solutions. The hierarchy of needs in Indian culture comes from basic practical challenges of organizational life called *Artha*, extrinsic and intrinsic motivation called *Kama* and self-actualization called *Moksha* (Chatterjee, 2007: 80-81).

ROLE OF THE STATE

After two hundred years of colonial rule, India became independent in 1947. For the first five decades, the government pursued a policy of control in every sphere of economic life, with the fundamental objective self-reliance. Government controls were also evident in media (particularly television and radio), education, health services, and many other spheres. Foreign investment in India was highly restrictive until 1991 when a serious ideological shift towards market culture signalled the beginning of economic liberalization. The government played a very significant part in setting up public sector enterprises in major industries, some of which are proving to be of immense value as the economy gathers momentum (Ahluwalia, 2002).

INDIA'S INSTITUTIONAL FRAMEWORK: CAPITAL

India has been described as a country with more potential than performance, but it is interesting to note that some historians claim that India's economy was the largest in the world during the Mauryan dynasty period (300-100BC) (See Table 4).

Table 4: Key Historical Influences on the Indian Business System

Event/Period	Impact
7500 BC to 4500 BC	No reliable evidence in spite of an advanced civilization
4500 BC to 1900 BC	Extensive and vigorous trade and commerce. Evidence available with controversy surrounding dates
1900 BC to 800 BC	Sophisticated SRENI system of managerial tradition
800 BC to 300 BC	Rise of Buddhism and Jainism Religion and commerce intermixed Evidence of SRENI codes with state structure Inter-Sreni arbitration enacted in 'Bhandagarika'
300 BC to 100 BC	Mauryan Dynasty—Impetus to corporate entities through the development of codes, rules and professionalism Buddhism encourages "Arthashastra" and King Ashoka's "Human Rights" movement
100 BC to 250 AD	Increasing trade and commerce Trade with Romans Structured, governed and regulated business organisations
250AD to 550 AD	Gupta Dynasty encourages rules and regulations guiding managerial systems, accounting, etc.
550AD to 1000 AD	Decline in international trade Disappearance of SRENI codes
1000AD to 1750 AD	Islamic influence on the sector ideas of trade and commerce
1750 AD to 1900 AD	British system of corporate organisation introduced
1947	Independence and beginning of four decades of centrally planned economics

Note: Based on the general outlines of Sen (2005); and Khanna (2005).

Source: Khanna V (2005); and Sen A (2005).

Much more recently, and after 50 years of stagnation based on self-reliance and the almost exclusive utilization of local capital, India is becoming a major destination for global capital and a dynamic economic environment. A recent economic scenario based on World Bank data indicates the continued upward movement of India to the third-largest economy by 2010 (Hooke, 2003; p. 103).

In the post-independence era, domestic companies were able to raise capital from domestic public and private sources only. More recently, with access to international as well as domestic capital sources, very large Indian public sector companies such as Indian Oil, the Steel Authority of India, and ONGC have been strong performers. In the private sector, an impressive display of capital acquisition ability has been demonstrated by the Tata Group in their £560 mn acquisition of Tetley Tea as well as their ambitious global acquisitions in the steel sector around the world, including the recent acquisition of the Corus Group. Besides Tata, Reliance Industries, Airtel and others have not only have leveraged capital from the region and beyond but also become highly active in the global capital market.

INDIA'S INSTITUTIONAL FRAMEWORK: HUMAN CAPITAL

Economic reforms after 1991 included opening India to global economic investment and competition, as well as the privatization and deregulation of many government enterprises. In a relatively short time, these initiatives led to rapid economic growth, increased productivity, and facilitated the development of the so-called 'new' economy—IT, telecommunications and financial services. India's economy changed from one where food shortages periodically occurred, to a services-oriented economy with world-class management (Chatterjee, 2007).

This new economy requires a very large number of highly trained professionals. Despite the fact that India graduates a staggering number of professionals each year, (some 500,000 engineers, 250,000 medical doctors, and more than 100,000 business school graduates annually), emigration to developed countries over 20 years from the 1960s has been a considerable economic drain. However, a recent 'reverse brain-drain' has resulted in a significant repatriation of ability, expertise, capital and (multinational) connections (Chatterjee, 2006).

The youth of India have often been seen as having great economic potential, and because of this, it has been suggested that by the fourth decade of the current century that India would have captured a considerable share of the global labor market. By 2050, there would be 549 million Indian citizens in the 20-24 age bracket. In contrast, China's population in a similar age bracket is forecast to decline from 534 million in 2000 to 408 million in 2050. In 2000, India's student population (age bracket 5-19) accounted for 321 million, and is expected to decline to 296 million by 2050. China's student population is predicted to be only 221 million in 2050, mainly as a result of the 'one-child' policy (Goswami, 2006).

INDIA'S INSTITUTIONAL FRAMEWORK: SOCIAL CAPITAL

In spite of a being a nation with 20 major languages and hundreds of dialects, social bonds of long standing tradition have sustained India's identity as a nation. In an economic context, this needs to be juxtaposed against the British legacy of a codified commercial legal framework and the integration of commercial activity into the legal purview of the state. However, the Indian preference for hierarchical relationships remains, which may be a consequence of the caste system, and it is not uncommon in rural areas or for specific companies or industries to employ people based on caste rather than on skill. The western management theories argue to suggest that employees are motivated when they are given a greater degree of autonomy, responsibility and control over their work, and they lose their motivation when in a highly bureaucratic, structured and controlled environment. Many researchers find this generalization inappropriate in the Indian context (George, 2000).

INDIA'S BUSINESS SYSTEM: OWNERSHIP

The large-scale industrial sector was dominated by a handful of business families for over a century until independence, and for about four decades after 1947 the government steadily increased its involvement. In 1956, for example, the insurance industry was nationalized, and this was followed by the nationalization of banks in the 1960s. In the modern context, family conglomerates once again dominate the Indian corporate scene, and wield enormous commercial and political power. The leading family controlled corporate groups include the house of Tata, Birla families, Ambani families and Modi families. In recent years, successful corporations in the knowledge industry have been led by visionary leaders from the private sector such as Narayana Murthy of Infosys, and Azim Premji of Wipro. However, government owned and controlled corporations remain extremely significant and encompass a wide range of industry sectors particularly in essential infrastructure such as airlines, shipping, railways, postal services, major steel plants, machine tools, mineral exploration, power, oil and gas. Most people employed in the infrastructure area are government employees, where, for example, the government controlled Indian Railways alone employs about two million people (Khanna and Palepu, 2004). The ownership of the small and medium sector enterprises in the Indian system are almost inevitably in the private sector.

INDIA'S BUSINESS SYSTEM: NETWORKS AND ALLIANCES

Globalization has been able to link overseas Indians and their country of origin in significant ways over the past decade. The rise of the services sector in India has been significantly propelled by a large number of professionals of Indian origin (Reference Work on Indian Diaspora) in the United States, Europe and Asia. India tops the World Bank's list of developing countries that receive significant cash inflow from family networks around the world. In 2004, more than 20 million non-resident Indians sent US$23 bn in remittances back to India (Lal, 2006; *Straits Times*, 2006).

INDIA'S BUSINESS SYSTEMS: MANAGEMENT

The contemporary managerial elite in India are more pragmatically than ideologically driven than has previously been the case. Even the oldest and most exclusive business families are keen to stress that their businesses are not run by family members but by professionally qualified deserving candidates, and

MBAs and other equivalent qualifications are sought after by the intellectual elite. Corporations are increasingly listed on public stock exchanges, bringing the necessity for professional organizational and managerial structures and governance standards. As a consequence of these changes, it appears that a hybrid form of managerial culture unique to India is emerging, and the integration of a range of major trends has led to this observable style of Indian management. There are four clear sources of this emerging management style:

1. Strong national pride in the tradition and history of the country;
2. Existing bureaucratic institutional infrastructure and regulatory frame;
3. Commitment and vision to achieve a global identity by becoming engaged in the region and beyond; and
4. New levels of confidence in innovation, enterprise and knowledge networks (Chatterjee, 2007).

DISCUSSION AND CONCLUSION

Keeping faith with the methodology that we have adopted in this paper, the societal contexts and business systems of China and India will be initially considered separately, enabling very brief, descriptive but holistic summary appraisals, before making some concluding comments of a comparative nature.

The imprint of Chinese history and culture is indelibly impregnated into contemporary Chinese society, contemporary institutions, and the business system. The economic opening of China in 1978, signalling the end of the socialist economics of the Maoist era, itself a nationalist reaction to hundreds of years of abuse at the hands of developed nations, gave rise to the modern Chinese economy. This is currently, a confusing, some would say chaotic amalgamation of foreign-owned companies, privately- owned (Chinese) companies, former state enterprises, extant state enterprises, all operating in an essentially free market economic system, dominated by a totalitarian state, and without a properly enforced commercial legal framework. Within this system, enormous amounts of foreign capital, supplied by and through Confucianist inspired overseas family networks as well as western multinationals, have enabled the domination the export sector that is taking the world by storm. Economic and political survival in this system, as always in China, relies upon the maintenance and development of useful connections to those in positions of power and influence. As these dramas are played out, the Chinese government desperately attempts to deal with the political and social issues surrounding the dismantlement of sometimes dysfunctional SOEs. State economic domination has also held back the development of Chinese human resources for a rapidly industrializing economy, although there are areas of excellence. As one might expect in such a complex scenario, management standards are highly variable, but China continues to import foreign ideas and systems to support its high growth phase, freely intermingling these ideas with traditionalist Chinese administrative approaches.

India's contemporary business system is in many ways a product of its nationalist struggle, but of course the story has played out very differently to the Chinese experience. Independence in 1947 resulted in a reactionary closing of the nation in economic terms, but, perhaps surprisingly, not politically. India is now the world's most populous democracy, ironically a legacy of British colonial domination and influence. Some would say that this combination of 'raj' democratic and bureaucratic institutions, combined with Indian culturally inspired hierarchical approaches to organizational structure and management, remains a serious obstacle to continued economic development. As an example of this reasoning, India does have a well-developed commercial law framework within a system responsible to the rule of law, another legacy of the British era, but India's ponderous bureaucracy often makes the enforcement and implementation of laws and regulations virtually impossible. Prospering in spite of these hurdles, the companies, which have dominated India's dramatic economic growth since 1991 have been large-scale industrial conglomerates, dominated by powerful Indian families, although government owned corporations are still significant. The Non-resident Indian (NRI) diaspora, many of whom are business people and professionals, and some of whom left India in frustration with pre-1991 policies, have played a significant part in post-1991 economic development and reforms. Indian managers within these highly successful industrial conglomerates and their subsidiaries, have quickly adapted to international standards, and have generally been able to integrate Western practices, at the same time retaining traditionalist social norms, in particular in relation to hierarchical social relations within the organizational context.

The business systems of China and India have been briefly described, analyzed and compared in this paper via a descriptive, holistic approach. In order to make even more meaningful comparisons, and to more fully appreciate the areas of convergence and divergence, each of these systems needs to be described in considerably greater detail (as per Geertz in Redding, 2005), considered in the context of all the supporting and surrounding factors, and understood in relative terms, in their entireties and with all their complexities (as per Ragin, in Redding, 2005). Comprehensive, contextually based understanding has its origins in such processes. Each business system is different in terms of its global and regional positioning, origins, culture, institutional frameworks and ownership arrangements. Each system is therefore unique and has its own strengths, weaknesses, opportunities and challenges.

Description, analysis and comparison of the business systems of two major industrial nations, each with long and complicated histories is an ambitious task in any circumstances. Despite this, we believe that if the necessary constraints of the task are taken into account, it has been possible to provide a limited, but nevertheless useful comparative overview of the situation. We have been able to show that each of these geographically and demographically massive nations, once exploited and now rapidly developing, has entered the contemporary global economic and political arena on a unique trajectory, and on its own terms.

Each is set to have a very significant impact upon all of our futures. Only time will tell which business system will be the more, or less successful, which has the most global and regional impact, and which will outlive the other.

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Organizational Commitment, Intellectual Capital and Organizational Competitiveness

*Catherine T Kwantes**

This paper builds a framework to understand the effects of lower organizational commitment on intellectual capital and organizational competitiveness focusing on the current labor market in India. Specifically, the effects of low organizational commitment on intellectual capital using a model of intellectual capital encompasses three tiers: human capital, social capital and organizational capital. This paper reviews literature on organizational commitment and its relationship with the development of intellectual capital within the organization. The interactive effects of social and organizational culture in India on organizational commitment and intellectual capital are given special attention. The literature suggests that a reduction of organizational commitment has the potential to strongly affect the intellectual capital of organizations, and therefore, the competitiveness of organizations. In the Indian cultural context, it is suggested that increasing organizational commitment may be the most successful with a focus on socialization practices and organizational culture.

Shifts in the global market place result in shifts in what makes organizations competitive. In the past decades, there has been a shift away from so-called "hard assets" to the so-called "soft assets", which include organizational knowledge, skills, and intellectual capital (Teece, 2000). The role of intellectual capital in enhancing ongoing organizational competitiveness is well-established in the global management literature (see for example, Bartlett, 2002; Ahn and Chang, 2004; Khandekar and Sharma, 2005; and Subramaniam and Youndt, 2005). An examination of the recent rise of India (Parbat and Mazumdar, 2006; Mukherjee, 2006) makes it clear that intellectual capital is playing an increasing role in knowledge processing industries in the southern part of India. In fact, it has been strongly argued that the intellectual capital, when combined with a superior process for harnessing organizational knowledge, is perhaps the key ingredient in continued success of organization competitiveness of global companies such as Wipro, Infosys, and Tata Consulting Services (TCS).In order for the Indian economy to become integrated into the global market place, retention and development of people who contribute their scientific and technological knowledge to the organization is of crucial importance. In a recent series of publications, however, it has been

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observed that there is a great deal of job hopping among qualified personnel at all levels in Indian companies, with "poaching" (companies recruiting employees from their competitors) a common practice that is increasing at an alarming rate (see for example, Scalem and Ravindranathan, 2005; and Aspden, 2006). In 2000, noted that the turnover rate at organizations such as NIIT, Ltd., and Hughes Software System was 15-30% among professional staff. Since 2000, this rate has increased, with some companies reporting turnover rates as high as 8% per month for technical personnel in Bangalore (Parbat and Mazumdar, 2006). This trend is not only most prominent in cities such as Bangalore, Hyderabad, and Chennai where Business Process Outsourcing (BPO) is prevalent, but increasingly is spreading in other parts of India and to other sectors such as retail companies (Mukherjee, 2006).

This paper addresses how the decline of organizational commitment, especially among the technical personnel of Indian companies, affects the ability of these companies to maintain their ongoing competitiveness in the global market place. *The Financial Express* (October 14, 2006) notes that in many industrial sectors in India, the attrition rate has resulted in annual increased wages of approximately 14% across these industries. Organizational competitiveness suffers as the result of such large increases in wages while at the same time bearing the costs of hiring and training new employees. However, the issue of central concern in this paper is how declining organizational commitment affects the process of intellectual capital development, and how the willingness of employees to consider their individual contribution to the aggregate effect of job hopping on a large scale and its long-term negative impacts the ability of Indian firms to retain their market share. As it stands now, India faces two risks with respect to managing this intellectual capital in order to maintain competitiveness in the global market. The first is that, with continued poaching on the part of organizations, and a commensurate lack of organizational commitment on the part of employees, labor rates will quickly rise beyond those in other areas poised to take advantage of outsourcing opportunities, such as China and Eastern Europe, and possibly reaching equilibrium with rates in developed nations. In fact, Kripalani and Burrows (2006) note that "entry-level wages have climbed by as much as 13% annually from 2000 to 2004, while salaries for mid-level managers have registered increases of 30% annually during the same period" in India, and that this increase may have played a role in Apple's recent decision not to outsource in India.

The second risk is that technical personnel in India may increasingly become generalists rather than specialists within industries. Rather than stay the course with a specific organization or industry and becoming experts in that field, employees who make multiple changes between organizations and industries gain more general knowledge of these industries rather than the specialist knowledge that would provide a competitive edge to their organization.

ORGANIZATIONAL COMMITMENT

Organizational commitment has received considerable attention as a result of its ability to produce desirable outcomes for organizations. High rates of employee turnover results in greater inefficiencies in organizations as they must bear the costs associated with hiring and training new employees, as well as the costs of lost productivity when experienced workers leave. This is especially true in organizations where the organizational capital is primarily intellectual, that is, where employee knowledge, skills, and abilities form the basis for the services and deliverables of the organization, and high rates of turnover may lead to reduced productivity (Balfour and Neff, 1992) and reduced competitiveness.

The consequences of organizational commitment go beyond turnover decisions by employees, however, as on the job behaviors are also affected. The empirical literature supports the notion that higher levels of organizational commitment results in lower turnover, but also lead to increased job effort, increase job performance, increased organizational citizenship behaviors, and improved attendance and productivity (see, for example, Meyer *et al.*, 2002; Vandenberghe *et al.*, 2002; Kwantes, 2003; and Gellatly *et al.*, 2006).

ORGANIZATIONAL COMMITMENT AND CHANGING EMPLOYMENT RELATIONSHIPS

Much of the research on employment relationships has viewed these relationships as falling under one of two umbrellas: contractual and relational relationships. Drawing from work on psychological contracts in organizations (MacNeil, 1985; and Rousseau, 1989), these types of relationships can be described according to the extent to which employees view their employment relationship as a long-term proposition where the relationship takes precedence over a more immediate tally of what is given by employers and employees (relational) or the extent to which the relationship is viewed as a short-term proposition, where items that form a more tangible exchange (e.g., salary) take precedence (contractual). With increasing globalization, the current trend is away from relational employment relationships where there is a mutual investment on the part of the organization and the employee toward employment relationships that emphasize strong performance for the duration of the task rather than commitment on the part of employees (Tsui and Wu, 2005).

While this trend may be seen globally, it is especially noticeable in countries such as India that have traditionally placed a strong value on loyalty. Shah (2000) points out that "promise and fulfillment of promise have immense significance in the Indian society, as indicated in Indian mythology and religious Hindu and Islamic texts" (p. 104), and that the concept of "Ghandian trusteeship" (p. 110) is a key factor in traditional Indian approaches to the employment relationship. This trusteeship emphasizes social justice issues and promotes organizational practices such as secure employment and an emphasis on the training and development of employees. In return, employees were expected to remain committed to the organization.

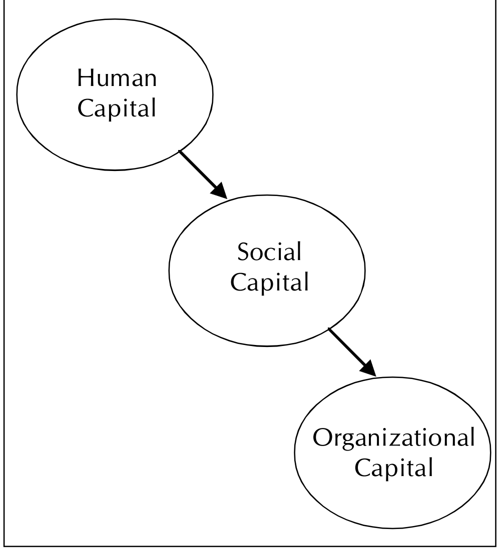
Although the traditional Indian values suggest that organizational commitment would be prized in the Indian culture, other facets such as the labor market and even organizational functioning have an impact on the actual development of commitment to the organization as well. Sinha (2000), for example, notes that the changing industrial scenario in India has resulted in a situation where both "the employee's obligation to remain loyal to the organization and the employer's responsibility to guarantee them lifetime employment are viewed as outdated values" (p. 36). This decline in organizational commitment is not unique to the Indian context. A careful examination of the literature in other Asian countries, indicates that issues of continued employment of key knowledge management personnel is a concern even in countries such as Japan (Meek, 1999) where commitment has traditionally been viewed as providing a competitive edge over Western countries (Lincoln and Kalleberg, 1985). For example, according to Booz Hamilton, of the Association of Executive Search Consultants, in 2005, Japan had executive turnover at the rate of 19.8%, with North American executive turnover rate close behind at 16.2%. In many key studies from the 1970s and 1980s (e.g., Marsh and Mannari, 1977), inter-organizational mobility among professionals was highly uncommon in the Japanese context, but the situation has changed dramatically since the 1990s. In fact, the dynamics of the labor market in Japanese and other Asian contexts show signs of similarity to that found in the Western context, such as the US, UK, Canada, etc., where employment relations are viewed more on a contractual basis than on a relational basis.

INTELLECTUAL CAPITAL

Intellectual capital may be defined as "knowledge resources that organizations utilize for competitive advantage" (Youndt *et al.*, 2004; p. 336). Understanding the effects of organizational commitment and turnover on intellectual capital requires an understanding of the underlying nature of intellectual capital itself as well as its development in organizations. Nahapiet and Ghoshal (1998) suggest that intellectual capital is actually comprised two basic forms: explicit knowledge and tacit knowledge. Explicit knowledge refers to known facts—information that can be codified and stored, while tacit knowledge refers to knowledge that is more implicit and more difficult to communicate. It is the explicit knowledge that can become organizational capital in terms of knowledge that is stored in the organization and accessible to organizational members. Tacit knowledge, however, is rooted in experience, and comprises much of the knowledge employees have (Fineman *et al.*, 2005), and is also the knowledge that is lost to an organization when an individual employee leaves the organization. The effect of declining organizational commitment may be seen as affecting both tacit and explicit knowledge in organizations as these types of knowledge are not unrelated in the development of organizational intellectual capital.

Youndt *et al.* (2004) suggested that organizational knowledge results from an evolutionary process, and proposed a model of intellectual capital which posits that intellectual capital development follows a particular path—starting with human capital, moving to social capital, and finally to organizational intellectual capital (See Figure 1). Human capital consists of the training, knowledge, skills, and abilities that individual employees have. This capital may be developed within organizations through training and development of employees, or may be brought into an organization by hiring new employees. It further results from the experiences in the workplace and on the job. In expanding markets, and especially when organizations in these markets are expanding themselves, organizations often face a situation where they must increase their level of abilities, and thus, they seek out new employees that have a particular level of human capital by recruiting or poaching from other organizations. Once in the organization, however, human capital must be used if it is to benefit the organization, and therefore, the next step (Youndt *et al., 2004)*, proposes in developing organizational-level intellectual capital which requires the willingness of these employees to put their knowledge, skills, and abilities to use for the organization, thereby sharing the capital with others. This willingness to share is dependent on the degree of social capital present in an organization—the network of individuals that a given employee interacts with, as well as the willingness of that employee to share his or her capital on behalf of the organization. A number of organizational factors can impact the development of intellectual capital at this stage, including both the structure and the culture of the organization. The final stage of this model is organizational level intellectual capital, where knowledge has become explicit, and is stored within the organization in codified fashion or in databases, policies, manuals, etc.

Figure 1: Youndt, Subramaniam and Snell's Model of Intellectual Capital



The model of Youndt *et al.* (2004) provides an interesting approach to understanding the effects of declining organizational commitment on intellectual capital in organizations. First of all, it is important to note that intellectual capital functions at two levels in the organization (Spender, 1998) as it comprises knowledge at the individual level and knowledge at the social level. At the individual level, an employee's Knowledge, Skills, Abilities and Other (KSAOs) reflect attributes of individual employees that are either brought with employees to the organization as new hires or developed in existing employees through training and development. At the social level, however, the sharing of these KSAOs reflects both the use of individual intellectual capital, but also the synergy of shared capital. Furthermore, at the social level, intellectual capital can be grown through informal informational sharing and informal learning and training.

The second important aspect of the model is the attention afforded to the nature of the development of intellectual capital in organizations, and its emphasis on the fact that it takes time for information to move through each stage of intellectual capital location to the next, as well as to develop into capital that can be maintained and stored by the organization. It is the first two steps, human and social capital, that are inherent in, and invested in, individuals rather than in the organization as they comprise what Nahapiet and Ghoshal (1998) termed tacit knowledge. When an employee leaves an organization, this intellectual capital is lost to the organization—only the organizational level information, or Nahapiet and Ghoshal's explicit knowledge is retained. The effects of organizational commitment, or the decline in organizational commitment, can be examined at each of these stages, or types, of intellectual capital.

HUMAN CAPITAL

Human capital refers to the knowledge, skills, and abilities inherent in individual employees. These KSAOs result from education, experience, and training in both academic and previous job settings. One of the reasons India has been attractive to foreign companies for job outsourcing is the large pool of educated individuals. This pool, however, is not inexhaustible and indications are starting to emerge that suggests that, in a situation where worker demand is at unprecedented levels as it is right now in India, an investment in human capital is paramount for the boom to continue. Thus, the educational system in India is not supporting an investment in human capital as despite the large population, universities are only graduating 1,00,000 people per year who have the necessary KSAOs to work with multinational organizations (*Business Week*, November 7, 2005).

Many employers are stepping into the gap. Currently, organizations such as Tata Consulting and Infosys have rigorous and comprehensive training programs for incoming professionals in order to develop the skills that are required for working in a multinational environment (Engardio, 2005). While academic education prepares an individual to enter the job market, post entry training, training on the job, and experience provides an employee with the means to apply his or her learned skills to a particular industrial or technical situation. Continued experience in a particular field, industry, or organization provides both a breadth and a depth of experience with both the technology of the industry but also the range of applications that organizations within the industry engage in.

A lack of organizational commitment, high turnover, and continued poaching therefore affects human capital by leading to an increased emphasis on general knowledge, skills, and abilities rather than specialized knowledge within an industry. It can affect organizations' abilities to develop their human capital as their average workforce tenure is reduced, meaning that those who are providing in-house training often do not have the depth and breadth of experience in applying their education to real life applications that would be desirable for training new employees.

The debate regarding the relative worth of specialization versus generalization is not new (see, for example, Gunz, 1980), with some arguing that generalists, with a broad knowledge of their area provide an important overview of processes and functions that specialists, with more in-depth but narrower knowledge, may not have (Yager, 2005). Others suggest that a balance is important, with both generalists and specialists being more effective in different situations. Lynn (2003) noted that the stage of an organization's development as well as the type of business an organization is involved in are important factors in determining whether generalization or specialization should be predominant in an organization, noting that business and leadership skills are important, but they must coexist with an in-depth understanding of the industry and technology of an organization. In a booming economy and an expanding market, the risk of having too many generalists can have far reaching effects. For example, an examination of generalists vs. specialists in Japanese organizations during the economic bubble in Japan, Friedman (1987) pointed out that policies that encourage hiring computer generalists rather than specialists in organizations had an adverse effect on the computer software industry as a whole in Japan, with Japanese companies becoming known for computer hardware but not for software.

In the Indian context, organizations that are developed for outsourcing purposes, such as those that predominate in Bangalore, Hyderabad, etc., it is the specialist knowledge that provides the edge that gives them a competitive advantage. In regions with a concentration of large outsourcing firms, both foreign and domestic companies trying to develop their own smaller teams of experienced specialists find job hopping to have a negative impact on their strategy to develop experienced specialists.

Additionally, companies in mature economies are being forced by competition to down-size, either through attrition or layoffs. Many of these companies have attempted to backfill their technical deficit using less expensive Indian technical resources. While the need for generalists will always exist, the functions that foreign companies using Indian labor are attempting to replace are often specialist functions. Further, in fields such as engineering and IT (the predominant fields outsourced to India), a generalist's level of knowledge may not be sufficient to foster innovation as a deeper understanding of, and experience with, the technology is required. Too many generalists and not enough specialists therefore can have a large effect on the intellectual capital of an organization. Individuals, who move from organization to organization, or industry to industry, rather than staying within a single context do not develop the experience or the practical knowledge necessary to engage with the technology at a more than superficial level, and this lack of specialization and lack of experience also leads to a lower ability to innovate. Such may already be the case in India, as Nandan Nilekani, CEO of Infosys, notes that despite the investment of both national and multinational organizations into Asian countries such as India and China, innovation has not become a hallmark of organizations in either country, and, in fact, "Indian companies have yet to come up with significant innovations in entire product lines" (*Business Week*, September 5, 2006).

SOCIAL CAPITAL

Once the KSAs that comprise human capital are brought into the organization via hiring, or developed via training, the next step in the model is a dissemination of this individual knowledge, either explicit or tacit, via social capital networks. Employees must be willing to share the knowledge they have. Hislop (2002) suggests that higher levels of organizational commitment result in a greater willingness on the part of employees to provide extra effort to their job, including a greater willingness to share their tacit and explicit knowledge with others in the organization.

Culture also plays an important role here—both social and organizational culture. It is at this point that socioculturally learned ways of interacting affect individual employees' willingness to share information and skills with others in the organization, and it is here that the organizational culture is also important, as it can promote or hinder this learning and knowledge transfer (Lipshitz *et al.*, 2007).

Organizational behavior may be seen as a complex interaction between both sociocultural and organizational culture elements. In the Indian context, organizational behavior is frequently described as representing the confluence of both Indian social cultural and Western technological and management influences (e.g., Hare, 1999; Sinha, 1999; and Chatterjee and Heuer, 2006). Some have suggested that due to the globalization of the media, the Western perspective may be increasingly salient (Kao *et al.*, 1999) while other suggest that the indigenous social cultures in countries such as India will always maintain an influence—sometimes affecting how what on the surface may appear to be a Western practice actually functions in a way that is unique to the Indian context (Virmani and Guptan, 1991). For example, Sinha *et al.* (2002) found that Indian individuals expected that an employee would not overtly respond to a public rebuke from a supervisor—a behavior that could be characterized as collectivistic in that the goal would be to maintain harmony. However, respondents in their study indicated that they also would expect the employee to gripe about the situation later with co-workers, a behavior that Sinha *et al. (2002)* explained as individualistic in that it reflects an intent to protect the individual's ego. While this situation may not, in itself, be unique to the Indian context, it provides one example of the complex interplay between behaviors and intentions that occurs in the Indian context. Sinha and Kanungo (1997) point out that Indians have been culturally socialized to view events and episodes from a long-term perspective, and that any particular organizational behavior may therefore be seen as an implict compromise between individual interests and strongly collectivistic social norms.

Social Culture: Social factors such as religious beliefs, languages, and professions may be the determinants of what groups are salient to individual employees in an organizational context, and these groups are likely to garner more commitment from an employee than the organization itself does (Hare, 1999). The fact that individuals see themselves as primarily connected to these groups rather than the organization as a whole, therefore, affects the development of social capital in organizations, as knowledge sharing is likely to be strongly affected by the particular constellation of sociocultural factors within any given organization in India.

Even more fundamental to understanding the interaction between organizational behavior and social culture is one of the basic cultural influences on behavior—the extent to which individuals in a culture are taught to view themselves as interdependent with others in their context (collectivists) or independent of others (individualists). Those who are socially and culturally-oriented towards viewing themselves as interdependent tend toward behaviors that emphasize harmony within the group, including behaviors that highlight fitting in with others and maintaining relationships within the group. Group goals may be expected to take precedence over individual goals if there is a conflict between goals. This emphasis is consistent with sharing information and engaging with others in the group in a way that enhances the group as a whole. Social capital, therefore, and the knowledge sharing that goes along with that, may be facilitated by a collectivistic cultural orientation on the part of individual group members. Some research also suggests that individualistic and collectivistic sociocultural dimensions may be important to organizational commitment as collectivists may be more likely to have higher levels of organizational commitment than individualists (Parkes *et al*., 2001).

Although India as a nation has been found to be predominantly collectivistic in general (Hofstede, 1980), and this seems to also be true within salient cultural groups such as those based on religion, geographical area of origin, in the Indian employment setting, employees have typically been socialized into an organization in a very individualistic context. Additionally, increase in wealth increases individualistic perspectives (Triandis, 1994), suggesting that the current decrease in organizational commitment may reflect both long-standing and emerging cultural patterns in developing nations. Indeed, research comparing Indian employees with Western employees has resulted in Indian employees endorsing higher levels of individualism than comparable Western employees in a work context (Kwantes, 2000).

However, although social cultural influences such as individualism and collectivism have often been cited as important inputs into work behavior in the Indian context, the relationship between the two dimensions is complex with respect to how they actually influence organizational behavior. Sinha (1999) points out that in Indian organizations, individualism and collectivism both coexist but also function in ways that are very context dependent. In fact, it has been noted that, "Indians are believed to combine collectivistic and individualistic behavior and intentions in a complex way depending on the structure and the meaning of a situation" (Sinha *et al.*, 2002, p. 317). Situations that involve family and close in-group members tend to result in primarily collectivistic behaviors (Sinha *et al*., 2001), while organizational situations, since they tend to be more impersonal, results in primarily individualistic behaviors (Sinha and Tripathi, 1994).

An examination of context, specifically, organizational culture, therefore becomes important in understanding organizational behavior in the Indian context.

Organizational Culture: Historically, organizational cultures in India have been described as unique due to the strong emphasis on personalized relationships (Singh, 1990; Gupta, 1991; and Dhar, 1994), consistent with a cultural orientation toward viewing the self as interdependent on group members (Markus and Kitayama, 1991). This emphasis has resulted in organizational cultures where individuals strive to be noticed, and where receiving attention from one's superiors in an organization is viewed as the best means for advancement (Hare, 1999). As a result, Indian organizational cultures frequently emphasize competitiveness amongst employees. When this competitive organizational culture constructs a win/lose situation for employees, employees compete against each other and operate on the belief that to do well they must win at another's expense, effectively creating a situation where knowledge sharing is not reinforced, and minimizing the potential positive effects of social capital for the organization. And, in fact, higher quality outcomes have been found to be associated with lower levels of competitive organizational culture (Gillette and Stenford-Kroese, 2003).

The most efficient organizational cultures and those that have the best outcomes are those with stable membership, a long history, and a high level of interaction among organizational members (Wilkins and Ouchi, 1993). A decrease in organizational commitment, therefore, results in a less stable organizational membership, and group members who have shorter histories with each other. In a time of high turnover, there may be less willingness on the part of employees to spend time training and helping to develop co-workers' knowledge and abilities, as there is less expectation for long-term association with co-workers. There is some suggestion in the literature that even a perception of low organizational commitment on the part of fellow workers leads to a lower willingness to share information (Cabrera *et al.*, 2006) and therefore create social and intellectual capital in organizations.

Social and Organizational Cultures: In the contemporary Indian context, therefore, the confluence of social cultural influences and the current labor market that supports job hopping and lower levels of organizational commitment affects organizational cultures, and therefore, the development of intellectual capital through social networks in organizations. Social cultures that emphasize selecting individualistic behaviors support lower levels of commitment and job-hopping while organizational cultures that emphasize competitiveness do not provide optimal support for knowledge sharing in organizations. A background that includes economic factors such as corporate raiding and poaching further affects organizational cultures as employees are less willing to invest time and effort into training and teaching fellow employees who are not committed to the organization and who may well be leaving the organization shortly.

ORGANIZATIONAL CAPITAL

Organizational capital is the final step in Youndt *et al.*'s model, and is the result of bringing knowledge into the organization (human capital), and sharing knowledge within the organization (social capital). Organizational capital, in this model, refers to knowledge that is stored, codified, and institutionalized. It may be thought of as the knowledge that stays in organizations, even as employees come and go (Subramaniam and Youndt, 2005). The implications for lower levels of organizational commitment are two-fold. First, as intellectual capital at this level is dependent on both bringing knowledge into the organization, and as it is furthermore dependent on knowledge that has been developed and grown through knowledge sharing via social networks within the organization, any intellectual capital lost at the earlier stages due to job-hopping will never become organizational capital. Additionally, given that only some types of knowledge can be made explicit while some remains tacit, only some of the intellectual capital of an organization can ever become, overtime, organizational knowledge. Lower organizational commitment and increased turnover within organizations, therefore, diminishes further the level of knowledge that can become organizational level intellectual capital.

CONCLUSION AND FUTURE DIRECTIONS

India today presents a unique scenario with a particularistic social cultural background juxtaposed with an unprecedented labor market. Attrition, turnover, and job-hopping are at high levels. Low levels of commitment, however, have an effect on organizations' ability to be competitive as high levels of turnover reduces the intellectual capital of the organization, thereby reducing the competitiveness of the organization. In general, Indian employees view their commitments primarily as outside the organization, and even those commitments that exist within the organization may be more dependent on other factors such as religious beliefs, languages, professions, etc. (Hare, 1999). Influences therefore come from outside rather than from within the organization, both in terms of culture and in terms of the current labor market.

While low levels of organizational commitment have an impact on intellectual capital and therefore organizational competitiveness, there are multiple ways that this takes place (i.e., the human capital, social capital, and organizational capital aspects of intellectual capital). Organizations should focus on the specific mechanisms of this impact at each of these tiers of intellectual capital insofar as it enables organizations to strategically plan ways to retain qualified and competent personnel.

At the first level, human capital, organizations should pay attention to both selection factors and personal factors related to organizational commitment. Selecting individuals who are likely to be committed to the organization, and who can be expected to fit into a knowledge sharing organizational culture can enhance the intellectual capital of the organization (Hislop, 2002). The literature suggests, for example, that individuals who are more highly committed to their occupation tend to be more committed to their organization as well. Similarly, those who are high in job satisfaction are more likely to remain committed to the organization (Meyer *et al*., 2002).

At the second step, socialization practices are important. Specifically, it has been suggested that current socialization practices and organizational culture norms are not sufficient to counteract those influences and develop more of an organizational commitment (Hare, 1999). Organizations wishing to enhance the level of their employees' organizational commitment, therefore, may benefit the most by focusing efforts in these areas. Socialization practices that focus on integrating individuals into the organization with a focus on enhancing employee networks across pre-existing social categories such as religion, mother tongue, etc., may provide employees with a greater sense of belonging to the organization as an entity rather than belonging to a particular collective within the organization. Certainly the socialization process involves new employees learning about their organization, about what is expected of them in the organization, and which sorts of behaviors are likely to be expected and which are likely to be rewarded (Chao *et al*., 1994). This information can exert a strong effect on subsequent performance, organizational commitment, and turnover.

At the organizational level, organizational cultures that encourage knowledge sharing should be developed and managed (Hislop, 2002). Davis (2006) suggests that cooperative organizational cultures have the best potential to enhance intellectual capital in organizations. Adapting organizational and human resources practices to discourage excessive competition between employees while increasing a focus on personal development have been found to result in organizational cultures that promote employee effectiveness (Kwantes and Boglarsky, 2007). In turn, these types of organizational cultures emphasize workplace interactions that enhance individual employees' abilities to reach their goals within the organization, that increase employee satisfaction with their work and their organization, and therefore employee commitment to the organization.

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Comparative Study on Strategies of Indian Small, Medium and Large Scale Organizations

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Globalization of market and increasing expectations of customers have created a turbulent environment for Indian small, medium and large-scale organizations. In this paper, an attempt is made to study various issues such as nature of pressures and constraints, strategies adopted by these units for investments, competencies development, reducing cost and improving quality and their performance in comparison to national and international standards in the present scenario. It is observed that growth conducive environment and government support are the main constraints whereas cost, quality and delivery time are main pressures. Major weak areas of Indian organizations are research and development, application of information technology, identification of niches and training of employees. Performance of Indian organizations specifically in terms of manufacturing cost, level of inventory, employee turnover rate and throughput (Rs/hour) is found significantly below international standards. Therefore, Indian organizations should give more focus on these areas such as R&D, IT applications and training of employees while developing their strategies.

INTRODUCTION

Small and Medium Enterprises (SMEs) represent the largest proportion of the manufacturing sector in every country. In India, 95% of industrial units are in small-scale sector with 40% value addition in the manufacturing sector and 6.29% contribution to the Indian Gross Domestic Product (Singh *et al.*, 2006). For a long time before economic reforms, Indian SMEs were concentrating on domestic market under government protection. The average growth rate of labor productivity in manufacturing during 1986-95 for India has been 4.95% in comparison to 7.31% for China, 9.45% for Singapore and 8.65% for Pakistan (APO, 1997). Share of manufacturing in India's Gross Domestic Product is about 17% in comparison to China's 35% and Korea's 31% (*The Times of India*, 2005). After 50 years of independence and over a decade of liberalization and economic policy reforms, India is yet to nudge its global export share beyond 0.5%. The technology gap in the Indian industry, in some cases, is up to 15-20 years equivalent

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due to low emphasis on research and development (R&D). A typical industry in India spends less than 0.6%, on average, of its turnover on R&D as against the world average of 2.5% (Garg *et al.*, 2003).

Global Competition, technological change and demanding customers are creating a more knowledge intensive, turbulent, complex and uncertain environment. Various sub-constructs of environmental uncertainty are customer uncertainty, supplier uncertainty, competition uncertainty and technological uncertainty. These uncertainties due to globalization of the Indian market after the economic reforms have led to drastic changes in the approach of Indian SMEs and large organizations for formulating their strategies and priorities for investments and developing competencies. In such a dynamic environment, organizations that are able to continually build new strategic assets faster and cheaper than those of their competitors will create long-term competitive advantage. In this process, core competencies have a pivotal role to play. The number of such core competencies that a firm can develop is extremely limited, and the firm has to excel in them in order to be successful. Effective manufacturing firms are integrated firms, where manufacturing functions and performance are linked. Integration would enable the value creation and transfer processes right from the supplier to the end customer as a seamless chain along which information, knowledge, equipment and physical assets flow as water (Gunasekaran and Yusuf, 2002).

In the present scenario of economy when national boundaries have disappeared, a firm must also think and act as a global company and position itself in a favorable market. Competing and surviving in the markets of the developed countries force the firms continually improve and excel in every phase of their activities. In addition, global presence allows a stable development and sales revenue for firm in spite of variation due to industrial fluctuations in single branches, markets or countries (Quenzada *et al.*, 1999). Dependence on a single country's environment makes a firm vulnerable against any worsening in business cost, labor availability, competitive hostility, government laws and political environment in that country (Badri and Davis, 2000). Furthermore, in today's global markets, it is critical for a firm to develop international alliances and to cooperate with other firms. These alliances provide sharing of product, manufacturing technology, marketing and R&D know-how, and resources and reduces the uncertainty and vulnerability associated with the design and introduction of new products. In addition, through alliances and collaborations, new product design and development and manufacturing capabilities are internalized (Banerjee, 2000) as well as it also helps in tracking of customer expectations and reduction of product and process development cycle times (Perry and Sohal, 2001).

OBJECTIVES AND METHODOLOGY

This paper endeavors to investigate various issues such as constraints, pressures, priority for investments, strategies for cost, quality, competencies development and performance in comparison to national and international standards for Indian Small-Scale Industries (SSI), Medium Scale Industries (MSI) and Large-Scale Industries (LSI) in the present economic scenario.

For collecting information from industries, a structured questionnaire was framed. In India, industries having investment in plant and machinery less than Rs. 1 cr are called small-scale industries (SSI). There is no formal definition for medium-scale industries but for some studies, industries having investment between Rs. 1 cr and Rs. 100 cr in plant and machinery are termed as medium-scale industries (MSI) (Karandikar, 1999). Extensive visits were made to SMEs and large-scale enterprises to collect first hand information. Research methodology followed for this study is shown in form of flow chart (Figure 1). Identification of problem and development of preliminary framework for study was done after extensive review of literature and discussions with industry professionals. The framework adopted for this study is shown in Figure 2. Based on pressures and constraints, organizations will decide their strategies for investments, development of competencies and priorities for reducing cost and improving quality. Formulation of strategies and their effective implementation will decide their performance in domestic and global market. On the basis of this

Figure 1: Research Methodology Used

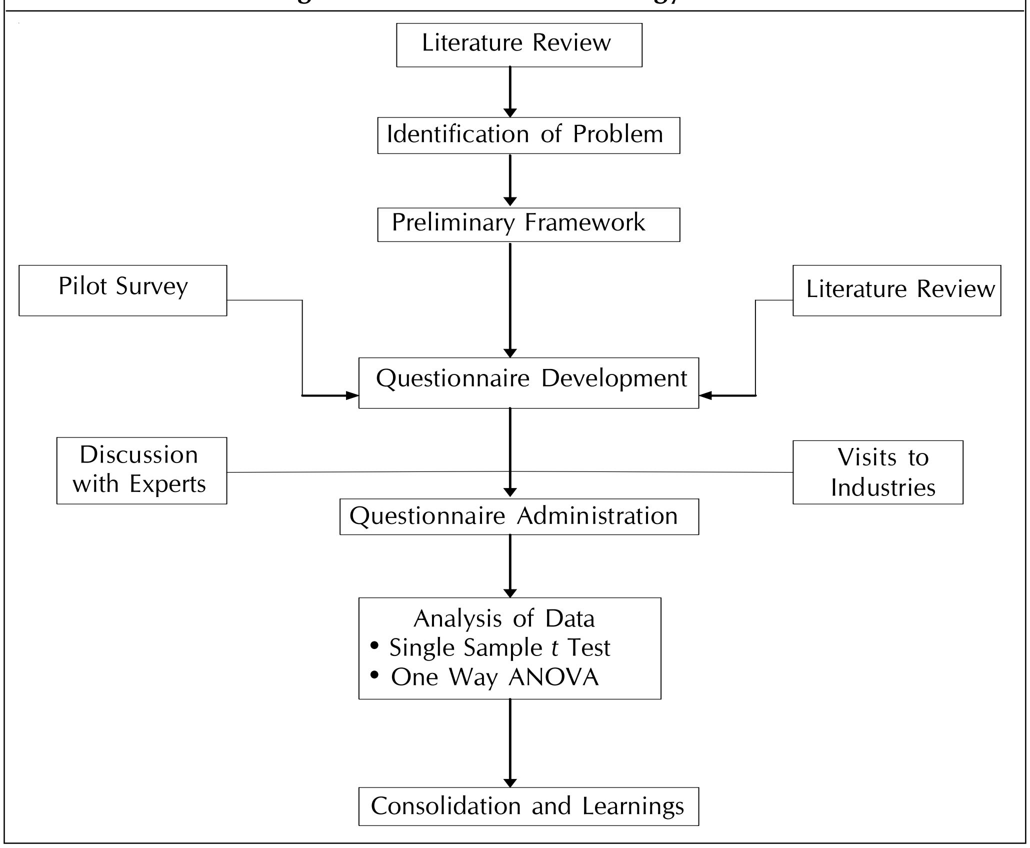
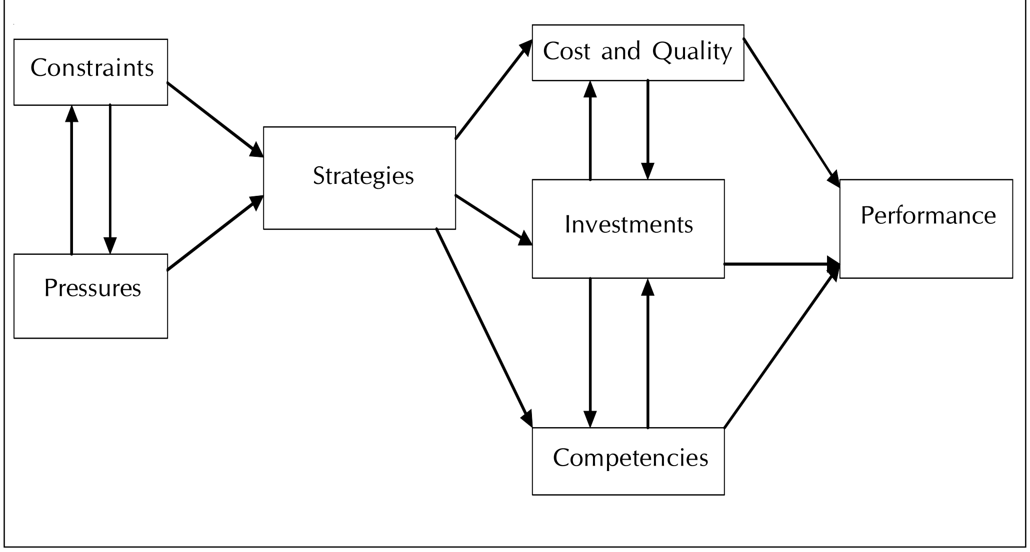


Figure 2: Preliminary Framework for the Study



framework and literature review, attempt is made to develop a preliminary questionnaire for pilot survey of 40 organizations. Final questionnaire (Appendix) is framed on the basis of informations obtained from pilot survey, visits to organizations of different sectors and categories, interactions from CEOs, academicians, leading industrialists and literature review.

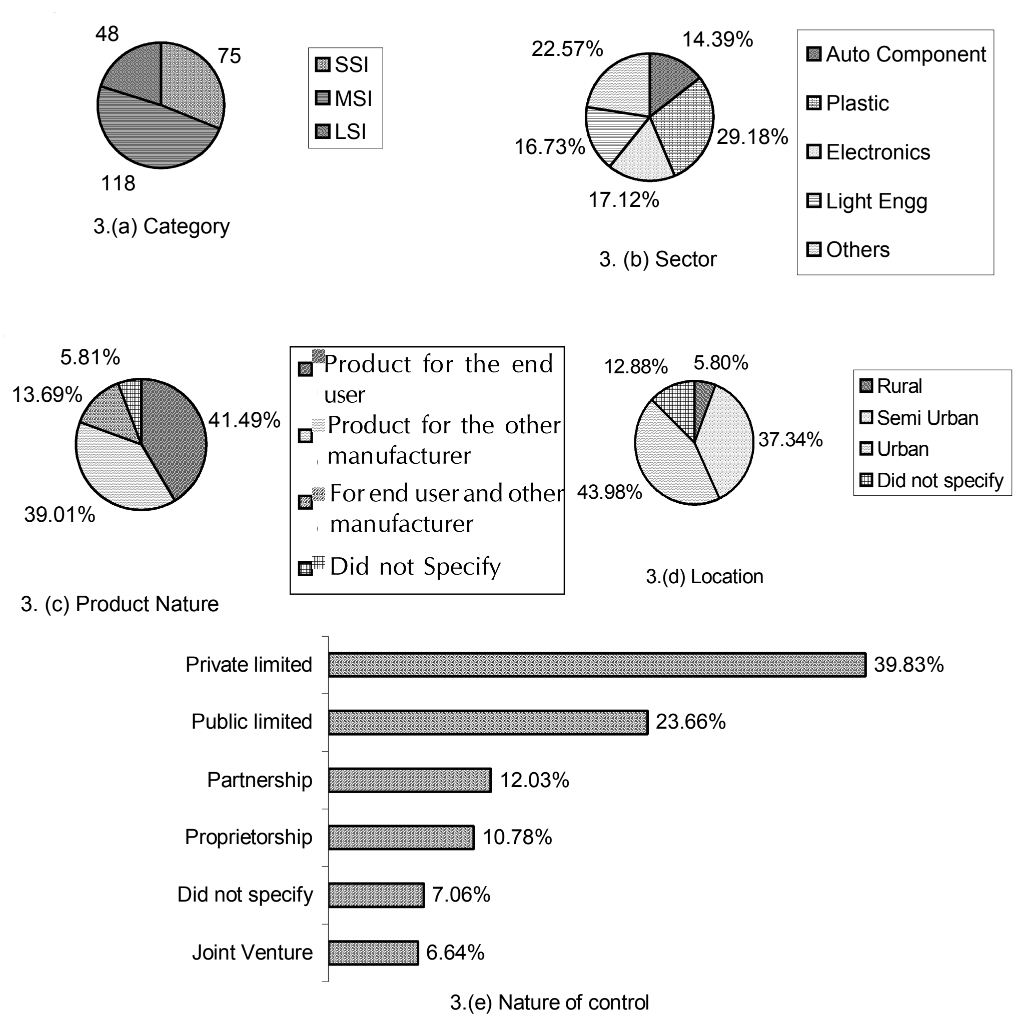
In this study, executives were asked to rate the intensity of each factor for their respective organization on a five point Likert scale (1-Lowest, 5-Highest). About one thousand and five hundred organizations from different sectors, categories and regions were contacted for collecting responses. These organizations were selected from directories available at Confederation of Indian Industries (CII), Auto component manufacturers association (ACMA), Department of industries (Government of India) and Federation of Indian Chambers of Commerce and Industries (FICCI). In spite of continuous efforts only two hundred forty one responses could be obtained. A detail profile of the responding firms is shown in Figure 3.

RESULTS AND DISCUSSIONS

Cronbach's coefficient alpha was used to measure the scale reliability. As shown in questionnaire used (Appendix), the coefficients of Cronbach's alpha of the constructs were all higher than 0.7 (range from 0.7382 to 0.8974). This indicates an acceptable internal consistency of data (Nunnally, 1978).

Analysis of data has been done separately for small, medium and large-scale industries. For comparing mean values of various attributes with respect to moderate value for single sample Z test and for three samples of SSI, MSI and LSI, one-way ANOVA were applied. Different issues such as pressures, constraints, strategies for investment, competencies, cost and quality and performance have

Figure 3: Profile of Responding Organizations
(a) Category, (b) Sector, (c) Product Nature, (d) Location and (e) Nature of Control



been analyzed in detail in following Sections.

PRESSURES

Improvements in competitors' capabilities have shortened product life cycles, elevated product complexity and expanded accessibility to new technical breakthroughs. Today's intense competition requires that firms excel simultaneously in several areas without trade-off, including innovativeness and responsiveness to their customers. In general, smaller firms experience greater market and customer uncertainty. Those who own and manage the smaller business exhibit a vastly greater range of aspirations than owners/managers of large firms. The smaller firms rationally respond by favoring short over longer-term gains and flexible over specific investments. Capacity of a firm to maintain reliable and continuously improving business and manufacturing processes to meet above challenges appears to be a key condition for ensuring its competitiveness in the long run (Lagace and Bourgault, 2003).

The results of this study for various pressures being faced by Indian industries on a Likert scale of five are presented in Table 1. It is being observed that cost, quality and delivery lead-time are the main pressures for Indian small, medium and large-scale industries. This is due to rise in the domestic and global competition. It has compelled the firms to increase performance standards in many dimensions such as quality, cost, productivity, product introduction time and smooth flowing operations (Hitt *et al.*, 2001). In addition to this, other reason is that most of the SMEs are working as vendors to large-scale organizations and have become part of their supply chains. Therefore quality, delivery and cost of incoming materials have become essential elements of strategy development for enhancing the competitiveness of complete supply chain. To improve quality and to reduce cost are considered critical success factors for organizations not only in India but all over the world.

Corbett and Campbell-Hunt (2002) have observed that different pressures on SMEs are conformance quality, i.e., low defect rates; product features or attributes, competitive price and performance. According to Fleury and Fleury (2003), organizations should optimize the quality/ price ratio for operational excellence. Lau (2002) observed that quality and lower cost are top ranking competitive factors among the US electronics and computer industries. Other studies in Indian context have also observed that SMEs give highest priority for quality (Singh *et al.*, 2004, Dangayach and Deshmukh, 2005). These findings imply that quality and cost have now become qualifying criteria to stay in the market.

On the basis of one way ANOVA test (Table 1), it is found that mean values for some of the pressures such as to increase range of products and to deliver in small lots differ significantly at specified level of significance in SSI, MSI and LSI. This

Table 1: Pressures on SSI, MSI and LSI

SN	Pressures from Customer/Market	SSI	MSI	LSI	p value
1.	To reduce cost	3.62*	3.68*	3.50*	0.644
2.	To improve quality	3.45*	3.51	3.59*	0.828
3.	To increase range of products	3.25*	3.17*	2.82	0.073
4.	To reduce delivery time	3.28*	3.27*	3.28	0.995
5.	To cater frequent change in supply schedules	2.73#	2.96	2.67#	0.245
6.	To deliver in small lots	2.54#	2.68#	2.14#	0.028

Note: *Significantly above moderate level at 0.05 level, #Significantly below moderate level at 0.05 level (Based on Z test).

difference is due to fast changing consumer choices and application of JIT practices by industries. Impact of this trend is more on SMEs due to their limited resources and technological competencies.

CONSTRAINTS

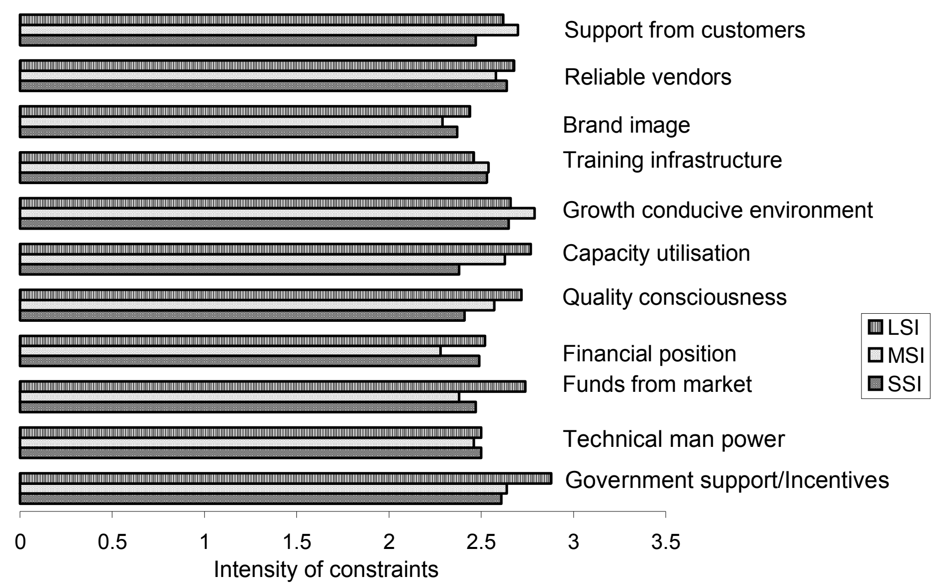
SMEs have commonly been categorized to be component manufacturers for larger companies, where they operate in the 'make to order' or rather the 'engineer to order' approach that imposes rigid constraints on meeting changes in requirements at short notice (Little and Lee, 1999). The main barriers to be competitive for SMEs are inadequate technologies as well as inadequate in house human expertise and poor financial resources (Armstrong and Coyle, 1999). Resource scarcity can impact on the ability of smaller firms to enter export markets and can also limit a smaller firm's ability to reach more advanced stages of internationalization (Moen, 1999).

Owners of smaller firms do not often have specialist executives to manage their internal operations. In some instances, the shortage of management time in smaller firms can impede internationalization. Financial constraints faced by smaller firms and a reluctance to utilize external funding (Westhed, 1997) are strategic obstacles that may deter an entrepreneur from using the latest technology. Consequently, smaller firms may be unable to export products or services of superior quality. It is observed that small firms are often constrained by their very limited ability to either acquire adequate information from external sources and/or utilize such information to evolve new operational practices (Robertson *et al.*, 1996). Institutional constraints, both governmental and non-governmental can also impede internationalization by smaller firms (Acts *et al.*, 1997).

The results of various constraints for Indian SSI, MSI and LSI to become competitive in the market are shown in Figure 4 on a Likert scale of five. Most of the constraints for small, medium and large-scale industries are significantly below moderate level. For SSI, main constraints are lack of growth conducive environment (2.66), inadequate government support (2.61) and poor infrastructure for training (2.53). For MSI, most severe constraints are lack of growth conducive environment (2.79), support from customers (2.70), inadequate government support (2.64). Large organizations are considering, inadequate governmental support/incentives (2.88), underutilization of capacity (2.78), raising funds from market (2.74) as most severe constraints. These findings indicate that level of constraints felt by SMEs and LSI do not differ significantly.

Lack of growth conducive environment and inadequate government support/incentives are top-ranking constraints for Small and Medium Enterprises (SMEs) and large-scale industries. While government policies have played a facilitative role in countries like Japan, South Korea, Taiwan, etc. (Wang *et al.,* 1995), but in countries like India, red tapism and various government policies are still considered as main barriers for the expansion and growth of the industry. Although Indian Government has also taken some initiatives such as raising limits for investment on plant and machinery by SSI,

Figure 4: Constraints on SSI, MSI and LSI



easy funding by banks and other support for technological upgradation but positive results are yet to come.

STRATEGIES ADOPTED BY INDIAN SMES AND LARGE ORGANIZATIONS

According to Eren (2004), in order to compete with their competitors, firms have to develop competitive strategies. Competitive strategy is a long-term phenomenon. A firm cannot have a strategy of a month. There is long-term for stability and short-term need for continual updating in response to evolutionary changes in environment. But the concept of long-term can vary from sector to sector depending on its internal dynamics. A long-term strategy for electronics sector may be 2-3 years whereas for chemical sector, it might be 8-10 years or more. In the present study, six years span (Past three years and next three years) is considered for analyzing strategies of the Indian manufacturing sector. This was based on literature review and inputs from industry professionals during pilot survey.

An effective strategy must take into account the distinctive competencies of a firm that will give it a competitive advantage over its competitors. In the present scenario of global competition, effective strategies for making investments, for developing competencies with time and strategies for reducing cost and improving quality are very important. These issues for developing competitive strategies in context to Indian SSI, MSI and LSI have been analyzed in following sections.

INVESTMENTS PRIORITIES

Global competitive strategies are increasingly becoming technology driven in the context of extremely dynamic, high velocity and turbulent environments. Technology operates on competitiveness in two ways. First by altering the price structure through the development of more efficient and flexible processes and second by enabling the creation of better products of greater quality, better design, after sales service and short delivery periods (Vinas *et al.*, 2001). SMEs can compete with their larger rivals by developing new to market products using novel and often simpler technologies (Mosey, 2005). It is also commonly reported that quality and consistency of the manufacturing performance of SMEs can be improved as a consequence of the use of the most appropriate information technology (IT) tools without any major changes in business practices, manufacturing operations or the production facilities.

The results of this study regarding investment priorities are shown in Table 2 on a Likert scale of five (1-Very low, 5-Very high). Priorities of investment differ for all categories of industries (SSI, MSI and LSI). For SSI, market research, welfare of employees and research and development, for MSI, market research, welfare of employees and automation of processes, for LSI, automation of processes, information technology and market research were top ranking priority for investment in the past three years. These findings indicate that for all categories of industries, market research and automation of process are the common areas of investment. It is due to fast changing market conditions and increasing customer demands of high quality and timely delivery at lowest cost. High employee turnover had been the major problem for SMEs in the past. Due to limited growth, most of the skilled workers/employees leave SMEs but findings indicate that now welfare of employees has become top ranking investment priority for SMEs. This will help them in retaining their experienced employees and managing their knowledge. Loss of human capital is not the major problem for LSI because of existing better career prospects and employees welfare policies. This is the reason that welfare of employees has not emerged as a top priority for LSI.

In the next three years, although major areas of investment are same but focus on these areas by industries have changed with time. This is due to increase in the level of competition. For SSI, market research, automation of processes and welfare of employees, for MSI, market research, automation of processes and training of employees, for LSI, information technology, automation of processes and market research will be top ranking priority for investment in next three years. In the next three years also IT applications is not the top area of priority for SMEs as in the case of LSI. This is the major area of difference between Indian SMEs and their counterparts in developed countries. According to a study done by Fletcher and Hardill (1995), stronger orientation of French firms towards Human Resource Management (HRM) practices and investment in new technology was a key reason for their better sales growth as compared to their counterparts in UK. Other studies (Lal, 2004, Hodgkinson and Mcphee, 2002) have also found that users of advanced e-business technology perform better than non-user in the export market.

For large organizations, most of the factors have already got moderate level of priority, due to which change in next three years is lesser than SMEs. This significant difference in SMEs is being observed because these units have now started realizing for developing these weak areas to become competitive in domestic and global market simultaneously. On the basis of one-way ANOVA test (Table 2), it is found that the level of investment in some areas such as automation, information technology and training among SSI, MSI and LSI differ significantly at 99% level of significance. These differences are due to limited resources of SMEs and less exposure for global competition in comparison to LSI. Morgan *et al.* (2006) have also observed that use of IT by larger organizations is more than SMEs.

Table 2: Investments Priorities for SSI, MSI and LSI

SN	Nature of Investment	During Past Three Years				In Next Three Years			
		SSI	MSI	LSI	p value	SSI	MSI	LSI	p value
1.	Research and Development	2.85	2.86	3.30*	0.062	3.51*	3.54*	3. 71*	0.623
2.	Automation of Processes	2.78	3.10	3.80*	0.000	3.60*	3.72*	4.04*	0.048
3.	Information Technology	2.29#	3.00	3.75*	0.000	3.22	3.54*	4.11*	0.000
4.	Training of Employees	2.49#	3.02	3.30*	0.000	3.23	3.65*	3.64*	0.013
5.	Welfare of Employees	3.00	3.15	3.30*	0.243	3.55*	3.52*	3.64*	0.775
6.	Market Research	3.07	3.23*	3.50*	0.123	3.77*	3.74*	3.75*	0.02
7.	Advertisement	2.52#	2.54#	2.77	0.393	3.39*	3.09	3.35*	0.190

Note: *Significantly above moderate level at 0.05 level, #Significantly below moderate level at 0.05 level (Based on Z test).

From this study, it is also observed that investment in research and development is still not the top ranking priority for Indian industries as compared to private sector funding for R&D in countries like Korea (80%) and about one third in case of Brazil. Indian organizations can develop their brand equity through innovation and R&D (Sharma *et al.*, 1999). Above findings also shows that Training of employees is also not the top ranking priority for Indian Industries. Study made by Oyelaran-Oyeyinka (2004) suggests that internal training opportunities greatly contribute to the workers productivity, which in turn helps in improving competitiveness of firm.

PRIORITIES FOR DEVELOPING COMPETENCIES

Chaston and Mangles (1997) have found that the areas of competence concerned with new product development, human resource management practices, organizational productivity and the management of quality. In tomorrow's business world, success will be critically influenced by the degree to which firms utilize new knowledge to support innovation. Levy *et al.* (2003) have observed that SMEs are knowledge creators but are poor at knowledge retention. The foundation of organizational competitiveness has shifted from physical and tangible resources to knowledge (Wong and Aspinwall, 2005). Innovation implementation requires ongoing effort, commitment and understanding beyond that of continuous improvement (Humphreys *et al.*, 2005).

The results of competencies development by the Indian SSI, MSI and LSI are shown in Table 3 on a Likert scale of five. For SSI, use of information to optimize decisions, use of customer to define quality standards and to optimize work environment, for MSI, identification of market changes, use of information to optimize decisions and use of customer to define quality standards and for LSI identification of market changes, introduction of new technology and use of customer to define quality standards were top ranking priorities for developing competencies in the past three years. In the next three years, priority of developing competencies is changed. For SSI, identification of market changes, use of information to optimize decisions and use of customer to define quality standards, for MSI, use of customer to define quality standards, use of information to optimize decisions, introduction of new technology and for LSI, introduction of new technology, use of information to optimize decisions, optimization of working environment and identification market changes are top ranking priorities for developing competencies in the next three years. These findings indicate that Indian organizations are giving more focus for identifying market changes and quality standards. This is due to the reason that globalization has made market and quality standards highly dynamic.

Analysis also shows that present organizations differ from focused organization of the past. Reason is that to satisfy and retain their customers for their sustainable growth in present global competition, they cannot ignore any of these competencies. Ernesto *et al.* (2005) have also observed that to keep in pace with international competition, firms of all size are challenged to improve and innovate their products and processes constantly however firm size does impact the innovation type pursued by companies.

On the basis of one way ANOVA test (Table 3), it is observed that intensity of competencies development in area of niches identification differ significantly among SSI, MSI and LSI at 95% level of significance. Reason for this difference may be that the innovative process in small units

Table3: Areas of Competency Development

SN	Areas	During Past Three Years				In Next Three Years			
		SSI	MSI	LSI	p	SSI	MSI	LSI	p value
1.	Niches Identification	2.94	3.04	3.48	0.027	3.48*	3.43*	3.75*	0.225
2.	New Products Development	3.41*	3.18	3.41*	0.243	3.74*	3.73*	3.79*	0.944
3.	Work Environment Optimization	3.47*	3.38*	3.58*	0.459	3.75*	3.68*	3.95*	0.219
4.	Use of Customer to Define Quality Standards	3.48*	3.47*	3.68*	0.451	3.82*	3.88*	3.80*	0.887
5.	Introduction of Nnew Technology	3.31*	3.39*	3.70*	0.111	3.81*	3.75*	4.14*	.062
6.	Use of Information to Optimize Decisions	3.54*	3.47*	3.62*	0.651	3.94*	3.81*	3.95*	0.511
7.	Identification of Market Changes	3.43*	3.55*	3.71*	0.276	3.98*	3.08	3.93*	0.419

Note: *Significantly above moderate level at 0.05 level, #Significantly below moderate level at 0.05 level (Based on Z test).

is more informal and less structured, the base of managerial competencies is limited, availability of financial resources is lower, the attraction towards skilled labor is weaker and the propensity for interaction with other firms is limited (Scozzi *et al.*, 2005).

STRATEGIES FOR COST AND QUALITY

The increasing intensity of competition has made continuous planning and quality improvement a prerequisite for the survival of not only large firms but also for SMEs (Temtime, 2003). Implementing the quality, continuous improvement and waste reduction practices embodied in the JIT philosophy can enhance firm competitiveness. With the introduction of comprehensive quality improvements methods like TQM and quality circles, it has been established that quality and productivity can be improved simultaneously and they both have the direct proportionality (Pawar and Kallurkar, 2002). Small firms observe many problems in implementing quality programs. Main reasons for their failure can be lack of specific goals, limited resources and effective decisional tools.

The results of this analysis are shown in Table 4 on a Likert scale of five (1-Very low, 5-Very high). It is observed that for SSI, improvement in process capability, maintenance and product design, for MSI, reduction of rejection/rework, improvement of maintenance and process capability and for LSI, improvement in process capability, maintenance, product design and automation of operation are the top ranking strategies for reducing cost. For improving product quality, SSI are giving more focus on improving product design, maintenance and process capability, MSI are giving focus on maintenance, process capability, rejection/reworking and training of employees and LSI are giving focus on process capability, automation and maintenance. These findings indicate that for cost reduction and quality improvement, Indian organizations mainly focus on product design and process capability. From these results, it is also obvious that intensity of various factors of strategies for reducing cost and improving quality differ with each other as well as for different scales of industries.

Table 4: Strategies Adopted by SSI, MSI and LSI for Improving Cost and Quality

SN	Strategies	To Reduce Cost				To Improve Quality			
		SSI	MSI	LSI	p value	SSI	MSI	LSI	p value
1.	Reduction of inventory	3.14	3.39*	3.69*	0.012	3.06	3.02	3.33*	0.285
2.	Reduction of rejection/rework	3.41*	3.61*	3.78*	0.217	3.56*	3.66*	3.73*	0.730
3.	Automation of operation	3.20	3.34*	3.81*	0.004	3.28*	3.56*	3.89*	0.004
4.	Vendor development	3.20	3.44*	3.44*	0.289	3.23	3.52*	3.46*	0.180
5.	Improvement of process capability	3.58*	3.47*	3.91*	0.033	3.62*	3.66*	3.96*	0.124
6.	Improvement of maintenance	3.57*	3.54*	3.84*	0.204	3.70*	3.72*	3.87*	0.538
7.	Improvements in product design	3.56*	3.39*	3.81*	0.089	3.85*	3.54*	3.76*	0.119
1.	Research and development	3.40*	3.29*	3.65*	0.213	3.59*	3.50*	3.63*	0.748
2.	Training of employees	3.22	3.31*	3.51*	0.365	3.55*	3.60*	3.64*	0.880

Note: *Significantly above moderate level at 0.05 level, #Significantly below moderate level at 0.05 level (Based on Z test).

Improvement of maintenance, product design and process capability have emerged as most common strategies for all category of industries because it will help them in satisfying changing product features, conformance to specifications and timely delivery. According to Corbett *et al.* (2002), SMEs can gain competitive advantage through the quality of their products because they can implement JIT system with low defect rates or higher quality of products. It will also help in reducing product cost.

On the basis of one way ANOVA test (Table 4), it is observed that intensity of some of the strategies adopted by SSI, MSI and LSI such as reduction of inventory, automation of operation, improvement of process capability for reducing cost and automation of operation for improving quality differ significantly at 95% level. This difference is due to the fact that LSIs focus more on these strategies due to more awareness for global competition.

PERFORMANCE

Performance measurement is the process of quantifying the efficiency and effectiveness of manufacturing system. Performance of an enterprise is often measured as a ratio of output to input. The outputs constitute the products of the enterprise and the inputs are the resources used by the enterprise. Though there are developed special methods of SMEs efficiency measurement (Abouzeedan and Busler, 2004), often smaller companies have much less sophisticated accounting systems, shorter operational track records, and their internal data is less available for outside research. Garg *et al.* (2003) suggest that as most small firms are privately held, it is unlikely that their CEOs will be willing to provide detailed accounting data on the firms performance. Therefore, they suggest the use of "subjective and self-reporting measures of performance". Performance of an organization relative to its industry standards is termed as its competitiveness. Gyula and Frank (2001) have measured competitive advantage by using five point Likert scales, which compared the firm's unit cost of manufacturing, delivery speed, etc., with its competitors.

In present study, respondents were asked to mark their performance in comparison to national and international standards on five point Likert scale (1-Very inferior, 2-Inferior 3-Equal, 4-High, 5-Very high) for various measures. Performance of responding Indian small, medium and large-scale industries in comparison to national and international standards is given in Table 5. It is observed that performance of Indian industries for many measures differ significantly on the basis of national and international standards. Performance of Indian industries in comparison to national standards is comparable to moderate level for most of the performance measures. In comparison to international standards, performance of SSI on all the measures is significantly less than moderate level. Performance of MSI and LSI is significantly less than international standards in terms of level of inventory, manufacturing cost, employee turnover rate and percentage rejection but it is comparable to international standards in terms of delivery speed, flexibility in production, labor productivity, capacity utilization, satisfaction of employees, customers and suppliers. This analysis shows that performance trend of SSI differs from MSI and LSI.

Table 5: Performance Measures for SSI, MSI and LSI

SN	Measures	In Comparison to the National Standards				In Comparison to the International Standards			
		SSI	MSI	LSI	p value	SSI	MSI	LSI	p value
1.	Manufacturing Cost	3.37*	3.23*	3.02	0.050	2.61#	2.62#	2.51#	0.776
2.	Level of Inventory	3.24*	3.33*	3.07	0.154	2.33#	2.59#	2.48#	0.132
3.	Delivery Speed	3.40*	3.53*	3.58*	0.326	2.49#	2.87	3.02	0.017
4.	Flexibility in Production	2.89	3.29*	3.54*	0.001	2.29#	2.90	2.97	0.001
5.	Percentage Rejection	3.66*	3.70*	3.40*	0.169	2.52#	2.74#	2.73#	0.203
6.	Labor Productivity	3.00	3.16*	3.35*	0.107	2.24#	2.94	2.92	0.000
7.	Capacity Utilization	2.91	3.32*	3.52*	0.002	2.19#	2.91	2.98	0.000
8.	Employee Turnover Rate	3.37*	3.37*	3.09	0.152	2.42#	2.64#	2.23#	0.027
9.	Throughput (Rs./hr)	2.59	3.00	3.22*	0.001	2.08#	2.64#	2.72	0.004
10.	Employee Satisfaction	3.06	3.41*	3.62*	0.004	2.52#	2.87	2.85	0.137
11.	Customer Satisfaction	3.53*	3.71*	3.96*	0.050	2.71#	3.10	3.43*	0.006
12.	Suppliers Satisfaction	3.39*	3.49*	3.71*	0.146	2.70#	2.96	3.18	0.088

Note: *Significantly above moderate level at 0.05 level, #Significantly below moderate level at 0.05 level (Based on Z test).

On the basis of one-way ANOVA test (Table 5), it is also found that performance of SSI, MSI and LSI on many measures differs significantly with each other at different level of significance. Reason for this is poor infrastructure and inefficient resource utilizations by SMEs. In addition to this, they are also reluctant to make new investment for upgradation of their technology, R&D, development of human resources and innovative competencies to fulfill the requirements of the dynamic market.

SOME OBSERVATIONS

This study focuses on analyzing different strategies adopted by Indian industries for competing in domestic and global market. From this study, it is observed that level and priority of different factors of pressures, constraints, strategies and performance measures differ among small, medium and large-scale industries. Commonality among them is that to face various situations after globalization, all of them are adopting multifaceted strategy rather than depending upon single approach. Based on the findings of this analysis, comparison of various issues for small, medium and large organizations are given in Table 6. Three top ranking factors of every issue are mentioned in it.

On the basis of this study, some of the concluding observations are as follow:

- Indian SMEs and large organizations consider lack of growth conducive environment and inadequate government support as major constraints;
- Cost, quality and delivery time are the main pressures on Indian industries;
- Improvements in process capability, maintenance, product design, and

Table 6: Comparison of Issues among SSI, MSI and LSI

Issues	SSI	MSI	LSI
Constraints	Growth conducive environment Government support unreliable vendors	Growth conducive environment Customers support Capacity utilization	Government support Quality consciousness Unreliable vendors
Pressures	To reduce cost To improve quality To reduce delivery time	To improve quality To reduce cost To reduce delivery time	To reduce cost To improve quality To reduce delivery time
Strategies for cost and quality	Product design Process capability/ R&D Maintenance	R&D/Maintenance, automation/process capability, reduction of rework/training	Process capability/ vendors development, product design/process capability, rework reduction/maintenance
Investment priorities	Market research Welfare of employees Research and development	Market research Automation of process Research and development	Automation of process Information technology Training of employees
Strategies for competencies development	Optimize decisions Define quality standards Optimize work environment Percentage rejection/	Identify market changes Optimize decisions Define quality standards	Identify market changes Introduce new technology Define quality standards
Performance National/ International	Customer satisfaction Customer satisfaction/ Suppliers satisfaction Manufacturing cost	Percentage rejection/ Customer satisfaction Customer satisfaction/ Labour productivity Delivery speed/ Capacity utilization	Percentage rejection/ Customer satisfaction Customer satisfaction/ Labour productivity Delivery speed/ Capacity utilization

reduction of rejection/rework are main strategies adopted by Indian organizations for cost and quality;

- Market research and automation of processes are top ranking priorities of investments by Indian SMEs and large organizations;
- Identification of market changes, use of information and customers to optimize decisions for defining quality standards are the main areas of competencies development; and
- Level of performance on various measures for SSI, MSI and LSI differ with each other.

CONCLUDING REMARKS

The objective of this study was to analyze various emerging situations and strategies adopted by Indian organizations in globalized market. On the basis of this study, it is observed that quality and cost have now become qualifying criteria for the industries. Therefore to sustain their competitiveness Indian industries need to add some other features in their products for winning the orders from the customers. Performance of Indian organizations specifically of SSI is not comparable with respect to international standards. Major weak areas of Indian organizations are research and development, application of information technology, identification of niches and training of employees. Studies show that SMEs in developed countries give maximum focus for product and process innovation, IT tools and R&D. Indian SMEs can overcome on these constraints by making alliance and being part of larger supply chains.

Performance of Indian organizations specifically in terms of manufacturing cost, level of inventory, employee turnover rate and throughput (Rs/hour) is found significantly below international standards. Although findings imply that Indian SMEs have also started giving focus on employees' welfare, inventory reduction and strategies for cost and quality on priority basis but the results are yet to come. This is a positive sign in attitude of Indian organizations. Therefore Indian organizations should continue to give more focus on areas such as effective utilization of resources, human capital and application of advanced management systems and upgradation of technology while developing their strategies proactively.

It is also observed that government support and growth conducive environment are main barriers faced by Indian industries. Therefore effective partnership between government and industry is also recommended. Presently in India, parternerships between government and industry is lacking whereas this is happening to a significant extent in Taiwan, Korea and China. The sooner such measures emerge in India, the greater the industry would stand to gain. Thus government support and proactive corporate strategy of the firms are essential for competitiveness. Although many initiatives such as setting of National Manufacturing Competitiveness Council and steps towards corporate governance have been taken by the Indian government but there is a need for regular review of progress and other initiatives in this direction.

In generalizing the above observations, it is important to note that majority of responding organizations belong to north and central part of India from manufacturing sectors such as auto component, plastic and electronics. All manufacturing sectors and regions have not been represented uniformly. So further efforts are required in this direction. It is being felt that this study can be extended for other sectors and clusters as well as to develop a index for quantifying the competitiveness. As most of the SMEs are becoming part of larger supply chains therefore relationship between competitiveness of SMEs and large organizations can be also explored.

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Appendix

Questionnaire Used for the Study

Q 1. Please mention the level of following pressures you feel from your customers/ market (VL-Very low, L-Low, M-Medium, H-High, VH-Very high). Reliability Cronbach α = 0.7382.

SN	Pressures from Customer/Market	V	L	L	M	VH
1.	To reduce cost					
2.	To improve quality					
3.	To increase range of products					
4.	To reduce delivery time					
5.	Frequent change in supply schedules					
6.	To deliver in small lots					

Q 2. What is the impact of the following constraints for your organization to become competitive in the market (VL-Very low, L-Low, M-Medium, H-High, VH-Very high). Reliability Cronbach α = 0.8657.

SN	Constraints to Become Competitive	V	L	L	M	VH
1	Inadequate governmental support/incentives					
2.	Shortage of technical man power					
3.	Raising funds from market					
4.	Poor financial position					
5.	Lack of quality consciousness					
6.	Underutilization of capacity					
7.	Lack of growth conducive environment					
8.	Poor infrastructure for training					
9.	Poor brand image					
10.	Unreliable vendors					
11.	Lack of support from customers					

Q 3. Please mention the level of priority for investments during past three years and planned levels of new investments in next three years (VL-Very low, L-Low, M-Medium, H-High, VH- Very high). Reliability Cronbach α = 0.8974.

SN	Investments	During Past Three Years					In Next Three Years				
		VL	L	M	H	VH	VL	L	M	H	VH
1.	Research and development										
2.	Automation of processes										
3.	Information technology										
4.	Training of employees										
5.	Welfare of employees										
6.	Market research										
7.	Advertisement										

(Contd...)

Appendix

(Contd...)

Questionnaire Used for the Study

Q 4. Please mention the level of importance given to following strategies to reduce cost and to improve quality (VL-Very low, L-Low, M-Medium, H-High, VH-Very high). Reliability Cronbach's α = 0.8931.

SN	Investments	To Reduce Cost					To Improve Quality				
		VL	L	M	H	VH	VL	L	M	H	VH
1.	Research and development										
2.	Reduction of inventory										
3.	Reduction of rejection/rework										
4.	Automation of operation										
5.	Vendor development										
6.	Improvement of process capability										
7.	Improvement of maintenance										
8.	Improvements in product design										
9.	Research and development										
10.	Training of employees										

Q 5. Please mention the level of focus for developing following competencies during past three years and focus to be given in coming next three years (VL-Very low, L-Low, M-Medium, H-High, VH- Very high). Reliability Cronbach's α = 0.8805.

SN	Competencies	In Past Three Years					In Next Three Years				
		VL	L	M	H	VH	VL	L	M	H	VH
1.	Research and development										
2.	To identify niches										
3.	To develop new products										
4.	To optimize work environment										
5.	To use customer to define quality standards										
6.	To introduce new technology										
7.	To use information to optimize decisions										
8.	To identify market changes										

(Contd...)

Appendix

(Contd...)

Questionnaire Used for the Study

Q 6. Please mention the level of performance on following measures for your organization in comparison to national and international standards (VL-Very inferior, L-Low, E-Equal, H- High, VH-Very high). Reliability Cronbach $\alpha = 0.8703$.

S N	Measures	In Comparison to the National Industry Average					In Comparison to the International Industry Average				
		VL	L	M	H	VH	VL	L	M	H	VH
1.	Manufacturing cost										
2.	Level of inventory										
3.	Delivery speed										
4.	Flexibility in production										
5.	Percentage rejection										
6.	Labor productivity										
7.	Capacity utilization										
8.	Employee turnover rate										
9.	Throughput (Rs./hr)										
10.	Employee satisfaction										
11.	Customer satisfaction										
12.	Suppliers satisfaction										

Diversification and Firm Performance: The Moderating Influence of Ownership Structure and Business Group-Affiliation

*Rejie George P**

Investigations into the relationship between corporate diversification and firm performance represent one of the most actively investigated areas in the fields of strategy and finance. However, despite the enormous interest in the field, the debate on whether corporate diversification creates or destroys value remains inconclusive with several studies offering differing results on the phenomena among different institutional contexts. Moreover, much of the earlier empirical research has exclusively focused on merely examining the influence of various diversification measures on firm performance. This study examines the diversification-performance relationship by extending these prior studies by explicitly analyzing the impact of ownership structure and business group-affiliation in influencing this relationship. These differences in ownership structure and business group-affiliation have generally been ignored by much of the prior research in this area. Utilizing the theoretical underpinnings of agency and resource-based perspectives, hypotheses are formulated which postulate a differential influence of the impact of corporate diversification on firm performance depending on the firms ownership structure and group-affiliation. In a nutshell, the paper attempts to bring together two broad literature streams: one examining corporate governance characteristics such as ownership structure and business group affiliation; and second examining diversification-performance issues with the overall objective of attaining a more composite understanding of a strategic decision of vital import, namely corporate diversification.

INTRODUCTION

Research on the relationship between corporate diversification and firm performance has a long history, which goes back by some four decades. Beginning with the pioneering work of Rumelt (1974), numerous researchers have attempted to examine the issue. Yet, despite this close scrutiny, the debate on whether corporate diversification creates or destroys value remains inconclusive with numerous studies offering differing results on the phenomena among different institutional contexts.

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Surveys by Palich *et al.* (2000) and Martin and Sayrak (2003), examining the phenomenon from the strategy and finance perspectives, attest to the wide ranging and continuing interest in the subject.

While much of the earlier empirical research has exclusively focused on merely examining the influence of various diversification measures on firm performance, this study attempts a departure from the standard norm. Taking cue from suggestions advocated way back by Chandler (1962) and more recently by Dess *et al.* (1995), the study examines the diversification-performance relationship by explicitly analyzing the impact of ownership structure and business group-affiliation in influencing this relationship. These differences in organizational form (as represented by group-affiliation) and ownership structure have generally been ignored by much of the prior research in this area.

This paper attempts to address this lacuna and to make a contribution to the literature in the field in view of the relative paucity of studies that have examined this issue especially in an emerging economy context such as India. Specifically, this paper throws light on how and why the firms' ownership structure and business group-affiliation (which is a widely prevalent organizational form and in many developed and emerging markets) influences the diversification-performance relationship. Since this study is based in an emerging economy setting concerning a sample of firms from India, organizational characteristics such as business groups and the effects of family shareholdings on the firm's strategic choices and their consequent effects on performance hold particular relevance.

The remainder of the paper examines the theory underpinning the reasons why firm diversify, their performance implications and specific hypotheses concerning the impact of firm diversification on performance and the moderating impact of group-affiliation and ownership are developed. Then it presents the methodology and introduces the various diversification measures utilized in the study and describes the regression specifications that are employed; describes the data sources and the sampling process; discusses the results and draws inferences with prior work in the area; and finally, offers some concluding remarks.

THEORY AND HYPOTHESES

WHY DIVERSIFY? FIRM DIVERSIFICATION BENEFITS

Internal Capital Market Efficiencies

The sources of funds for a single business firm are usually more costly than internally generated funds when efficiently managed (Froot *et al.*, 1994; and Lang *et al.*, 1995). In contrast, a diversified firm has much greater flexibility in capital formation since it can access internally generated resources well as external funds (Lang and Stulz, 1994). Efficient internal capital market models typically suggest that diversification creates value. By forming an internal capital market where the internally generated cash flows can be pooled, diversified firms can allocate resources to their best use (Weston, 1970; Williamson, 1975; Stein, 1997; and Matsusaka and Nanda, 2002).

One of the principal premises behind the efficiency of internal capital markets is that internal capital markets are more efficient than external markets because the corporate headquarters is likely to be better informed than external suppliers of capital about investment opportunities (Servaes, 1996). Furthermore, headquarters will monitor more because the external capital market is comprised of many small investors, who have very weak incentives to become informed. Moreover, control rights play an important role in making headquarters an effective intermediary. As Gertner *et al.* (1994) and Stein (1997) suggest, headquarters control rights have two distinct consequences. Firstly, they enable headquarters to capture a portion of the private benefits generated by any project it oversees. To the extent that private benefits are correlated with overall project profitability, this gives headquarters some incentive to favor better projects. Secondly, headquarters control rights allow it to take resources away from some projects in order to give them to other, more deserving ones. Stein terms this activity as 'winner-picking'.

Efficient internal capital models work on the premise that headquarters can allocate investment cheaply and efficiently (vis à vis external sources) to more deserving and capital starved divisions with better opportunities by directing capital away from slow growing, cash generating operations to businesses in the portfolio that are expanding rapidly and have great commercial potential, but need investment (Stein, 1997; Scherer, 1980; Shleifer and Vishny, 1990). This results in both existing divisions as well as new ventures which lack a track record and for which limited information is available to external sources benefiting as a consequence.

Market Power Advantages

Scherer (1980) and Caves (1981) opine that diversified firms can employ a number of mechanisms to create and exploit market power advantages. These are tools that are largely unavailable to their more focused counterparts. These include predatory pricing which usually entails sustained price-cutting with the design of driving out existing rivals from future entry. The short-term losses incurred in the process are offset with gains from future higher prices (Saloner, 1987). Sustained losses can be funded through cross-subsidization whereby the firm taps excess revenues from one product line to support another (Scherer, 1980; and Berger and Ofek, 1995).

Entry deterrence can also be achieved by constructing a reputation for predatory behavior or by signaling that such a response is likely in the event of a new entry (Saloner, 1987). Market power can also derive from the practice of reciprocal buying and selling. The focal company gives preference in purchasing decisions or contracting requirements to suppliers that are or are willing to become good customers (Scherer, 1980; Sobel, 1984). Greater diversification (i.e., involvement in more factor and product markets) yields increased opportunity for such reciprocity. For example, a company diversifying by acquisition may arrange for its current suppliers to purchase goods from the businesses the company is acquiring (goods previously not offered by the company).

Benefits Accruing Through Resource Sharing

Further benefits of diversification include the ability to exploit excess firm specific assets and share resources, such as brand names, managerial skills, consumer loyalty and technological innovations (Teece, 1982; Montgomery and Wernerfelt, 1988; and Markides, 1992). The resource-based view is a commonly employed theoretical lens to explain advantages accruing on account of resource sharing associated with diversified firms. For instance, studies by Kogut and Zander (1992); Prahalad and Hamel (1990) and Teece *et al.* (1997) show that technology and brand loyalty are important sources of competitive advantage which can be shared by business units to attain and sustain competitive advantages vis à vis single segment firms. In a similar vein, studies by Chatterjee and Wernerfelt (1991); Montgomery and Hariharan (1991) and Sharma and Kesner (1996) demonstrate that intangible resources as reflected in R&D and advertising intensities are important determinants of the direction of diversified entry and post entry firm performance. Thus diversified firms, which possess more intangible resources, could exhibit higher performance. In addition, according to Porter (1987), apart from financial and intangible resources, resource sharing at the corporate level among business units can create value by transferring skills and sharing rent-seeking activities among individual business units. Building on this, Brush (1996) finds evidence of operating synergies among business units.

Other Benefits

These stem from tax benefits and other financial advantages associated with diversification (Lewellen, 1971; Madj and Meyers, 1987; Froot *et al.*, 1993; Berger and Ofek, 1995; and Servaes, 1996). Madj and Meyers (1987) for instance, note that undiversified firms are at a significant tax disadvantage because tax is paid to the government when income is positive, but the government does not pay the firm when income is negative. This disadvantage is reduced, but not eliminated, by the tax code's 'carry back' and 'carry forward' provisions. Their analysis predicts that as long as one or more segments of conglomerate experience losses in some years, a conglomerate pays less in taxes than its segments would pay separately. Other studies have focused on the increased debt capacity due to reduced bankruptcy probabilities (Lewellen, 1971). The portfolio benefits of firm diversification (incurred by reducing the firm's overall risk by combining businesses with less than perfectly correlated financial flows) have been explored by Lewellen (1971); Lang and Stulz (1994); Berger and Ofek (1995) and Barney (1997). Additional benefits are associated with growth and synergies from combining complementary skills.

FIRM DIVERSIFICATION COSTS

Internal Capital Market Inefficiencies

The efficient capital market hypothesis is challenged by Jensen (1986); Stulz (1990); Meyer *et al.* (1992); Rajan *et al.* (2000); Scharfstein and Stein (2000); Matsusaka and Nanda (2002); Wulf (2002) and Fulghieri and Hoderik (2004) among others. Jensen (1986) asserts that managers of firms with unused borrowing power and large free cash flows are more likely to undertake value-decreasing investments. To the extent that lines of business have access to more free cash flow as a part of a diversified firm than on their own, Jensen's argument predicts that diversified firms would invest more in negative net present value projects than their segments would if operated independently.

Meyer *et al.* (1992); Scharfstein and Stein (2000); Wulf (2002) and Fulghieri and Hoderik (2004) belong to a class of models referred to as influence cost models. Influence cost models focus on information and incentive problems between corporate headquarters and division managers that lead to misallocation of funds among divisions hence lower firm value. For instance, in Meyer *et al.* (1992) managers of divisions that have a bleak future have an incentive to attempt to influence the top management of the firm to channel resources in their direction. These influencing activities lead to the cross-subsidization of failing business segments. Since a failing business cannot have a value below zero if operated on its own, but can have a negative value if it is a part of a conglomerate that provides cross-subsidies, Meyer *et al.* (1992) predict that unprofitable lines of business create greater value losses in conglomerates than they would as stand alone firms.

Wulf (2002) uses influence activities that take the form of signal-jamming, in which players 'jam' or distort signals that others receive (Fudenberg and Tirole, 1986). She builds a model based on managerial efforts to distort information that helps explain how division managers in multi-divisional firms can skew capital budgets in favor of their division. It makes predictions about the sensitivity of division investment to different sources of information, thereby identifying the circumstances under which inefficiencies are more pronounced. Wulf (2002) contends that inefficiencies are smaller in firms when division managers are less capable of distorting private information about investment opportunities, when managers face higher private costs of doing so, and when public information is noisy.

While according to Stein (1997) 'winner-picking' endeavor (when allocation is efficient) results in diversification benefits, there is a flip side associated with this activity which Stein terms as 'loser-sticking' (forcing some projects to accept a lower level of funding than they could obtain as stand alones), which entails diversification costs. Furthermore, Scharfstein and Stein (2000) develop a two-tiered agency model that shows how rent seeking behavior on the part of division managers can raise their bargaining power and extract greater overall compensation from the CEO. One of its principal results being that large socialist type inefficiencies (weaker divisions being subsidized by stronger ones) are especially likely to arise when there is a great deal of divergence in the strength of the divisions and when the CEO has low powered incentives. Agency-cost models have also been used to explain potential investment distortions in diversified firms. Because top management in the diversified firm has greater opportunities to undertake projects, and potentially greater resources to do so if diversification relaxes constraints imposed by imperfect external capital markets, it might over invest resources (Stulz, 1990, Matsusaka and Nanda, 2002). In a related argument, Shleifer and Vishny (1990) argue that CEOs will prefer to invest in industries where they have more personal experience, as this makes them indispensable.

Rajan *et al.* (2000) belong to a class of models characterized as power-seeking models (Shleifer and Vishny, 1990, Skaperdas 1992, Hirshleifer, 1995). Rajan *et al.* (2000), model the distortions that internal power struggles can create in the allocation of resources between divisions of a diversified firm. Their model predicts that if divisions are similar in their level of resources and opportunities, funds will be transferred from divisions with poor opportunities to divisions with good opportunities. However, when diversity in resources and opportunities increases, resources can flow toward the most inefficient division, leading to more inefficient investment and less valuable firms.

Other Costs

Montgomery and Wernerfelt (1988) argue that a firm contemplating diversification will first try to apply its excess assets to the closest market it can enter. If excess capacity remains, the firm will enter markets even further afield but as assets are applied in more distant fields, they lose their competitive advantage, and thus, earn lower profits. This implies that the relationship between diversification and its marginal benefits is a decreasing function. Penrose (1959) emphasizes the long-run constraints associated with recruiting, training and assimilating new managers as a firm grows. Williamson (1967) stressed the information processing costs of diversification. As top management must gather information from the operating layers of a firm and send down directions based on the information gathered, some of this information gets lost or distorted as it passes from one layer of a hierarchy to another. The loss of information and the inefficiencies that are created as a consequence constitute the costs of diversification. In a similar vein, Meyerson (1982), Harris *et al.* (1982), discuss the information asymmetry costs that arise between central management and divisional managers in decentralized firms. These costs are higher in conglomerates than in focused firms to the extent information is more dispersed within the firm, leading to the prediction that diversified firms are less profitable than their lines would be separately. Calvo and Wellisz (1978) emphasize the control and effort losses arising from increasing employee shirking as a firm diversifies, Keren and Levhari (1983) stress the coordination costs and the intrinsic diseconomies of scale in the expansion of the firm's hierarchical structure. Prahalad and Bettis (1986) argue about the inefficiencies created when managers continue to apply their existing 'dominant logic' to newly acquired strategically dissimilar businesses and Hoskisson and Hitt (1988) point to the inefficiencies arising from executives' information processing limits.

The net result of these differing theoretical arguments and associated empirical evidence is that discerning the nature of the diversification-performance relationship has proved to be largely elusive. There is therefore a pressing need to move to richer contextual models to unravel the nature of the diversification-performance relationship in its various dimensions. In an effort towards this direction, the role of ownership structure and business group-affiliation is examined next.

THE ROLE OF OWNERSHIP STRUCTURE ON THE DIVERSIFICATION-PERFORMANCE RELATIONSHIP

Hoskisson *et al.* (2005) contend that owners are likely to have a strong influence on diversification strategy. Different owners, be they inside owners such as family owners or outside owners such as financial institutions are likely to have a differing impact on the diversification strategies associated with these firms. Some empirical evidence on the impact of managerial ownership on the diversification-performance relationship has been documented. Denis *et al.* (1997) contend that as per the agency cost hypothesis, higher managerial ownership is associated with less value reducing actions, and is therefore less likely to adopt polices that reduce shareholder wealth. This could lead to a negative relation between the level of diversification and managerial equity ownership. Alternatively, as argued by Amihud and Lev (1981) managers with more equity ownership could engage in more diversification due to the greater need for personal risk reduction.

In addition to managerial or director ownership, outside block-holdings (in the nature of corporate holdings) could provide monitoring benefits to firms. Hoskisson and Turk (1990) argue that higher levels of monitoring would reduce agency costs and reduce losses due to excessive diversification. This is could be especially important among economies with weaker corporate governance mechanisms (Dharwadkar *et al.*, 2000). Accordingly, the agency cost hypothesis predicts a negative relation between diversification and level of these shareholding of these outside blockholders. Therefore, there are sufficient grounds to consider the possibility that relationship between diversification and firm performance could be moderated by the ownership structure of the firm. Consequently, following hypothesis is proposed.

> ***Hypothesis 1:*** *The influence of firm diversification on performance is moderated by ownership structure. In particular, corporate holdings and direct family and managerial share holdings moderate the relationship.*

THE ROLE OF BUSINESS GROUP-AFFILIATION AND OWNERSHIP STRUCTURE ON THE DIVERSIFICATION-PERFORMANCE RELATIONSHIP

While the relationship between diversification and performance has been extensively investigated in the mainstream strategy, finance and economics literatures, this issue has only been recently examined with some vigor among emerging economies primarily on account of the paucity of reliable data at the firm level among these economies. Emerging economy firms also engage in diversification strategies for some of the same reasons as developed economy firms discussed earlier and are subject to similar benefits and costs associated with the diversification decision.

In addition to these, however, the relative lack of institutional development and the prevalence of business groups among these emerging economies lend an added dimension to the diversification-performance relationship. Business groups are a collection of firms, which are linked together by common ownership, and director interlocks. Granovetter (1995) defines business groups as '… collections of firms bound together in some formal and/or informal ways, characterized by an indeterminate level of binding. This means that we exclude, on the one hand, a set of firms bound merely by short-term strategic alliances, and on the other, a set of firms legally consolidated into a single entity.' Business groups are a widely prevalent organizational form in most emerging markets and in many developed economies. They play a prominent role in the economies of these nations and contribute to a significant proportion of the nations' output (Guillén, 2000).

Apart from their own diversification strategies, firms affiliated to business groups share in some of the benefits and costs associated with group scope by being affiliated to a business group. For instance, the group-affiliated firms can tap into the group's capital and managerial resources and utilize the same for its advantage. These advantages accrue on account of: Firstly, economies of scope and minimization of transaction costs; and Secondly, drawing from the resource based view. Guillén (2001), argues that "…entrepreneurs and firms in newly industrialized countries create business groups if political-economic conditions allow them to acquire (and maintain over time as valuable and inimitable) a Schumpeterian capability of combining foreign and domestic resources-inputs, processes, and market access to repeatedly enter new industries (Schumpeter, 1934). The logic of diversification of business groups in newly industrialized countries entails repeated access to combinations of domestic and foreign resources …"

On the other hand, inefficient resource allocation could lead to the group-affiliated firm having to forgo promising investment opportunities if it is forced by the controlling owners to subsidize financially weaker members in the group. This could lead to certain additional benefits (costs) for group-affiliated firms vis à vis non-group firms akin to the 'socialist type inefficiencies' which exist among the divisions of the conglomerate as argued by Scharfstein and Stein (2000). Consequently, the impact on performance could differ between the two categories of firms. A caveat though exists in equating divisions of a conglomerate and firms affiliated to business groups in that (a) Firms affiliated to business groups are independent legal entities unlike divisions of a typical conglomerate, (b) Firms affiliated to a business group can be listed entities with each listed entity having their own separate shareholders. The business group structure therefore poses additional issues pertaining to the interests of minority shareholders of these group-affiliated firms.

In recent years, Claessens *et al.* (1999, 2003); Khanna and Palepu (2000a, 2000b); Chang and Hong (2000); Mitton (2002) Choi and Cowing (2002); Lins and Servaes (2002); Fauver *et al.* (2003); Ferris *et al.* (2003) have examined the diversification-performance issue among emerging economies. The studies cover a multitude of emerging economies; some are cross-country in character while others focus on a single country.

Using a broader framework, Kim and Hoskisson (1996) find that Japanese *Keiretsu's* engender various benefits from inter-firm cooperation in form of access to complementary resources, distribution outlets, economies of scale and scope and shared costs and risks. This places them at a comparative advantage vis à vis non-Keiretsu firms. Similarly, Chang and Hong (2000) examining Korean '*Chaebols*' find that group-affiliated firms benefit through the use of various internal business transactions among member firms such as debt guarantees, equity investment and internal trade. In addition to these, many '*Chaebols*' possess group level R&D centers that aid in jointly financing and sharing technological innovations (the benefits from these are not necessarily in proportion to their contributions). Furthermore, the transfer of key personnel among '*Chaebol*' members facilitates the sharing of technological resources among existing members and provides the necessary technological impetus for new ventures. Among *Keiretsus*, Kim *et al.* (2004) find that those *Keiretsu* firms with equity and director ties of varying strengths benefit when pursuing product diversification whereas independent firms suffer from the pursuit of diversification. In contrast to the positive effects of group-affiliation documented by these studies, Lins and Servaes (2002) report a negative influence for diversified firms, which are affiliated with groups. They suggest that this could be owing to the fact that controlling owners in the group could use diversified firms affiliated to the group to expropriate minority shareholders.

Control over group-affiliated firms is exercised directly through director holdings and indirectly through inter-corporate holdings (pyramidal or cross-holdings). Indirect holdings are associated with the possibility of a greater level of divergence between control and cash flow rights. Their presence could influence the relationship between firm level diversification and performance differently. Either it gives rise to tendencies to expropriate resources by engaging in firm diversification due to the weaker alignment between the firms' performance and owners' wealth in which case more diversification is value destroying. In support of this conjecture, Lins and Servaes (1999) find evidence consistent with the notion that agency problems are a stronger motive for diversification among companies, which are associated with stronger ties within the *Keiretsu*. Alternatively, the effect of these holdings could be benign in character. For instance, as argued by Aoki (1994) and Berglof and Perotti (1994) the *Keiretsu* system could

[1] Kim *et al.* (2004) categorize *Keiretsu* firms in accordance with a member firm's power dependence. *Keiretsu* firms are divided along two clusters. "Cluster 1 consists of *keiretsu* member firms with presidents council membership and low levels of dependence on *Keiretsu* (in equity and directors)". This is strong power group. "Cluster 2 consists of firms with indications of strong dependence on the keiretsu in terms of ownership structure and directors from other members". This is the weak power group. Elements of differing power characteristics among group-affiliated firms are captured to some extent by the use of controlling ownership in this study.

represent an efficient corporate governance mechanism for monitoring managerial actions. In support of this view, Kim *et al.* (2004) find that *keiretsu* member firms in general obtain more benefits compared to independent firms in pursuing diversification.[1] Therefore:

> ***Hypothesis 2:*** *Among group-affiliated firms, the influence of firm diversification on performance is moderated by ownership structure. In particular, the strength of group control moderates the relationship.*

METHODOLOGY

DIVERSIFICATION MEASURES

A wide range of diversification measures are employed in this study. The use of several alternative measures ensures adequate reliability as far the results are concerned (Sambharya, 2000). For instance, a simple count of the number of segments does not take into account the importance of a segment in terms of sales or assets as a proportion of the total sales or assets of the firm. Both the Herfindahl and Entropy measure correct for the importance of the segments. The Entropy measure enables one to decompose the diversification measure into related and unrelated components (although this is not attempted in this study as only the total entropy measure is considered). All the measures are constructed using the Harmonized System (HS) segments. The HS has a structure similar to the Standard Industrialization Classification (SIC). For details on the HS structure, please refer to Appendix 1.

The diversification measures are described below:

First, a Herfindahl adjusted (akin to the Montgomery index) is used. Herfindahl adjusted is defined as:

$$\sum_i P_i^2 / (\sum_i P_i)^2$$

wherein P_i is the proportion of segment sales over total sales of the firm. The Herfindahl adjusted measure adjusts for cases wherein the total proportion of sales for all the HS segments of the firm is less than 100%. This adjustment is similar to one proposed by Montgomery (1982) to account for firm sales in foreign markets. Second, we also make use of the Jaceqemin-Berry entropy measure. Following Palepu (1985), this measure is defined as:

$$\sum_i P_i \, log(I/P_i)$$

wherein P_i is the proportion of segment sales over total sales of the firm. Third, we use a measure based on the count of non-zero segments in each firm.[2]

BASIC SPECIFICATIONS

In all specifications, which are employed for testing the various hypotheses, ROA is used as the performance measures.[3] ROA is defined as the operating profit before depreciation, taxes, interest and other amortization charges over the book value of total assets. DIVR is the

[2] In addition, the unadjusted herfindahl index and a dummy measure of diversification wherein firms which have activities in more than two HS segments were classified as diversified and those with two or less HS segments were classified as focused was also employed as a robustness check but are not presented in the paper.

[3] Q ratio as defined as the total of the Market Value of Equity and the Book Value of Debt over Total Assets was also utilized but these results are not discussed at length in this paper for reasons of brevity. Instead at appropriate junctures due reference is made to the Q ratio results in footnotes.

diversification measure. As stated earlier, Herfindahl adjusted and Entropy indices, logarithm of the number of non-zero HS segments, are used as diversification measures in the various specifications.

In addition to the diversification measures, a number of other explanatory variables are also employed in the various specifications. Controlling ownership as represented by domestic controlling ownership and director ownership are also used. Domestic corporate ownership proxies for the inter-corporate holding among group-affiliated entities whereas director ownership represents the direct stakes in the various group-affiliated firms by the controlling family. Apart from these principal explanatory variables, a number of control variables are employed. In the specifications depicted below, X represents the vector of control variables, which includes firms' specific variables such as ownership, leverage, log sales, log age as well as industry and group dummy variables. The full variable list is provided in Appendix 2.

The specification shown below tests *Hypothesis 1* which examines the moderating influence of controlling ownership as represented by Domestic Corporate ownership (DOMC) and Director ownership (DIR) on the relationship between diversification and performance. The same specification tests *Hypothesis 2*, which examines the moderating influence of controlling ownership among group-affiliated firms.

$$
\begin{aligned}
& Performance_{if} = \alpha + \beta DIVR_{if} \\
& + \theta Ownership_{if} + \gamma DIVR_{if} * Ownership_{if} \\
& + \delta X_{if} + \varepsilon_{if}
\end{aligned}
$$

A positive value for β (for diversification measures: Herfindahl adjusted) indicates that less diversification (or more focus) positively influences performance and vice-versa.[4] Alternatively, a positive value for β (for diversification measures entropy, logarithm of the number of segments), indicates that more diversification (or less focus) positively influences performance and vice-versa.

The coefficient γ represents the interaction effect of the diversification measure and ownership variables. The sum total of the coefficients γ (representing the direct effect of the diversification measure) and γ (representing the interaction effect of the diversification measure and ownership variables) gives the total effect of influence of diversification on performance when the moderating effect of the ownership variables is considered.

DATA

The data come from 'Capitaline 2000' a commercially available database. Information pertaining to firm sales for 1999-2000 and other relevant variables was available for 821 firms. Firms wherein at least 90% of the total sales output could not be categorized according to the HS classification were eliminated. This left us with a reduced sample of 607 firms. The sample of firms is distributed across a wide range of industries. Details

[4] This reflects the construction of the Herfindahl adjusted index wherein lower values represent more diversification and higher values less diversification. So a value of 1 represents a fully focused firm with activities confined to a single segment and progressively lower values imply more diversification.

Table 1: Sample Industry Distribution

The sample consists of 607 (350 non-group and 257 group) Indian firms (defined as a firm having a foreign shareholding of less than 50%) listed on the Bombay Stock Exchange. Financial, utility, real estate, trading and Government (defined as firms in which the Government has a stake of 50% and more) firms are excluded. Annual data for the fiscal year 1999-2000 are analyzed. Industries are classified on the basis of the US Standard Industrial Classification (SIC) system.

Industry	Number of Firms	Percentage Sample
Manufacturing (SIC 35 and 39)	120	19.77
Chemical and Allied Products (SIC 28)	139	22.90
Textile Mill Products (SIC 22)	73	12.03
Electric and Other Electronic Equipment (SIC 36)	45	7.41
Primary Metal Industries (SIC 33)	57	9.39
Food and Kindred Products (SIC 20)	54	8.90
Transportation Equipment (SIC 37)	27	4.45
Paper (SIC 26)	29	4.78
Stone, Clay and Glass Products (SIC 32)	23	3.79
Metal and Mining, Oil and Gas Extraction and Petroleum and Coal Products (SIC 10, 13, 29)	13	2.29
Rubber and Miscellaneous Plastic Products (SIC 30)	13	2.14
Leather and Leather Products (SIC 31)	7	1.15
Non-metallic Minerals (SIC 14)	3	0.49
Agriculture (01, 02, 07, 08 and 09)	4	0.66
Total	**607**	**100.00**

pertaining to industry distribution are depicted in Table 1. Table 2a presents the descriptive statistics of the performance measures of this reduced sample. The final sample consists of 607 (350 non-group and 257 group) Indian firms (defined as a firm having a foreign shareholding of less than 50%) listed on the Bombay Stock Exchange. Financial, utility, real estate, trading and Government (defined as firms in which the Government has a stake of 50% and more) firms are excluded. Annual data for the fiscal year 1999-2000 are analyzed. All variables are defined in Appendix 2. Panel A depIcts the descriptive statistics concerning the performance measure employed in the study, i.e., ROA. To alleviate problems associated with outlying observations the performance measures have been winsorized at the 1 and 99% levels. The mean (median) ROA is 13.23 (13.29).

An important categorizing variable in this study is group-affiliation. In order to identify group-affiliated firms, the

[5] In order to conduct an independent check on the reliability of the classification undertaken by the database and also to verify the time stability of group-affiliation, the author examined the 1995 rankings of 100 large corporations published by the Financial Express (FE). The classification by the database and the time stability of the groups in the sample were found consistent when these firms were compared against the FE500.

Table 2a: Descriptive Statistics

Performance Measures

The sample consists of 607 (350 non-group and 257 group) Indian firms (defined as a firm having a foreign shareholding of less than 50%) listed on the Bombay Stock Exchange. Financial, utility, real estate, trading and Government (defined as firms in which the Government has a stake of 50% and more) firms are excluded. Annual data for the fiscal year 1999-2000 are analyzed. Return on Assets (ROA is used as the performance measures. Return on Assets (ROA) is defined as the operating profit before depreciation, taxes, interest and other amortization charges over total assets. ROA is winsorized at their 1% and 99% levels. Panel A depicts the performance measures for the whole sample of 607 firms. Panel B shows the values of performance measures segregated into group and non-group. The asterisks *, **, *** denote significance at 10%, 5% and 1% levels respectively.

Panel A

Performance Measure	Mean	Median	Max.	Min.	Std. Dev.
ROA	13.227	13.289	51.000	–35.000	12.621

Panel B

Performance Measure	Group			Non-Group		
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.
ROA	13.114	13.550	11.166***	13.311	13.136	13.606

classification undertaken by the database is utilized. The database identifies group-affiliation on the basis of historical reports on these companies, tracking announcements pertaining to new ventures and filings made by the companies with the registrar of companies and stock exchanges among others. Group-affiliated firms are members of only one business group and group-affiliation typically do not change over time.[5] Also, group formation is exogenous (i.e., firms of a business group do not choose to be in a group), rather it's the controlling family interest which determines which firms belong to a business group. All of this enables an unambiguous classification of firms, which are linked to business groups in India to be undertaken.

Panel B presents the performance variables categorized into group and non-group firms. As anticipated, group-affiliated firms display lower variances compared to independent firms. The differences in variances between group and independent firms are significant. Table 2b depicts the characteristics of the various diversification measures employed in the study. The diversification measures are calculated using Harmonized System (HS) segment level data at the four-digit level. Panel A depicts the mean (median) values of the Herfindahl adjusted, Entropy and number of segments are 0.711(0.743), 0.552(0.479) and 3.751(3) respectively. Panel B depicts the various diversification measures segregated into group-affiliated and independent firms. All the various diversification measures are significantly different for group-affiliated and independent firms. Group-affiliated firms are significantly more diversified than

Table 2b: Descriptive Statistics

Diversification Measures

In the Tables below, descriptive statistics pertaining to various diversification measures: Herfindahl, Herfindahl adjusted, entropy and number of segments are presented. The Herfindahl index is measured by $\sum_i P_i^2$, Herfindahl adjusted by $\sum_i P_i^2 / (\sum_i P_i)^2$, Entropy by $\sum_i P_i log(1/P_i)$ and number of segments by the count of the number non-zero segments in each firm. P_i is the proportion of segment sales over total sales of the firm. Details regarding HS segments are available in Appendix 1. Panel A depicts the various diversification measures for the whole sample of 607 firms. Panel B shows the values of the diversification measures segregated into group and non-group. The equality of means, medians and variances is tested using t-test, Wilcoxon/Mann-Whitney and F-test respectively. The asterisks *, **, *** denote significance at 10%, 5% and 1% levels respectively.

Panel A

Diversification Measure	Mean	Median	Max	Min	Std. Dev.
Herfindahl Adjusted	0.711	0.743	1.000	0.104	0.261
Entropy	0.552	0.479	2.426	0.000	0.518
Number of Segments	3.751	3.000	24.000	1.000	3.237

Panel B

Performance Measure	Group			Non-Group		
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.
Herfindahl Adjusted	0.669***	0.664***	0.269	0.742	0.806	0.251
Entropy	0.657***	0.624***	0.559***	0.475	0.370	0.471
Number of Segments	4.549***	3.000***	3.965	3.166	2.00	2.420

independent firms. The finding that firms affiliated to groups are more diversified is an interesting one since this result is a negation of the 'substitution hypothesis' (i.e., if group membership provides better access to resources and if firms diversify to enjoy economies of scope, create an internal capital market, etc., then one would expect less diversification for group firms, and not more as group-affiliation fulfills that objective). In other words, for a diversified group, why should an individual firm belonging to the group be diversified to an even greater degree than the stand-alone firm? However, similar results have been reported by Lins and Servaes (2002) who examine firms from seven Asian emerging markets (Hong Kong, India, Indonesia, Malaysia, Singapore, South Korea and Thailand) for the year 1995. They find that 58% of their sample firms belong to groups. Furthermore, 31.5% of the firms affiliated to groups were diversified compared to 25.8% of unaffiliated firms. This difference was statistically significant. Claessens *et al.* (1999, 2004) also find that group-affiliated firms are more diversified

6 This based on the definition of focused as upto 2 segments. An alternative definition would be to consider a firm as focused if its operations are confined to 1 segment. As per this definition, 17% of group-affiliated firms and 27% of non-group firms are focused.

Table 2c: Descriptive Statistics

HS Segments, Group Distribution, Ownership and Controls

Panel A depicts the distribution of Harmonized System (HS) segments across group and non-group firms. Details regarding HS segments are available in Appendix 1. Panel B depicts the descriptive statistics pertaining to various ownership variables segregated into group and non-group. Panel C shows descriptive statistics of the principal control variables. These variables are as defined in Appendix 2. The equality of means, medians and variances is tested using t-test, Wilcoxon/Mann-Whitney and F-test respectively. The asterisks *, **, *** denote significance at 10%, 5% and 1% levels respectively.

Panel A: Distribution of HS Segments

Number of Segments	Non-Group Firms		Group Firms		Total	
	Number	% of Total	Number	% of Total	Number	% of Total
1	94	26.86	44	17.12	138	**22.73**
2	84	24.00	53	20.62	137	**22.57**
3	54	15.43	39	15.18	93	**15.32**
4	39	11.14	32	12.45	71	**11.70**
5	31	8.86	21	8.17	52	**8.57**
6	17	4.86	13	5.06	30	**4.94**
7	14	4.00	12	4.67	26	**4.28**
8	7	4.86	9	5.06	16	**4.94**
9	4	1.14	8	3.11	12	**1.98**
10	1	0.29	4	1.56	5	**0.82**
11	0	0.00	4	1.56	4	**0.66**
12	2	0.57	5	1.95	7	**1.15**
13	2	0.57	1	0.39	3	**0.49**
14-15	0	0.00	6	2.33	6	**0.99**
16-24	1	0.29	6	2.33	7	**1.15**
Total	**350**	**100.00**	**257**	**100.00**	**607**	**100.00**

Panel B: Ownership Variables

Variable	Group			Non-Group		
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.
DOMC	38.680***	39.280***	20.683	22.763	18.035	19.998
DIR	7.701***	2.080***	12.658***	23.350	20.235	19.917

Panel C: Principal Control Variables

Variables	Mean	Median	Maximum	Manimum	Std. Dev.
AGE	22.362	16	110	2	16.484
SALES (Mil. of Rs.)	2707.052	696.400	158471.600	3.000	930.050
LEVERAGE	0.549	0.502	2.800	0.000	0.414

Table 3: Pearson Correlation Matrix

The sample consists of 607 Indian firms (defined as a firm having a foreign shareholding of less than 50%) listed on the Bombay Stock Exchange. Financial, utility, real estate, trading and Government (defined as firms in which the Government has a stake of 50% and more) firms are excluded. Annual data for the fiscal year 1999-2000 are analyzed. Herfindahl index is measured by $\sum_i P_i^2$, Herfindahl adjusted by $\sum_i P_i^2 / (\sum_i P_i)^2$, Entropy by $\sum_i P_i log(1/P_i)$ and number of segments by the count of the number of non-zero segments in each firm. P_i is the proportion of segment sales over total sales of the firm. The Diversification dummy is based on the median number of segments. Firms with up to two segments are classified as focused and firms with three and more HS segments are classified as diversified. The diversified firms are coded as one and the focused firms as zero. Details regarding HS segments are available in Appendix 1. All other variables are as defined in Appendix 2.

	Herf. Adj.	Entropy	Log NSEG	DOMC	DIR	Log Age	Log Sales	LEV	ROA
Herf. Adj.	1								
Entropy	–0.89	1							
LOGNSEG	–0.74	0.79	1						
DOMC	–0.05	0.07	0.11	1					
DIR	0.11	–0.12	–0.13	–0.51	1				
LOG AGE	–0.22	0.25	0.33	0.18	–0.15	1			
LOG SALES	–0.27	0.32	0.43	0.27	–0.20	0.44	1		
LEVERAGE	–0.06	–0.07	–0.07	0.01	–0.12	–0.03	–0.68	1	
ROA	–0.01	0.02	0.07	0.04	0.08	0.13	0.35	–0.42	1

Note: All correlations greater than or equal to 0.10 are significant at 5% level.

than non-group firms in 7 out of the 9 countries and this difference was statistically significant for 5 countries (Hong Kong, Japan, South Korea, Singapore and Taiwan.

Table 2c depicts the distribution of HS segments among group and non-group firms and various group, ownership and control variable characteristics. Panel A reveals that 38% of group-affiliated firms are focused whereas 51% of non-group firms are focused firms.[6] Panel B shows the primary ownership variables used in the study. Statistically significant differences are observed between most of the mean (median) values of group-affiliated and independent firm ownership variables. In particular, two ownership variables are of interest, Domestic corporate ownership and Director ownership. Domestic corporate ownership among group-affiliated firms substantially represents inter-corporate group ownership in the nature of cross-holdings or pyramidal ownership (or group control), while among independent firms these represent outside block holdings. Among group-affiliated firms domestic corporate ownership represents indirect holdings through which the controlling members in the group exert control. Domestic corporate ownership is significantly higher among group-affiliated firms than independent firms. Mean (median) values are 38.68 (39.28) among group-affiliated and 22.76 (18.04) among independent firms. In contrast, director ownership is significantly lower among group-affiliated firms than independent firms. Mean (median) values are 7.70 (2.08) among group-affiliated and 23.35 (20.24) among independent firms. Finally, Panel C presents the descriptive statistics of some of principal control variables used in the study. The control variables depict a wide dispersion in age, sales and leverage characteristics among the firms in the sample. Correlations between the control variables at a 5% level of significance are presented in the Pearson Correlation Matrix (see Table 3).

RESULTS AND DISCUSSION

Tables 4, 5 and 6 present the results of testing *Hypothesis 1* and *2*. Specification (1) is employed for this purpose.[7] Table 4 depicts the relationship between firm diversification and performance wherein Herfindahl adjusted is the diversification measure. Models (7) to (9) depict the examination of Specification (1) for the full sample wherein the Herfindahl adjusted measure is used as the diversification measures. The positive coefficient of the Herfindahl adjusted measure in Models (7) to (9) of Table 5 indicates that less diversification (or more focus) positively influences performance and vice-versa. Both the interaction terms with the herfindahl measure: corporate ownership and director ownership are negative and significant in all three models. This indicates that at higher levels of corporate and director ownership, diversifying firms significantly enhance profitability.

Table 5 presents the results of the Entropy diversification measure. Similar to the results of Table 4, the negative coefficient of the Entropy measure indicates that more diversification is negatively associated with performance. The interaction term between the Entropy measure and corporate ownership is positive and significant in all three models. The results once again indicate that at higher levels of corporate ownership, diversifying firms significantly enhance profitability. The results using the third diversification measure: logarithm of the number of segments depicted in Table 6 are also broadly inline with results obtained using Herfindhal adjusted and Entropy measures.

Thus, *Hypothesis 1* is fully supported when the herfindahl adjusted measure and logarithm of number of segments is employed, in that, both corporate holdings and director holdings moderate the relationship between diversification and performance. Marginally weaker support for *Hypothesis 1* exists when Entropy is used as the diversification measure. The interaction term with corporate holdings and director holdings is significant in Model (9) in Table 5, however with regard to director holdings, it is non-significant in Model (8) in Table 5. These results have an interesting parallel with the findings of Fauver *et al.* (2003), who examine the value of corporate

7 To conserve space only the results of the coefficients pertaining to variables directly relevant in testing the various hypotheses are presented. All models control for ownership, age, size, leverage and industry characteristics which are not reported.

Table 4: The Moderating Influence of Ownership Structure in the Relationship between Firm Diversification and Performance: Herfindahl Adjusted Regressions

The table represents OLS regressions of ROA on the Herfindahl adjusted diversification measure, interaction terms and control variables. The sample consists of 607(257 group and 350 non-group) firms (defined as a firm having a foreign shareholding of less than 50%) listed on the Bombay Stock Exchange. Financial, utility, real estate, trading and Government (defined as firms in which the Government has a stake of 50% and more) firms are excluded. Annual data for the fiscal year 1999-2000 are analyzed. Return on Assets (ROA) is defined as the operating profit before depreciation, taxes, interest and other amortization charges over total assets. ROA is winsorized at the 1% and 99% levels. Herfindahl adjusted is measured by $\sum_i Pi^2 / (\sum_i P_i)^2$ wherein P_i is the proportion of segment sales over total sales of the firm. Details regarding HS segments are available in Appendix 1. DOMC refers to the shareholding by domestic non-financial corporations while DIR refers to shareholding by directors and relatives. *Herfindahl adjusted*DOMC* and *Herfindahl adjusted*DIR* represent interaction terms consisting of the Herfindahl adjusted as the diversification measure and DOMC and DIR ownership variables. All variables are as defined in Appendix 2. The asterisks *, **, *** denote significance at 10%, 5% and 1% levels respectively. All regression results are corrected for heteroskedasticity using White heteroskedasticity consistent standard errors and covariance. The intercept, controls for ownership, leverage, age and industry are included in all specifications and models but are not reported to conserve space.

Dependent Variable: ROA

Variable	Group			Non-Group			Full Sample		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Herfindahl Adjusted	7.101	4.278	11.949*	11.753***	11.419***	26.802***	10.214***	8.468***	19.785***
Herfindahl Adjusted*DOMC	–0.113		–0.176	–0.205*		–0.418***	–0.140*		–0.279***
Herfindahl Adjusted*DIR		–0.194	–0.304		–0.205*	–0.434***		–0.162*	–0.337***
DOMC	0.103	0.020	0.220	0.159**	0.003	0.310***	0.115**	0.012	0.215***
DIR	0.004	0.144	0.144	0.054	0.198**	0.368***	0.056*	0.171***	0.299***
Adj. R^2	0.348	0.348	0.353	0.377	0.376	0.393	0.340	0.339	0.336
F-statistic	6.065***	5.966***	5.980***	8.543***	8.522***	8.797***	11.049***	11.028	11.250***
No. of Observations	257	257	257	350	350	350	607	607	607

Σ

Table 5: The Moderating Influence of Ownership Structure in the Relationship between Firm Diversification and Performance: Entropy Regressions

The table represents OLS regressions of ROA on the Entropy diversification measure, interaction terms and control variables. The sample consists of 607(257 group and 350 non-group) firms (defined as a firm having a foreign shareholding of less than 50%) listed on the Bombay Stock Exchange. Financial, utility, real estate, trading and Government (defined as firms in which the Government has a stake of 50% and more) firms are excluded. Annual data for the fiscal year 1999-2000 are analyzed. Return on Assets (ROA) is defined as the operating profit before depreciation, taxes, interest and other amortization charges over total assets. ROA is winsorized at the 1% and 99% levels. Entropy is measured by $\sum_i P_i log(1/P_i)$ wherein P_i is the proportion of segment sales over total sales of the firm. Details regarding HS segments are available in Appendix 1. DOMC refers to the shareholding by domestic non-financial corporations while DIR refers to shareholding by directors and relatives. Entropy*DOMC and Entropy*DIR represent interaction terms consisting of Entropy as the diversification measure and DOMC and DIR ownership variables. All variables are as defined in Appendix 2. The asterisks *, **, *** denote significance at 10%, 5% and 1% levels respectively. All regression results are corrected for heteroskedasticity using White heteroskedasticity consistent standard errors and covariance. The intercept, controls for ownership, leverage, age and industry are included in all specifications and models but are not reported to conserve space.

Dependent Variable: ROA

Variable	Group			Non-Group			Full Sample		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Entropy	–8.483	3.590	–14.682**	–17.771***	–14.562***	–32.133***	–14.121***	–9.061***	–23.752***
Entropy*DOMC	0.175		0.255*	0.282**		0.476***	0.221***		0.359***
Entropy*DIR		0.199	0.357		0.195	0.447***		0.137	0.359***
DOMC	–0.024	0.022	–0.042	–0.048	0.011	–0.091	–0.034	0.014	–0.067*
DIR	0.008	0.038	–0.078	0.057*	0.012	–0.039	0.058**	0.026	–0.021
Adj R^2	0.348	0.345	0.353	0.381	0.381	0.398	0.342	0.337	0.350
F-statistic	6.064***	5.993***	5.987***	8.851***	8.687***	8.943***	11.179***	10.941***	11.199***
No. of Observations	257	257	257	350	350	350	607	607	607

Table 6: The Moderating Influence of Ownership Structure in the Relationship between Firm Diversification and Performance: Number of Segments Regressions

The table represents OLS regressions of ROA on the logarithm of the number of segments as the diversification measure, interaction terms and control variables. The sample consists of 607(257 group and 350 non-group) firms (defined as a firm having a foreign shareholding of less than 50%) listed on the Bombay Stock Exchange. Financial, utility, real estate, trading and Government (defined as firms in which the Government has a stake of 50% and more) firms are excluded. Annual data for the fiscal year 1999-2000 are analyzed. Return on Assets (ROA) is defined as the operating profit before depreciation, taxes, interest and other amortization charges over total assets. ROA is winsorized at the 1% and 99% levels. The number of segments is measured by the count of the number of non-zero segments in each firm. Details regarding HS segments are available in Appendix 1. DOMC refers to the shareholding by domestic non-financial corporations while DIR refers to shareholding by directors and relatives. LOGNSEG*DOMC and LOGNSEG*DIR represent interaction terms consisting of logarithm of the number of segments as the diversification measure and DOMC and DIR ownership variables. All variables are as defined in Appendix 2. The asterisks *, **, *** denote significance at 10%, 5% and 1% levels respectively. All regression results are corrected for heteroskedasticity using White heteroskedasticity consistent standard errors and covariance. The intercept, controls for ownership, leverage, age and industry are included in all specifications and models but are not reported to conserve space.

Dependent Variable: ROA

Variable	Group			Non-Group			Full Sample		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
LOGNSEG	–2.010	–0.984	–3.697	–4.984***	–4.624***	–9.997***	–3.517***	–2.850***	–6.852***
LOGNSEG*DOMC	0.039		0.060	0.081*		0.149***	0.049*		0.097***
LOGNSEG*DIR		0.057	0.095		0.073	0.151***		0.057*	0.118***
DOMC	–0.023	0.020	–0.047	–0.065	0.014	–0.127*	–0.035	0.014	–0.083*
DIR	0.006	–0.051	–0.095	0.055*	–0.016	–0.081	0.056*	0.001	–0.058
Adj R^2	0.345	0.344	0.348	0.383	0.381	0.397	0.337	0.336	0.346
F-statistic	5.991***	5.973***	5.872***	8.740***	8.676***	8.930***	10.924***	10.904***	11.020***
No. of Observations	257	257	257	350	350	350	607	607	607

Table 7: The Effect of Changing Ownership Levels on the Point Estimate of the Interaction Terms

The Table depicts the changes in the coefficient values of LOGNSEG*DOMC and LOGNSEG*DIR of Model (9) of Table 6 with increasing values of ownership levels (holding other variables constant) represented by Domestic Corporate Ownership (DOMC) and Director Ownership (DIR). The ownership levels are increased at intervals of 10% for both DOMC and DIR. TOTAL represents the changes in the point estimate due to increasing levels of ownership. The number of segments is measured by the count of the number of non-zero segments in each firm. Details regarding HS segments are available in Appendix 1. DOMC refers to the shareholding by domestic non-financial corporations while DIR refers to shareholding by directors and relatives. LOGNSEG*DOMC and LOGNSEG*DIR represent interaction terms consisting of logarithm of the number of segments as the diversification measure and DOMC and DIR ownership variables. All variables are as defined in Appendix 2.

	Total Ownership Levels (DOMC and DIR)					
Variable	**0%**	**20%**	**40%**	**60%**	**80%**	**100%**
LOGNSEG	–6.852	–6.852	–6.852	–6.852	–6.852	–6.852
LOGNSEG*DOMC	0.097	0.970	1.940	2.910	3.880	4.850
LOGNSEG*DIR	0.118	1.180	2.360	3.540	4.720	5.900
Total	**–6.852**	**–4.702**	**–2.552**	**–0.402**	**1.748**	**3.898**

diversification in a cross-country sample involving developed and emerging markets. While Fauver *et al.* (2003) do not examine corporate holdings, they find that individual and institutional ownership concentration affects firm valuation differently for focused and diversified firms.

The impact of the effect can be gauged by examining the change in the slope of the relationship between diversification and firm performance, at high and low levels of Domestic Corporate ownership (DOMC) and Director ownership (DIR). This is illustrated using Model (9) of Table 6 wherein logarithm of number of segments is the diversification measure. For instance, at a low level of DOMC (10%) and DIR (10%), the point estimate for the interaction term is – 4.702, whereas for a high level of DOMC (40%) and DIR (40%), the point estimate is +1.748. Table 7 depicts the gradual change in the point estimate of the interaction terms for increasing values of DOMC and DIR. This suggests a huge improvement in performance for diversified firms, at high levels of DOMC and DIR, holding other variables constant. Other models can be interpreted similarly.

Models (1) to (3) of Table 4 depict the examination of Specification (1) but only for the sub-sample consisting of group firms. The interaction term between the

[8] Lack of detailed data pertaining to the divergence between control and cash flow rights among group-affiliated firms results in an inability to undertake an examination similar to Lins and Servaes (2002) who find that the performance discount is confined to firms in which the management group ownership concentration is in the 10 to 30 percent range and when there is a substantial difference between the cash flow and control rights held by the management. Their results lend support to the 'crony capitalism' hypothesis under which entrenched insiders use the diversified firm structure to expropriate minority shareholders for their own purposes.

Herfindahl adjusted diversification measure and corporate ownership and director ownership (representing indirect and direct means of group control) is non-significant in all three models. Tables 5 and 6 employ entropy and the logarithm of the number of business segments as diversification measures. Various models of Specification (1) are presented. The results are qualitatively similar. While the direction of the interaction terms (representing domestic corporate and director) ownership suggest a mitigating influence in that it appears to reduce the negative effect of diversification on performance, with the exception of Model (3) in Table 5, the interaction terms are non-significant. Therefore, *Hypothesis 2* which postulated the moderating influence of controlling ownership among group-affiliated firms is generally not supported.[8]

In contrast, the results of Models (4) to (6) of Table 4 depict significantly negative coefficients for the interactions terms comprising of corporate ownership (representing outside block holdings) and director ownership. Moreover, the magnitudes of these interaction terms are larger among non-group firms in most models. Similar results are obtained using alternative diversification measures (Tables 5 and 6). Taken together, the results appear to suggest that the effects of ownership structure on the diversification-performance linkage are confined largely to independent firms. Among these firms, higher levels of ownership are associated with diversification strategies that mitigate the reduction in firm performance.[9]

CONCLUSION

The influence of ownership structure on the diversification-performance relationship depicts interesting trends. Higher levels especially of corporate holdings and to a certain extant director holdings significantly mitigate performance destroying firm diversification strategies. Categorizing these firms into those that are affiliated and independent reveals that the ownership structure effects are largely confined to independent firms. This result is robust to alternative diversification measures. The preliminary evidence presented in this paper thus brings to light the reduction in agency costs associated with diversification through the potential monitoring efforts of blockholders as indicated by Hoskisson and Turk, 1990; Dharwadkar *et al.*, 2000) which assume importance particularly in emerging economies in a weak governance context.

Furthermore, the results point to the importance of taking firm specific organizational characteristics into account when examining the influence of firm diversification on performance. Business group-affiliation appears to not significantly influence the performance of diversification strategies of member firms, whereas among non-group firms, domestic corporate ownership, in particular, mitigates the negative influence of firm diversification on firm performance. Focusing on the differing roles played by these ownership and organizational characteristics enables one to unearth crucial differences in the performance of diversification strategies

9 All models in Tables 4, 5 and 6 were also examined using the Q ratio as the performance measure. However, as the relevant coefficients pertaining to the diversification measures and the various interaction terms were found to be consistently non-significant, these are not reported. The results remain qualitatively similar for all specifications/models using alternative diversification measures such as the unadjusted herfindahl index and the diversification dummy.

pursued by firms and enriches our understanding on a phenomenon of vital import to firm performance.

Tentative practical implications of the findings of this study for independent firms could be that since higher levels of managerial holdings appear to have a positive moderating effect on performance destroying diversification strategies, it appears that shareholder and managerial interests can be aligned better by designing compensation schemes which tie the managers' wealth to the performance of the firm. This would act as a check to guard against grandiose diversification schemes, which might secure private benefits of control for managers but add precious little to enhance performance or worse contribute to poor performance as far as the firm is concerned. Similarly, large 'strategic' corporate holdings can be encouraged, as they appear to have a positive moderating effect on performance destroying diversification strategies among independent firms.

LIMITATIONS AND EXTENSIONS

This study is not without its limitations; to begin with, the analysis has been conducted for a single year. This limitation was imposed by the lack of adequate data pertaining to ownership structure for multiple years. This precluded the possibility of constructing panel data sets for conducting a longitudinal analysis. The dynamics pertaining to the influence of group-affiliation and ownership variables and their impact on the diversification-performance relationship therefore could not be captured. Secondly, the sample of firms analyzed is restricted to listed firms due to the superior quality of available data. This choice however does have implications on the generalizability of results beyond the domain of listed entities. Thirdly, while the Harmonized System (HS) classification has a structure similar to the Standard Industrial Classification (SIC) system, the robustness of the results using comparable four-digit SIC codes is unexplored. Finally, ownership at the first level is used. Current disclosure norms in India render tracing the ultimate owner an extremely arduous if not impossible task. The consequences of the divergence between cash flow and control rights on the diversification strategies remains unexplored. In particular, the consequences of the differences in influence among pyramidal and cross-holding group ownership structures remain unascertained.

The present study lends itself to a number of further extensions. Firstly, while influence of group-affiliation on firm diversification has been broached, the impact of diversification at the group level and its implications on the diversification strategies of group-affiliated firms merits further investigation. Secondly, the nature of the diversification undertaken at the firm and group levels is not examined, i.e., whether the diversification is related or unrelated. It would be particularly interesting to determine if there are differences in the levels of related and unrelated diversification among group-affiliated and independent firms and if this is related to the relative differences in the performance of the diversification strategies engaged by these two categories of firms. It is also possible to examine nature of diversification in terms of whether diversification is pursued by group-affiliated and independent firms

[10] Some cross-sectional evidence pertaining to business group size effects on the relationship between diversification and firm performance is available in George and Kabir (2005).

through start-ups or acquisitions and to explore consequent performance differences. In addition diversification along geographic lines examining the level of internationalization in the diversification strategies pursued by Indian firms is also an interesting avenue for further research.

Finally, with India along with other emerging economies in the midst of an ongoing liberalization exercise it would be fascinating to determine if there have been changes in firm diversification and group size overtime.[10] A longitudinal study could address issues pertaining to differences in the diversification strategies pursued by group-affiliated and independent firms and if and how, which of two categories of firms have adapted better as far as their diversification strategies are concerned on account of the rapidly changing competitive environment.

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Appendix 1

Harmonized System (HS) Classification

The Harmonized system (HS) is a universal coding system adopted for commodity classification. It was developed by the World Customs Organization, Brussels, Belgium. The system is currently adopted by 179 counties and customs or economic unions that represent about 98% of global trade. The classification system is organized into 21 Sections and 97 chapters. Each chapter is akin to a two digit industry group. Chapters are further broken down into headings similar to 4 digit industry segments. In India, the HS classification is referred to as the Indian Trade Classification (ITC) code. Companies are required to file the ITC codes of three principal products with regulatory authorities. Further information about product categories was obtained from the Capitaline database.

An example from Chapter 29 (Organic Chemicals) illustrates the coding system:

Chapter 29	Heading[1]	Description
	2901	Acyclic Hydrocarbons
	2902	Cyclic Hydrocarbons
	2903	Halogenated derivates of Hydrocarbons
	2904	Sulphonated derivates of Hydrocarbons
	2905	Acyclic alcohols and their derivatives
	2906	Cyclic alcohols and their derivates
	2907...	Phenols...

Each heading is further subdivided. Up to the 6 digit level the coding system is universal. Beyond the six digit level individual countries subdivide the items further for customs tariff purposes.

Appendix 2

Variable Definitions

Performance measure definitions:

Return on Assets (ROA) = Operating profit before depreciation, taxes, interest and other amortization charges over total assets

Diversification measure definitions:

Herfindahl Adjusted: $\sum_i P_i^2 / (\sum_i P_i)^2$

Entropy: $\sum_i P_i log(1/P_i)$

Logarithm Number of Segments (LOGNSEG): The logarithm of the count of non-zero HS segments in each firm

Wherein P_i is the proportion of HS segment sales over total sales of the firm

Other independent/control variable definitions:

Group: Dummy measure of group affiliation which takes a value of one for a firm affiliated with a group and zero otherwise

DOMC: Shareholding by domestic non-financial corporations

DIR: Shareholding by directors and their relatives

Age: Years since the incorporation of the firm

Sales: Total sales of the firm

Leverage: Defined as the ratio of total debt to equity capital

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[1] The list continues. Chapter 29 has a total of 42 headings. In total there are approximately 5000 headings (sourced from the World Customs Organization, Brussels, Belgium).

Dynamics of Monetary Policy Transmission in India†

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Wealth adjustment process has been considered as an analytical framework for explaining the 'black box' dynamics of monetary policy transmission. Most renowned monetarist models like Brunner and Meltzer (1988) model used the wealth adjustment process effectively in order to explain the transmission mechanism of monetary policy. Although most of these models are termed as monetarist models, Keynesian interest rate mechanism is well-observed in these models. While considering the large number of empirical studies on the monetary policy transmission, the number of studies, which used the wealth adjustment process as the analytical framework, is less. Moreover, most of the studies on savings and investment in the Indian economy failed to go beyond their behavioral relations and in linking them with the transmission process. This study is an attempt to fill these gaps in the context of the Indian economy. The study initially examines the saving behaviour of alternative institutions in the economy with special reference to the households sector. Households' portfolio allocation process and interest rate reactions are examined through regression models. With the help of wealth adjustment process, it explains the monetary policy transmission in the Indian economy.

INTRODUCTION

Explanations to the dynamics of monetary policy transmission are generally concerned with questions such as, how monetary policy actions work upon the economy or how the economic activities are catalyzed by the policy impulses, etc. Basic macroeconomic frameworks heavily depend upon the dynamics of stock and flow interactions in explaining the macroeconomic fluctuations. Accordingly, the impact of monetary policy upon stock and flow interactions is the basic enquiry in most of the monetary policy transmission models. But the significance of specific relations is varied in alterative frameworks used for the analysis. Wealth adjustment process is one of the established frameworks for analyzing the transmission process of monetary policy[1] in which initial impact of monetary policy is identified upon the financial asset portfolio. The restoration process of stocks (assets) and interactive

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1 Brunner and Meltzer (1988) produced the 'best' monetarists' model of transmission mechanism. This paper tries to incorporate the monetarists' explanations to the transmission process.

flows relations and consecutive changes explain how the policy impulses transferred into macroeconomic outcomes.

Rational economic agents maximize their utility function according to changes in their economic environment. This basic economic rationality is quite visible in the case of wealth accumulation process, where the agents are mainly concerned about the management of returns and risk in their possible wealth portfolio. Policy actions change economic environment and related level of returns and risk associated with wealth portfolios.

A number of studies are available on the monetary policy transmission mechanism in the literature. However, we can see significant differences in the analytical frameworks employed in these studies. Studies like Bernanke and Gertler (1995) brought out the importance of 'cost of capital' arguments in explaining the monetary policy transmission in the economy. However, authors like McCallum (1999) gave much importance to classical view of general equilibrium in the transmission mechanism. It can be observed that, the methodological differences in these studies have a significant impact on the findings of these studies also. Although monetarists like Brunner and Meltzer (1988) contributed well-accepted theoretical model for explaining monetary policy transmission, most of the empirical studies failed to incorporate these advances in the empirical frameworks. Wealth adjustment process is the crux of transmission mechanism of monetary policy in the best monetarist model of transmission process ever produced.

While considering saving and investment decisions, households have greater importance in most of the developing countries. Households contribute the major share of total national savings in several countries as in India. Similarly, households' position in investment decisions in these countries is becoming more crucial in recent years in the light of new economic policy regimes[2]. Due to these reasons, an analysis of monetary policy transmission in countries like India needs special attention towards the households' wealth adjustment process. Accordingly, this paper identifies the households' wealth adjustment process as the core of monetary transmission process in India.

More than behavioral relations behind assets and portfolio allocation, this paper concentrate upon the monetary policy transmission process. So major concern has been given to find out the suitability of existing theoretical frameworks in explaining the transmission process. Although, the general trends in savings and investment by various types of institutions in the economy are presented in the next section, elaborate discussion has been made only about the households' asset allocation process, over the last three decades. The following section describes the transmission chain that explains how monetary impulses can influence the output changes through wealth adjustment process.

[2] On an average, the households in India have contributed more than 70% of the total national savings. With the liberalization process, the share has reached over 95% in some of the recent years.

Table 1: Shares of Various Institutions in National Savings

Period	Average Savings Share by		
	Households Sector	Private Corporate Sector	Public Sector
1970-71 to 1979-80	69.76	9.07	21.17
1980-81 to 1989-90	75.03	9.06	15.91
1990-91 to 99-2000	79.77	15.96	4.27
2000-01 to 2002-03	94.31	15.39	–9.71
1970-71 to 2002-03	76.62	11.73	11.65

Note: Figures are in percentages.

Source: Handbook of Statistics on Indian Economy, *RBI 2003-04.*

Table 2: Shares of Various Institutions in National Investment

Period	Average Savings Share by		
	Households Sector	Private Corporate Sector	Public Sector
1970-71 to 1979-80	41.86	13.48	44.66
1980-81 to 1989-90	35.49	19.08	45.42
1990-91 to 99-2000	36.68	29.16	34.16
2000-01 to 2002-03	51.96	21.75	26.28
1970-71 to 2002-03	39.28	20.68	40.04

Note: Figures are in percentages.

Source: Handbook of Statistics on Indian Economy, *RBI 2003-04.*

GENERAL TREND IN SAVING AND INVESTMENT IN INDIAN ECONOMY

Savings and Investment behavior in the Indian economy has studied in detail by various authors (See Raksit, 1982; Virmani, 1990; Ray and Bose, 1997). These studies showed significant changes in the saving and investment patterns of various types of institutions over the past three decades in Indian economy. These changes are more or less continuous and systematic in nature and quite visible in their respective shares to the total national savings and investments.[3] Households' share in national savings has increased considerably over the period.[4] There is a similar change in the case of private corporates also (See Table 1 and 2). In the new economic policy regime, public sector savings and investment shares deteriorated considerably and 'dissavings' dominate in the later years.

The average growth rate of households' savings was around 17% during the period 1970-71 to 2002-03 (See Table 3). There was not much variation among the average decadal growth rates. If we see the average growth rate of savings by private corporate sector, there was not much difference from households' average growth rate. But the variation of decadal growth rate is comparatively high and for the period 2000-01 to 2002-03, private corporate sector's savings average growth rate was a mere 0.14%. Compared to other two categories of institutions, growth rates of savings by public sector undertakings show a significant variation during the same period. The decadal average growth rate

3 Some of the studies specified the demand and supply constraints apart from structural breaks (see Goyal, 1991; and Ray and Bose, 1997).

4 The data used for the analysis are nominal in terms. In the case of growth rates also the argument for real values is not considered, as the objective is to show the comparative positions of various types of institutions or assets. *Handbook of Statistics on Indian Economy,* RBI 2004-05 is the data source.

Table 3: Average Growth Rates of Savings by Various Types of Institutions

Period	Average Growth Rate of Savings by			
	Households Sector	Private Corporate Sector	Public Sector	Average Growth Rate of Total Savings
1971-72 to 1979-80	15.95	17.06	17.25	15.90
1980-81 to 1989-90	18.16	18.32	6.17	16.08
1990-91 to 99-2000	16.91	23.43	8.77	16.18
2000-01 to 2002-03	11.44	0.14	47.94	8.47
1970-71 to 2002-03	16.52	17.86	14.01	15.35

Note: Figures are in percentages.

Source: Handbook of Statistics on Indian Economy, *RBI 2003-04.*

came down to 6% during 1980-81 to 1989-90 from the earlier decadal average of 17%. Although the average growth rate was around 9%, the variation in the yearly growth rate of savings by public sector was the highest during the 1990s. Inconsistency in the saving behavior of public sector after 1990s is mainly contributed by the liberalization process that took place during the period.

As in the case of savings, average growth rate of investment by private corporate is the highest during 1970-71 to 2002-03 (See Table 4). Private corporates' investment also shows highest variation in the growth rates during the period. The case is different from that of savings, where public sector shows highest variation in the growth rates. There is a significant decline in the total investments after 2,000 and the average growth rates came down drastically in the case of private corporates and public sector investment.

The above discussions show the dominant position, which households

Table 4: Average Growth Rate of Investment by Various Types of Institutions

Period	Average Growth Rate of Savings by			
	Households Sector	Private Corporate Sector	Public Sector	Average Growth Rate of Total Savings
1971-72 to 1979-80	14.58	18.42	17.75	15.45
1980-81 to 1989-90	17.88	28.28	14.93	16.63
1990-91 to 99-2000	17.16	22.62	11.39	15.46
2000-01 to 2002-03	15.37	-1.23	1.49	7.20
1970-71 to 2002-03	16.49	20.97	13.36	15.05

Note: Figures are in percentages.

Source: Handbook of statistics on Indian Economy RBI 2003-04.

hold, in savings and investment decision-making in the Indian economy. Moreover, changes in the saving and investment pattern of various types of institutions over the period make the position of households more crucial. Privatization of the economy, which associated with the liberalization process, handed over more responsibility into the hands of households instead of transferring it into private corporates. Although public sector and private corporates are maintaining their investment shares reasonably well, the households' position is becoming more crucial especially in the recent years, as it's share in total national savings has increased considerably. The huge share, which households' hold in the total national savings, shows that any change in the households' assets portfolio can exert considerable impact upon the saving and investment patterns in the Indian economy.

HOUSEHOLD SAVINGS IN FINANCIAL ASSETS: GENERAL TREND

In a broad classification household savings can be grouped into two, viz., financial and non-financial (physical) savings. The residual between investment in financial assets and financial liabilities is equal to the financial savings. The financial assets held by households comprise of currency, bank deposits, non-banking deposits, shares and debentures, units of UTI, insurance fund, pension and provident fund, claims on government, and net trade debt. The financial liabilities comprise of bank advances, loans and advances from cooperative non-credit societies, loans and advances from government, loans and advances from other financial institutions.

The households' total financial assets grew from Rs. 2,110 cr in 1970-71 to Rs. 417,675 cr in 2003-04. The financial liabilities grew from Rs. 591 cr to Rs. 89,865 cr during the same period. Moreover, the average growth rate of financial liabilities (20.81%) was little more than the growth rate of financial assets (18.0%).

There are some significant variations in the pattern of individual assets accumulation over the period of 1970-71 to 2003-04. With the financial liberalizations especially after 1990s, there have been some abnormalities like 'bubbling' growth in the accumulation of certain financial assets for some years. This phenomenon is especially visible in the case of units of UTI (1990-91), non-banking deposits (1993-96) and shares and debentures (1991-94 and 1999-2000). Similarly, high negative growth can be noticed in the case of net trade debt during 1998-99 and 2001-02. These reactions are very much consistent with the fluctuations that occurred in the financial market during similar years and reflect the higher levels of risk associated with these markets. On the other hand, the components of financial liabilities show a comparatively smoother growth path over the period.

Compositional Variation of Assets and Liabilities in the Households' Financial Asset Portfolio

The compositional variation of financial assets and liabilities offers a better description of the allocation process in the households' asset portfolio. The compositional variations of financial assets reflect the changes in households' preference over alternative financial assets and in the Indian case it varied significantly over the period 1970-71 to 2003-04. Moreover, these variations also reflect the associated risks in the financial markets.

Composition of currency in households' financial assets varied from 0.535 to 21.49% during 1970-71 to 2003-04 with an average share of 11.625. Bank deposits have the highest average share (40.18) among all financial assets and it varied between 26.23% and 59% during the period. The variation in the share of monetary assets was comparatively high and bank deposits showed the highest variation. Similarly, variation in the share of households' claims on the government was also quite high and it varied from -0.09% to 18.27% with an average share of 9.36%. Another major component in the financial asset portfolio is the pension and provident fund and its share varied from 12.97% to 24.16% with an average of 18.27%. We can observe a continuous decline in the average share of monetary assets over the last three decades but the trend was reversed in the recent years. The shares of currency, bank deposits, claims on government and insurance fund show positive growth in the new millennium (See Tables 5 and 6).

Differing from financial assets, the compositional variations in the households' financial liabilities were minimal. Bank advances comprise of the major share of households financial liabilities and its average share was around 80%. While the average shares of households' loans from 'other' institutions was around 11%, the averages of households' liabilities to the government and cooperative bodies were very minimal.

Table 5: Average Growth Rates of Financial Assets of Households During the Period 1970-71 To 2003-04

SN	Financial Assets	Average Growth Rate
1.	Bank Deposits	20.05
2.	Currency	79.55
3.	Claims on Government	–22.30
4.	Insurance Fund	19.11
5.	Non-Banking Deposits	24.91
6.	Net Trade Debt	–92.16
7.	Provident Fund	16.08
8.	Shares and Debentures	–129.68
9.	Units of Unit Trust of India	49.43
10.	Financial Assets Total	18.00

Note: Figures are in percentages.

Source: Handbook of Statistics on Indian Economy, *RBI 2003-04.*

HOUSEHOLDS FINANCIAL ASSETS ACCUMULATION: BEHAVIORAL RELATIONS

Households' demand for various financial assets in India has been studied in detail by various authors (See Pandit, 1991; and Ray and Bose,1997). Some of the studies compared the demand for financial assets by alternative institutions like private corporates and public sector undertaking also. Moreover, some of the studies tried to link the savings behavior with economic growth (See Shetty and Menon, 1980; and Goyal, 1991). Compared to other studies, the present study emphasizes the influence of monetary policy variables upon the households' savings in financial assets (See Tables 7 and 8).

Table 6: Average Growth Rates of Financial Liabilities of Households During the Period 1970-71 to 2003-04

	Financial Liabilities	Average Growth Rate
1.	Bank Advances	22.89
2.	Loans and Advances from Cooperative Non-Credit Societies	33.68
3.	Loans and Advances from Government	24.09
4.	Loans and Advances from Other Financial Institutions	26.11
5.	Financial Liabilities Total	20.81

Note: Figures are in percentages.

Source: Handbook of Statistics on Indian Economy, *RBI 2003-04.*

Table 7: Average Shares of Households' Financial Assets Over the Period 1970-71 to 2000-03

	Financial Assets	1970-79	1980-89	1990-99	2000-03	70-03
1.	Currency	13.94	11.86	10.26	8.64	11.62
2.	Bank Deposits	45.61	40.32	34.71	39.96	40.18
3.	Non-Bank Deposits	2.98	4.63	6.78	1.80	4.45
4.	Life Insurance Fund	9.03	7.54	10.13	14.55	9.56
5.	Provident Fund	19.56	17.46	18.83	15.67	18.27
6.	Claims on Government	4.23	11.14	9.46	17.47	9.36
7.	Shares and Debentures	1.45	3.90	7.04	2.93	3.99
8.	Units of UTI	0.47	2.21	3.78	–0.49	1.84
9.	Trade Debt	2.72	0.94	–0.98	–0.54	0.72

Note: Figures are in percentages.

Source: Handbook of Statistics on Indian Economy, *RBI 2003-04.*

Table 8: Average Shares of Households' Financial Liabilities Over the Period 1970-71 to 2000-03

	Financial Assets	1970-79	1980-89	1990-99	2000-03	70-03
1.	Bank Advances	81.62	86.25	79.02	83.53	82.44
2.	Loans and Advances from Other Institutions	8.18	7.45	15.56	12.85	10.69
3.	Loans and Advances from Government	8.40	4.19	3.56	2.83	5.08
4.	Loans and Advances from and Non-credit Societies	1.81	2.12	1.86	0.79	1.79

Note: Figures are in percentages.

Source: Handbook of Statistics on Indian Economy, *RBI 2003-04.*

Currency

Currency used to be an integral part of any household's financial asset portfolio due to its distinguished characteristics like the highest liquidity and level of acceptance (See Shetty and Menon, 1980; and Goyal, 1991). Although being a financial asset, currency has no direct return. But at some occasions, the property of highest liquidity is an advantage over the opportunity cost, which the currency generally holds. The level of acceptance is greater for currency as compared to any other form of money and it is a necessity to hold money in the form of currency for smaller amounts of exchange. Increasing level of prices necessitates higher amounts of money in the form of currency in order to conduct the exchanges. But holding higher amount of currency leads to bear higher levels of opportunity cost in the form of interest rates.

The optimum quantity of any form of assets in the economy is determined by both supply and demand factors. In Indian case, the supply of currency is highly influenced by the financial position of the central government.[5] On the other hand, we have several demand factors like households' income, expenditure, etc. As the demand for holding currency is primarily meant for exchanges, the major determining factor is the level of prices and expenditure. If we consider the opportunity cost also, increase in the level of prices and interest rates are the major determining factors of demand for currency.[6]

The regression results show that the level of prices and interest rates are the major factors, which determine the amount of currency in the household assets portfolio. The results show that an increase in price level by one point (whole sale price index) will increase the demand for currency by Rs. 189 cr. Similarly, an increase in interest rate (medium term bank deposits rate) will reduce the demand for currency by Rs. 910 cr. Sample period is 1970-71 to 1995-96.

Table 9: Demand for Currency: The Regression Results

$C = 2795.89 + 189.33*WPI - 909.72*DR$

p value (0.0392) (0.0000) (0.0000)

Where C is the currency holdings by households, WPI is the wholesale price index, DR is the medium term deposit rate.

R-squared	0.95	Adjusted R-squared	0.95
Durbin-Watson Statistic	1.91	Probability (F-statistic)	0.0000
Jarque-Bera Normality Test			
Jarque-Bera	1.191562	Probability	0.551132
Breusch-Godfrey Serial Correlation LM Test			
F-statistic	0.002045	Probability	0.997957
Observed R-squared	0.997957	Probability	0.997471
White Heteroskedasticity Test			
F-statistic	2.085565	Probability	0.109748
Observed R-squared	8.910380	Probability	0.112693

5 The increase in currency in circulation is equal to the increase in rupee loans to the central government by RBI. The issue of rupee loans is determined by government's fiscal deficit.

6 The impact of expenditure will be captured by prices.

There is a crucial break in the behavioral function after 1996-97. The break is due to several reasons mainly associated with the financial sector reforms. Due to the complex mix of reasons the sample period is reduced to 1970-96 (For details See Table 9).

Bank Deposits

Bank deposits can be considered as the dearest alternative to currency. It has an added advantage of interest earning with a cost of less liquidity as compared to currency. In the households' total financial assets, bank deposits have the major share. As the bank deposits are generally considered as major saving instrument, the major demand factors for bank deposits can be the level of income, level of expenditure, interest earnings, yield from other saving instruments, etc. At present, various types of bank deposits are available for the households and the demand for each of them varies according to their specific characteristics.[7]

The regression results show that income level (proxied by gross domestic product) is the major factor determining the demand for bank deposits. Interest rate differential (difference between medium term deposit rate and corresponding government security rate) also influences the households demand for bank deposits. But the coefficient is not much significant Income elasticity is greater than one for the demand for bank deposits. It also shows that saving rates increases with higher level of income (For details See Table 10).

Pension and Provident Funds

Pension and provident funds are other major ways of saving by the households. The specific nature of these instruments shows that it is more or less compulsory than discretionary to hold such a form of savings in organized sector. Similarly, employees from unorganized sector are generally excluded from these kinds of

Table 10: Demand for Bank Deposits: The Regression Results

$$LBD = -5.63 + 1.16^{*}LGDP + 0.02^{*}R + [AR(1) = 0.38]$$

p-value (0.0000) (0.0000) (0.1037) (0.0213)

Where LBD is the households savings in bank deposits, LGDP is the gross domestic product at market prices, R is the interest rate differential between medium term deposits and government securities. The prefix 'L' stands for log-transformed series.

R-squared	0.99	Adjusted R-squared	0.99
Durbin-Watson Statistic	2.14	Probability (F-statistic)	0.000000
Jarque-Bera Normality Test			
Jarque-Bera	0.143361	Probability	0.930828
Breusch-Godfrey Serial Correlation LM Test			
F-statistic	0.372337	Probability	0.692606
Observed R-squared	0.885727	Probability	0.642195
White Heteroskedasticity Test			
F-statistic	0.126480	Probability	0.985140
Observed R-squared	0.755243	Probability	0.979800

7 For the analysis, only the aggregate deposits of households are considered.

saving options. Due to these reasons, in aggregate form, the amount of household saving in pension and provident fund mainly depends upon the level of employment in the organized sectors, inflation rate (as a level of risk and determinant of current expenditure) and past level of savings in the fund as it is a regular savings, etc. A government borrowing from these funds also influences the aggregate amount of households' savings in these funds as the earlier one critically determines the rate of return from these funds.

The regression results show that all those factors described above have significant role in the determination of households' savings in provident and pension fund. The income elasticity of demand is quite high and it shows that an increase in income (proxied by gross domestic product) will increase the demand for pension and provident fund by 58%. An increase in the level of employment in organized sectors will increase the savings in these funds by 16%. Government borrowings from these funds also have similar impact (For details See Table 11).

Insurance Fund

Savings in insurance fund is generally considered as a risk aversion mechanism. In recent years, insuring options are available for a wide range of assets apart from life insurances. Availability of diversified options can change the nature of demand for insurance options from mere risk averting instruments to major saving instruments. In aggregate form, the growth of households' demand for insurance may not have much variation, due to long-term commitments and recurring nature of payment. While considering the simple behavioral relations, the regression results show that inflation rate and previous year's savings can explain the changes in households saving in insurance fund, significantly (For details See Table 12).

Table 11: Demand for Pension and Provident Fund: The Regression Results

LPF = –2.90 + 0.577*LGDP + 0.16*LEMP – 0.004*INFL + 0.15*LGPF + 0.31*LPF(–1)

p value (0.0136) (0.0046) (0.0418) (0.1734) (0.0065) (0.0471)

Where PF is the households' savings in pension and provident fund, LGDP is the gross domestic product; INFL is the inflation rate calculated from wholesale price index, LGPF is the government borrowing from provident fund. The prefix 'L' stands for log-transformed series.

R-squared	0.99	Adjusted R-squared	0.99
Durbin-Watson Statistic	1.81	Probability (F-statistic)	0.000000
Jarque-Bera Normality Test			
Jarque-Bera	2.659647	Probability	0.264524
Breusch-Godfrey Serial Correlation LM Test			
F-statistic	0.068381	Probability	0.934086
Observed R-squared	0.181317	Probability	0.913330
White Heteroskedasticity Test			
F-statistic	0.887037	Probability	0.559782
Observed R-squared	9.502793	Probability	0.485141

Table 12: Insurance Fund: The Regression Results

LIF = 0.15 – 0.004*INFL + 1.01*LIF(–1)

p value (0.0149) (0.0380) (0.0000)

Where LIF is the households' savings in insurance fund, INFL is the inflation rate. The prefix 'L' stands for log-transformed series.

R-squared	0.99	Adjusted R-squared	0.99
Durbin-Watson Statistic	2.07	Probability (F-statistic)	0.000000
Jarque-Bera Normality Test			
Jarque-Bera	1.005563	Probability	0.604846
Breusch-Godfrey Serial Correlation LM Test			
F-statistic	0.042419	Probability	0.958530
Observed R-squared	0.099685	Probability	0.951379
White Heteroskedasticity Test			
F-statistic	1.390838	Probability	0.259033
Observed R-squared	6.758761	Probability	0.239209

Claims on Government

Similar to other market borrowers, governments also issues various debt instruments in the market with varying maturities and yield rates. Households' demand for government's debt instruments generally depends on the difference in the rate of return as compared to other financial assets. On the other hand, the supply of government debt instruments is mainly depending upon the government's financial positions. The regression results show that government market borrowings and yield differentials are the major

Table 13: Claims on Government: The Regression Results

LCOG = –3.0 + 1.27*LGMB + 0.06*X – 0.001*D + [AR(1) = –0.40]

p-value (0.0511) (0.0000) (0.0095) (0.4068) (0.0370)

Where LCOG is the households claims on government, LGMB is the government's net market borrowings, D is a dummy to reduce the heteroskedasticity problem and AR(1) for correcting the autocorrelation problem.

R-squared	0.90	Adjusted R-squared	0.88
Durbin-Watson Statistic	1.88	Probability (F-statistic)	0.000000
Jarque-Bera Normality Test			
Jarque-Bera	3.609790	Probability	0.164492
Breusch-Godfrey Serial Correlation LM Test			
F-statistic	0.112138	Probability	0.894387
Observed R-squared	0.287007	Probability	0.866318
White Heteroskedasticity Test			
F-statistic	1.611888	Probability	0.175776
Observed R-squared	12.66558	Probability	0.178331

factors determining the amount of households' claim on the government. (For details See Table 13).

Shares and Debentures

The households in India have not considered shares and debentures as major saving instruments. Less developed financial markets and lower level of financial deepening may be the major reasons for this phenomenon. The major factors determining the households' demand for shares and debentures are their level of income, price level, yield rates, risk and market conditions, etc. Supply of standard instruments in the markets also has greater importance in fulfilling households' demand needs. Generally, capital gains are the major motivation behind the households' entry into these markets than long-term saving plans. Due to this reason, price level of shares is a major factor, which determines the households' savings in shares. Generally yield from other savings instruments have negative influence upon the investments in shares.

The regression results show that the expectations are valid. The average level of prices in the markets and new capital offered to the public are significant factors, which determine the households' savings in shares and debentures (For details See Table 14).

Table 14: Shares and Debentures: The Regression Results

LSD = 1.17 + 0.93*LBSE + 0.18*LX – 0.37*LR

p value (0.0998) (0.0000) (0.0002) (0.3751)

Where LSD is the households' savings in shares and debentures, LBSE is the annual average of Bombay stock exchange index, LX is the new capital issued by companies offered to public and LR is the maximum yield on long-term government securities. The prefix 'L' stands for log-transformed series.

R-squared	0.97	Adjusted R-squared	0.97
Durbin-Watson statistic	1.58	Probability (F-statistic)	0.000000
Jarque-Bera Normality Test			
Jarque-Bera	0.241264	Probability	0.886360
Breusch-Godfrey Serial Correlation LM Test			
F-statistic	0.887111	Probability	0.358084
Observed R-squared	1.070576	Probability	0.300815
White Heteroskedasticity Test			
F-statistic	0.914215	Probability	0.539985
Observed R-squared	8.883884	Probability	0.448061

Savings in Unit Trust of India Securities

The Unit Trust of India (UTI) is well-established financial intermediary in India. Investment through UTI is considered as an alternative to self-investment in shares and debentures or government securities. Risk aversion is a major motivation behind the choice for investment through UTI apart from the yield rate. Similar to the expectations, the regression results show that UTI dividend rate and level of income (GDP) significantly encourages the households' savings in UTI.

But the increase in stock market prices has negative influence upon households' savings in UTI (For details see Table 15).

The above discussions show that household' savings in certain financial assets are also influenced by supply factors.

Table 15: Units of Unit Trust of India: The Regression Results

UTI = –9762.66 + 990.41*DR – 2.9*BSE + 0.02*GDP – 36.6*D

p value (0.0011) (0.0028) (0.0368) (0.0460) (0.0672)

Where UTI is the households' investments in UTI, DR is the UTI dividend rate, BSE is the Bombay stock exchange index, GDP is the gross domestic product at market prices and D is a dummy to reduce heteroskedasticity problem.

R-squared	0.74	Adjusted R-squared	0.68
Durbin-Watson statistic	1.72	Probability (F-statistic)	0.00000
Jarque-Bera Normality Test			
Jarque-Bera	2.891046	Probability	0.235623
Breusch-Godfrey Serial Correlation LM Test			
F-statistic	0.113094	Probability	0.893821
Observed R-squared	0.326814	Probability	0.849245
White Heteroskedasticity Test			
F-statistic	2.002378	Probability	0.127853
Observed R-squared	12.14440	Probability	0.144877

Apart from level of income, price variations and yield rates are the major factors determining the household savings in most of the financial assets. Financial liberalization has significant influence upon households saving in some of the assets. The analysis shows that monetary policy could exert significant influence upon the saving behavior of the households as interest rates and price levels are major factors determining the households demand for most of the financial assets.

MONETARY POLICY TRANSMISSION AND WEALTH ALLOCATION PROCESS

Monetary authority manages the liquidity in the system through controlling the volume of money and credit. In general monetary policy has two forms; i.e., expansionary and contractionary. In practice monetary authorities use various policy frameworks according to their convenience and policy actions varies according to these frameworks. Under money base control, expansionary monetary policy can be identified as an increase in base money or slash in reserve ratios. On the other hand, interest rate control and expansionary policy can be identified by a slash in official rate of interest. But sometime both controls are simultaneously used at various levels with discretion.

The simultaneity of frameworks makes it difficult to understand the exact policy motives by just observing changes in policy variables. For example, for almost all-period, base money growth (nominal) has been positive in the Indian case. But the consequent changes in reserve ratios and interest rates were contractionary in nature. If we assess the nature of policy (as expansionary) based on the increase in base money, the assessment will be contradictory with that one, which we makes based on changes in reserve ratios and interest rates. Here we have to identify the motivations behind each action in order to decide the real nature of the policy. In the Indian case, monetary authority was constrained to formulate contractionary monetary policy based upon monetary base due to fiscal pressures. So, most of the time, increase in base money just shows unintended actions rather than decisive policy actions. Similarly, hikes in the reserve ratios and interest rates were the counter actions in order to nullify the impact of initial increase in the base money. But in these cases, the genuine policy actions can be recognized as the changes in reserve ratios and interest rates. Moreover expansionary or contractionary actions totally depend on the magnitude of these counter actions.

The initiation of real action has crucial impact on the transmission process as it directly modifies asset allocation process. Similarly, the direct impact of policy actions on financial intermediaries and their activities modify the activities of households' financial decision-making. If we start with increase in base money as the initial policy action, we can depict the transmission of monetary impulses as follows. Increase in the base money means increase in the currency (non interest bearing) component in the total money stock. Financial intermediaries will try to dispose the amount of increase by converting it into interest bearing financial assets or physical investments. Demand for financial assets will reduce the interest rates in the financial markets. Alternatively, intermediaries will be able to provide increased amounts of loans and try to do that. Increase in supply of loans from intermediaries need a reduction in their interest rates. Because of cost adjustment, the reduction in interest rates will be extended in the case of their intakes from the public also (deposit rate). The actions of financial intermediaries will lead to suitable counter actions from the public. Firstly, they will try for alternative financial assets or move towards physical assets. We expect that both agents will react to the policy actions (an increase in base money) in such a way that their allocations will maximize their expected returns and/or minimize their associated risk. But the magnitude of these reactions will be related to their interest rate elasticities.

The reactions of financial intermediaries are constrained to a larger extent. They have to follow central bank regulations related to reserve ratios, interest rates and credit deployment, etc. So the preliminary reactions may not take place freely. As mentioned earlier, monetary authority (especially Reserve Bank of India for most of the time) target the second order reactions in order to nullify the effects of increase in base money, which used to be an unintended action but follows under fiscal pressure. For example, base money growth is necessarily generated from the fiscal imbalances in the Indian case. In order to control the second order reactions which leads to price inflation, generally RBI increases the official interest rates and reserve ratios following the increase in the base money. So policy actions used to be the counteractions than the primary one.

From the above discussion, we can frame the policy transmission through wealth adjustment process as follows. We can schematize the actions as: (1) Change in the official interest rates; (2) adjustment in the interest rate structure; (3) financial asset allocation process (secondary adjustment in the interest rate structure and reallocation of assets); (4) changes in the proportion of financial and physical assets; and (5) changes output and employment.

Apart from these changes, changes in reserve ratios constrain the resources available to distribute among all possible assets. For example, cash reserve ratio makes banks to assure captive currency holdings and statutory liquidity ratio necessitates holdings of government securities.

While considering the financial intermediaries, sometimes there may not be needed much vibrant secondary adjustment in asset allocation as in the case of public. Here, the issue is the adjustment in interest rate structure and the control of financial intermediaries upon this adjustment. If the intermediaries have absolute control in the financial markets[8], they can control the structure of interest rate, which financial markets will follow. Then the secondary adjustment interest rate structure will be mostly related with financial markets and reallocation of financial resources will be much vibrant in the case of public.

THE TRANSMISSION PROCESS

We already discussed about the possible consequence of a contractionary monetary policy action on the interest rate structure. A hike in official interest rates generally leads to an increase in the average interest rate and widening the range of interest rate spectrum (See Figure 1). Riskier assets will be associated higher interest rate and it will attract some of the investors in these categories. The widened opportunity in financial assets will reduce the concentration of investment in few assets. In other words, an increase in the spread of interest rate will reduce the compositional variation of financial assets (See Figure 2). The demand for various financial assets with the increase in opportunity will reduce physical investment. A reduction in the physical investment will lead to reduction in output and employment. On the other hand, monetary expansion will have a negative impact on the interest rate spread (as the average interest rate reduces) which will reduce the investment opportunity in financial assets and attract investors in physical assets. The impact can be a concentration of investment in a few risk free financial assets (increase in compositional variance of financial assets) and increase in physical investment.[9]

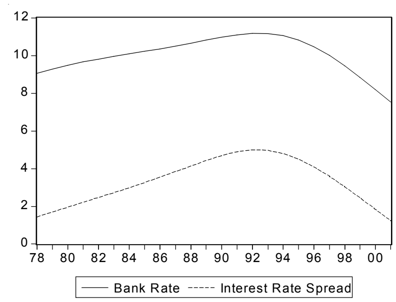
The transmission process described above can be schematically represented as:

- Increase in official interest rate;
- Increase in interest rate spread;
- Decrease in compositional variation;
- Decrease in physical investment; and
- Decrease in output.

In the above described transmission channel, the relationship between interest rate spread and compositional variation of financial assets is very important.

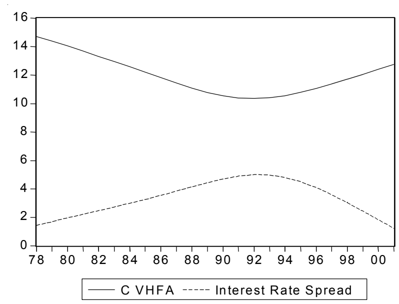
[8] In the cases of countries that have less developed financial markets, financial intermediaries like commercial banks dominate the financial decision-making related to credit deployment and financial investments in the economy.

Figure1: Bank Rate and Interest Rate Spread



Note: Interest rate spread is calculated by taking the standard deviation of various interest rates. Mean interest rate of various categories of investment is used for the purpose. Standard deviation of various average interest rate (belongs to different categories of investment) is calculated for each year and plotted against the time.

Figure 2: Compositional Variation of Households Financial Assets and Interest Rate Spread



Note: Compositional variation is calculated by taking the standard deviation of the proportion of various categories of financial assets in the total financial assets. The standard deviation is calculated for each year and plotted against the time.

As described previously, secondary adjustments add simultaneity in their determination.

Estimation Results

In the above described transmission channel, the determination of interest rate spread and compositional variation of financial assets are very important. The problem of simultaneity needs special attention in this case. First, we will find out the major factors that determine the interest rate spread and compositional variation of financial assets and verify the relationship between them. From the previous discussion, it is clear that major factors that determine the interest rate spread are official interest rate, compositional variation of financial assets, monetary expansion and financial deregulation, etc. On the other hand, apart from interest rate spread and financial deregulation, income, previous periods financial savings and inflation rate, etc., can affect compositional variation of financial assets.

[9] Similarly, financial deregulation process, which allows enough freedom to financial intermediaries in determining interest rates on their activities, has a positive impact on the interest rate spread and it can contribute positively to the output growth.

The regression results show that interest rate changes and financial asset allocation has significant impact on each other. But the estimated coefficients show that the impact of financial assets allocation upon interest rate spread is considerably high compared as to the reverse case. It suggests that secondary adjustment in the interest rates as a result of the reallocation in financial assets will be quite high. Similar to the earlier discussion, increase in official interest rate widens the interest rate spread. On the other hand, increase in liquidity that can be measured through multiplier, significantly narrows the interest rate spread. The case was expected in the case of expansionary monetary policy. Equations are estimated in a simultaneous framework through Full Information Maximum Likelihood (FIML) method and the results are given in Table 16.

Similar to the interest rate spread, increases in income and inflation rate have negative impact upon compositional variation of financial assets. Increase in interest rate spread gives a chance to spread the savings in various financial assets. Spreading of financial assets among various categories reduces the risks and increases the average return over the portfolio. The negative impact of inflation rate on the compositional variation also shows similar risk pooling mechanism. Similarly, increase in the level of income allow the households to select a broader array of assets and due to that reason, the coefficient of income shows a negative impact on the compositional variation of the financial assets. Previous year's financial saving has a positive impact on the compositional variation of financial assets. But similar to that of inflation rate, coefficient is not much significant. From the results, it is clear that the financial liberalization process has comparatively higher influence on the composition of households' financial assets than interest rate spread. Moreover, the regression results are quite similar to expectation made in the earlier discussions.

Table16: Full Information Maximum Likelihood (FIML) Estimates: The Regression Results

LIRS	= 3.47	– 1.58LCVFA	+ 1.60LBR	– 1.97LM	+ 0.31D		(1)
p value	(0.3406)	(0.0513)	(0.0114)	(0.0032)	(0.1460)		
LCVFA	= 7.0	– 0.17LIRS	– 0.64LGDP	+ 0.39LHFS(-1)	–0.06LINFL	+ 0.18D	(2)
p value	(0.0000)	(0.0510)	(0.0437)	(0.1112)	(0.1347)	(0.0703)	

Where LIRS is the interest rate spread, LCVFA is the compositional variation of households' financial assets, LBR is the bank rate, LM is the money multiplier, D is the dummy variable characterizes the financial deregulation process with the break point at 1992, LGDP is the gross domestic product, LHFS (–1) is the previous periods households financial savings, LINFL is the inflation rate and the prefix L – denotes that, the series is log transformed. The assigned instrumental variables are LBR, LGDP, LHFS (–1), LM, LINFL and dummy.

Log Likelihood = 25.37	Determinant Residual Covariance = 0.0003	
Equation (1) R-squared = 0.79	Adjusted R-squared = 0.76	D.W. = 2.07
Equation (2) R-squared = 0.74	Adjusted R-squared = 0.68	D.W. = 2.15

Distribution of Savings Between Financial and Physical Assets

Another major issue related to the wealth allocation process is the distribution of savings between financial and physical assets. The level of influence that monetary policy exerts on this distribution is very crucial in determining the success or failure of any policy action. If we consider the short-run dynamics, we can say that monetary policy works through demand management in the economy. More specifically, any expansionary policy action should be capable enough to raise the aggregate demand in the economy. It necessitates more investment by the households (physical savings) apart from consumption expenditure. On the other hand, contractionary monetary policy will lead to lower physical savings (investment) and a fall in output.

The distribution of total savings into physical and financial investments can be influenced by several factors like rate of interest, level of profits, level of income, level of prices, consumption pattern, expectations and business environment, etc.[10] But the issue of major concern here is the influence of policy changes on this distribution. For simplicity, here we consider only two factors, viz., the policy changes (through interest rate spread) and consumption expenditure as the major factors, which could have considerable influence upon the distribution of households' total savings. From the earlier discussions, we expect that increase in the interest rate spread (associated with the contractionary monetary policy) will exert a negative influence on the share of physical assets. Similarly, we expect consumption expenditure also exert a negative influence, because along with the increase in consumption expenditure, people need liquid assets in their hand.

The regression results show that contractionary monetary policy reduces the share of households' physical assets in their total assets (For details see Table 17). Increase in the interest rate spread that associated with an increase in official interest rate will reduce the composition of household investments significantly. As explained in the earlier section, increase in interest rate spread leads to diversification of financial assets and it will reduce the households' preference for physical assets. An interesting result from the above estimation is that an increase in consumption expenditure reduces the composition of households' physical assets more than to general reduction in their total savings. It shows that along with the increase in consumption expenditure households prefer more financial savings in order to facilitate easy exchanges.

The empirical results show that wealth adjustment process can be effectively used to describe the transmission process of monetary policy in India. We can summarize the discussion about monetary policy transmission process with the help of a schematic representation of developments following an expansionary policy action.

Contraction in the interest rate spread →Expansion in the compositional variation in financial savings→higher

10 But it is not able to assess the influence of all these factors separately due to different reasons (especially measurement problems and multi-co-linearity).

Table 17: Distribution of Savings Between Financial and Physical Assets; The Regression Results

LHPS = 5.13 – 0.1 *LIRS – 0.09*LPFCE

p value (0.0000) (0.0032) (0.0000)

Where LHPS is the share of households' physical savings out of total savings, LIRS is the interest rate spread, LCE is the private final consumption expenditure and the prefix L – denotes that, the series is log transformed.

R-squared	0.67	Adjusted R-squared	0.64
Durbin-Watson statistic	1.97	Probability (F-statistic)	0.00000
Jarque-Bera Normality Test			
Jarque-Bera	0.423040	Probability	0.809353
Breusch-Godfrey Serial Correlation LM Test			
F-statistic	0.291113	Probability	0.749747
Observed R-squared	0.675481	Probability	0.713381
White Heteroskedasticity Test			
F-statistic	0.599693	Probability	0.700516
Observed R-squared	3.308826	Probability	0.652491

investment in physical assets→higher level of output.

SUMMARY

The 'black box' dynamics of monetary policy transmission is a consequence of complex behavioral relations of economic agents. Undermined or unidentified causal relations in the economy add enough complexities to this dynamic process. Any attempt to simplify the complexities needs well-established theoretical frameworks with enough flexibility. Most of the studies related to savings and investment in the Indian economy left out the policy influence on the wealth adjustment process and corresponding linkages to output changes. Due to that reason, explanations to monetary policy transmission process in Indian economy remained more or less with its 'black box' dynamisms. In this paper, an attempt has been made to explain the monetary policy transmission process under the broad framework of wealth adjustment process. Due to peculiar differences that exist in the monetary regimes, distinctions are made for fruitful discussion. Although several differences exist in Indian case, the 'black box' dynamics can be well explained under the broad framework of wealth adjustment process.

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Case Study

Sunshine Foods Cooperative

Debasis Pradhan, Ajay Kumar Malla** and Kanheilal Dandsena****

Sunshine Foods Cooperative (SFC) is a dairy products processing and marketing organization. It is currently facing a situation where it has to make decisions that have wide ramifications. The decisions relate to various aspects, some of which are strategic and a few are operational in nature. The decision-maker seems to be enthusiastic about the future marketing plans of SFC. How to expand the market and become a dominant player in that? There are some alternatives, which have kept the decision-maker preoccupied. How can the growth in the revenue and profit of the organization be achieved? The decision-maker has depended on the market research report by two researchers for taking the decision.

In the second week of August 2004, the Assistant Marketing Manager of Sunshine Foods Cooperative (SFC) (hereafter referred as SFC in the text), Rajiv Jena was scanning through the market research reports submitted by a team of two researchers. Though he was the same man who was responsible for marketing decisions taken in the past, he was deeply contemplating on certain important issues in the light of the recent research report. After reading some of the suggestions made in the reports, he was forced to think more on identifying the core problem faced by the organization. Jena always wanted to utilize the existing resources aligned with its core activities like procurement, processing and marketing. Pertaining to an important marketing decision, regarding the distribution channel and foray into new and existing markets Jena enthusiastically said, "Though the milk union was facing some resource constraints, but it was high time the organization took appropriate actions in order to face the stiff competition and increase its market share in milk in terms of volume. Looking at the revenue earned by other products, he could neither ignore the marketing of other milk products". He was proud of the fact that there were about 10,000 rural families in these districts directly participating in dairying and hence being benefited by this dairy cooperative.

THE ORGANIZATION AND ITS OPERATIONS

SFC was operating in the two districts of Orissa namely Ganjam and Gajapati. Jena

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narrated the process of formation of SFC; "SFC has originated from the merger of two milk unions named Ganjam milk union and Gajapati milk union in 1994. Two milk unions in Ganjam and Gajapati districts started operating in 1976 with a view to augmenting the economic status of the rural poor and for effective utilization of common resources. Since then, it has continued to achieve the objective of making available hygienic and good quality milk and milk products. SFC represented the second tier of the Anand Pattern Dairy Cooperative structure in Orissa (See Exhibit 1).

Exhibit 1: Anand Pattern Cooperative Structure

Anand pattern of Cooperative Structure is a three tier one. At the village level, there are dairy cooperative societies whose primary job is to collect milk and store it safely. At the district level, the second tier structure called the milk unions, carry out the vital responsibility of processing of milk and manufacturing of other dairy products. At the apex level, there are the state dairy federations, which take care of the marketing operation for the products of all the milk unions of the state. Nevertheless, the unions (For example, SFC in the present case) are free to market their products in local market as well as to venture into the markets of other state federation.

Initially, SFC started functioning under the department of Animal Husbandry, Dairy and Veterinary Service of Government of Orissa." He continued, "To study this new phenomenon in this part of Orissa and make prescriptions for making the cooperative more professional, an agreement was made between the Government of India and Government of Switzerland. As a result, an Indo-Swiss Project, Orissa better known as ISPO was commissioned in 1990 in Ganjam with its headquarters at Berhampur (shifted to Bhubaneswar since April 1997). One of its areas of intervention was dairy development. As per the agreement of the project, the two district level unions, as mentioned above, were reorganized in line with the existing milk unions of Cuttack, Puri and Sambalpur (some of the major towns in Orissa). It was worthwhile knowing that the dairy unions had not been started under the Operation Flood program and hence did not qualify to get any assistance from National Dairy Development Board (NDDB). Hence ISPO had a special responsibility of making the unions more efficient and competitive.

On the basis of a study conducted by ISPO on sustainable viability of the dairy unions, Government of Orissa decided to have a single Cooperative Milk Union for the interests of the milk producers of both the districts. Accordingly, SFC was formed with its headquarter based at Berhampur.

The GM of the dairy shared the constraints his predecessors had faced in running of the union. Though milk was collected from the dairy farmers of the area, there was no chilling facility available in the vicinity. Hence, it was agreed upon to send the procured milk to Tekali Chilling Center under Vishakha Dairy of Andhra Pradesh. A working agreement was made between SFC and the Vishakha Cooperative Dairy. Before 1991, the union was collecting raw milk from the dairy cooperative societies and then used to send the chilled milk to

Orissa State Cooperative Milk Producer Federation Limited (OMFED) for processing. OMFED used to process and market the milk till that date. But later it was found uneconomical which forced the union to think about processing of milk to get better margin. Hence after 1991, with the technical and organizational assistance from OMFED and financial support from ISPO, the union started processing of milk and manufacturing of milk products. For this milk collection started from 1993 by forming nine milk collection centres in the two districts Ganjam and Gajapati with the support of ISPO. After successful collection and processing of milk, the worries of the milk producers of the area were taken care of.

FUNCTIONS AND ROLES OF KEY PLAYERS

To recapitulate, SFC was the new name of the organization after the merger of Gajapati and Ganjam district milk unions. The three-tier structure of the dairy cooperatives in Orissa was similar to that of Anand pattern cooperative that existed in Gujarat as discussed earlier. OMFED was the apex level milk federation of the state Orissa that marketed liquid milk and processed products of the individual district unions under the brand name OMFED. OMFED was like GCMMF (AMUL) to the dairy unions of Orissa. Though ISPO was instrumental in the formation of SFC, it did not have much to do in the marketing of products of the organization whereas OMFED was significant. NDDB was a nodal statutory body formed by Government of India to stimulate and support the growth of Dairy sector of India. Till now, NDDB had not supported SFC in anyway.

General Manager was the CEO of SFC with the overall responsibility all departments of the organization such as marketing, procurement, processing, human resources and finance. There was one Marketing Manager who had been entrusted with the responsibility of marketing all dairy products like paneer, buttermilk, curd and sweet curd including monitoring the marketing of liquid milk. Jena was working as an Assistant. Marketing Manager who was exclusively in charge of liquid milk. SFC had given a lot of freedom to Jena for taking decisions on liquid milk.

THE ACTIVITIES OF SFC

The main activities of SFC include procurement, processing/manufacturing and more recent emphasis on marketing. Jena tried to justify the decision of SFC to get into marketing activities, "Till 2001, the main emphasis of SFC was on procurement though the liquid milk marketing under the brand name SFC started in early 1996. The surplus milk from SFC was supplied to OMFED, which marketed it under the brand name OMFED. During 2001, OMFED started rejecting milk supplied by the SFC and an upper ceiling level for supply of milk by the milk unions was fixed. This led to a major marketing crisis for SFC. This situation was aggravated by the strike by retailers of SFC. The retailers had come up with their set of own demands and were not ready to give in (This has been described in detail in the section titled "Distribution of liquid milk by SFC; Tackling retailers' strike"). The dairy had to go for milk holidays. Along with this, competition became intense due to the entry of some other players. GM of SFC said, "In real sense, the retailer's strike provided an opportunity to the competitors to enter the milk market of Ganjam. Prithwiraj dairy entered the market in 2001-02, Vijaya dairy in 2002-03 and Vishakha in 2003. As a result, we started the marketing of the products through different distribution channels. Regarding the liquid milk, we inked an agreement with OMFED and sold our own milk under the brand name "OMFED" instead of the earlier brand "SFC" which we used to market our milk". This had the potential to do a world of good to SFC. OMFED was the most popular brand of Orissa and was the market leader in dairy products though the market share varied from place to place depending upon the marketing capability of the individual unions and dynamics of the market (potential of the market, degree of competition, affordability of customers, etc.). OMFED had its own marketing network and it also aired advertisements to increase awareness about the brand and a strong brand recall. This certainly helped SFC in marketing of OMFED brand. The GM of SFC was having the details of the sales of liquid milk over the years with town-wise break-up of the same (Figures 1 and 2). The GM was quite happy with this agreement and was eager to describe how it had been running successfully since then. This was also the practice in case of the other district milk unions where the products of the unions were marketed under the brand name OMFED. After the agreement, the processing of the milk and other products became very important as OMFED was also interested to see its brand doing well in the market with good quality products and constant supply.

THE PRODUCT PORTFOLIO OF SFC

The processing capacity of union was around 10,000 liters per day (LPD). The union produced two kinds of milk as specified by the state milk federation,

Figure 1: Sales by SFC in Major Towns of Orissa

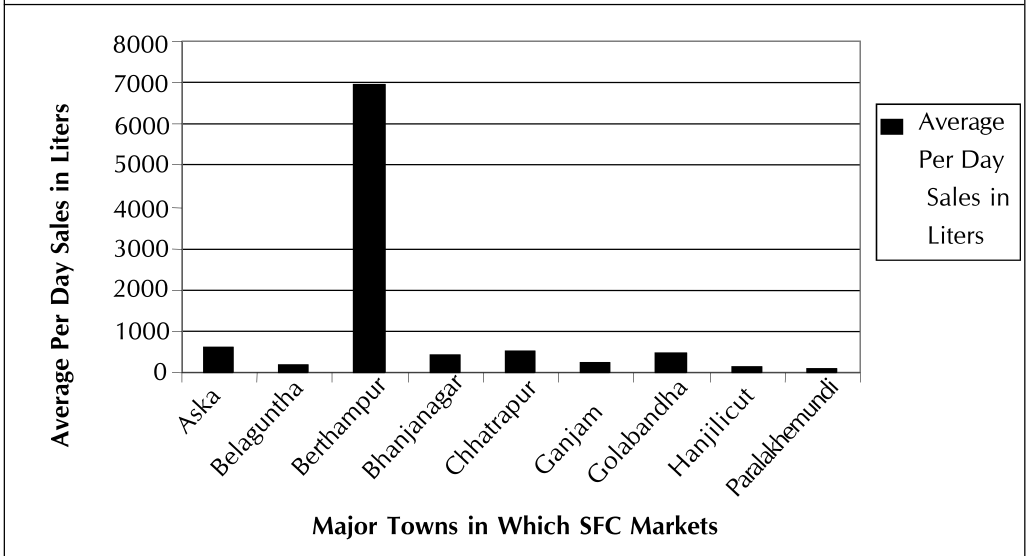
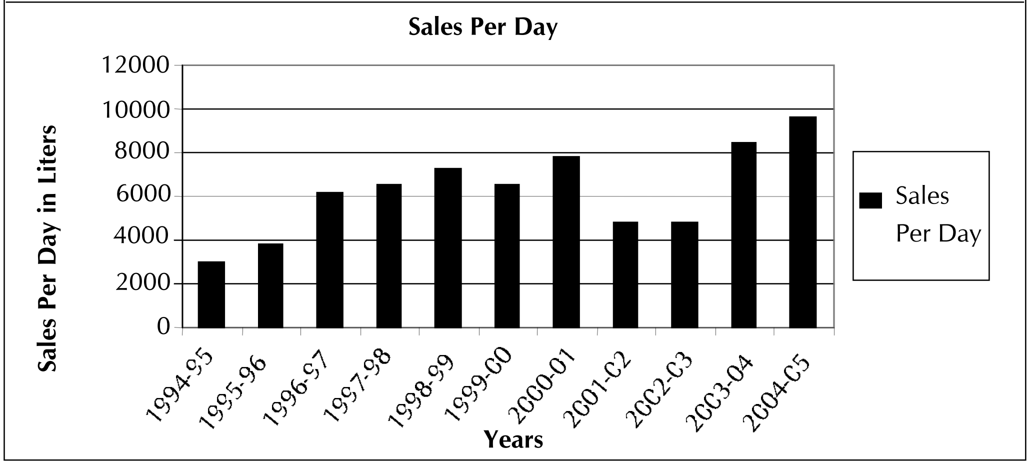


Figure 2: Sales of Milk Per Day by SFC in Ganjam District



OMFED, i.e., toned milk (Fat: 3%, SNF: 8.5%) and whole cow milk (Fat: 4%, SNF: 8.5%). This revenue from the liquid milk marketing was approximately 50 million per annum. The other products manufactured were paneer, buttermilk, plain curd and sweet curd (Figures 3, 4 and 5). The sales from the products other than liquid milk earned revenue of Rs. 34 million per annum for SFC. But due to technical, infrastructural and manpower constraint, the union concentrated more on milk and buttermilk. The processing and stores department took care of the processing of the raw milk into different products. The Marketing department used to give the indent daily, to the processing (production) department for manufacturing the products so that the market demand can be met. The processing department was maintaining a balance between the demand and supply keeping regular touch with the marketing department. Apart from the production centre (for plain curd, sweet curd and paneer), the main manufacturing plant in Berhampur also did processing

Figure 3: Sales of Sweet Curd

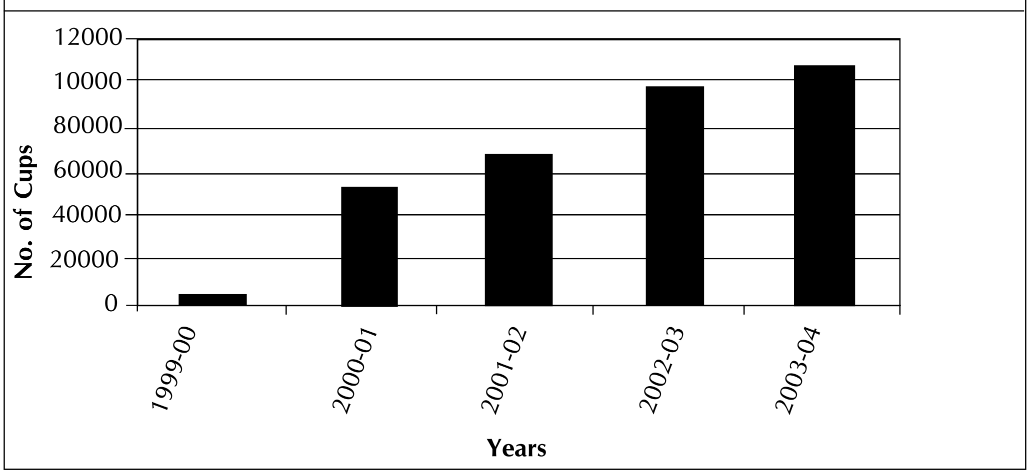


Figure 4: Sales of Butter Milk

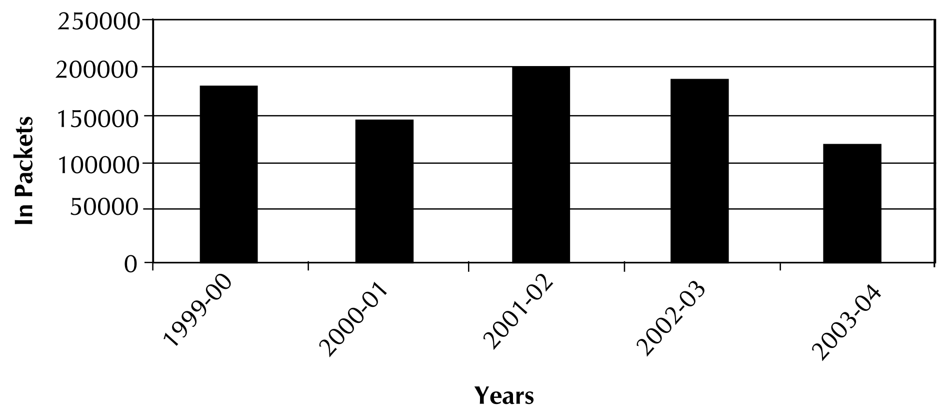
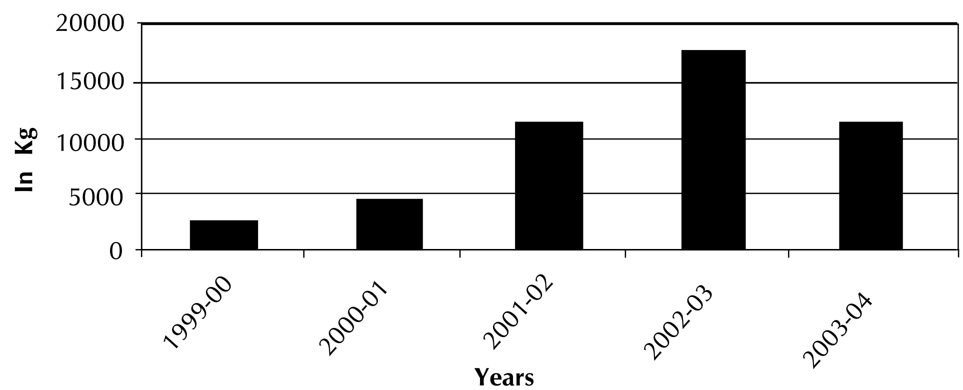


Figure 5: Sales of Paneer



(including Homogenization, Pasteurization, Chilled milk storage and Raw milk chilling) and Packaging (pouch filling of milk). SFC had three chilling plants and one mini-dairy at different places.

SFC also marketed milk and agro-products such as sweet curd, 'chhenapod' (a specially baked sweet popular in Orissa), fruit juices, turmeric and horticultural products (e.g., jam, squash, pickles, sauces, etc.) manufactured by the state federation under the brand name OMFED.

MARKETING RESEARCH REPORT

SFC decided to commission a market research project to two management graduates of a premier B-school with an objective of understanding the current market and devise a new marketing strategy for liquid milk of SFC. The researchers were given the important job of determining the demand for 200 ml pouch in the existing market, identifying the potential segments for marketing milk in 200 ml pouch, and examining any likely impacts of 200 ml pouch on the sales of 500 ml pouch. The study was carried out in the local sales area of SFC covering one municipality, four NACs, and five towns.

Discussions with marketing staffs of SFC, in-depth interviews of retailers, institutional consumers like teashops, hospitals, hostels, interviews and questionnaire survey of household consumers were used to collect primary data. Secondary data was collected from sales office records, records and reports from the Dairy, and other research reports of ISPO.

Findings of the report included important pieces of information about milk market of the locality, which are described in suitable places in the text. On the potential of 200 ml packs, the report found that there was substantial potential for this across the entire low-income category. It was estimated that SFC would get an additional net profit of Rs. 148,500 per month without any investment; rather it could increase its outreach in catering to some specific segments at affordable price. This also made an attractive proposition for the retailers as they got better margin in this 200 ml (Rs. 1.25/liter) pouch as compared to the present 500 ml (Rs. 0.5/liter) pack.

THE MARKET OF SFC

Jena quoted from one of the studies of ISPO, "According to a study done by ISPO for SFC, the projected market demand for milk stands around 78,000 liters per day. (Please Refer Table 1). SFC's market is concentrated in two districts of Orissa, namely Ganjam and Gajapati. We are enthusiastic to explore potential new markets. In initial years, SFC had targeted only the notified area councils or NACs (NAC-It is the name of the body in charge of local administration in small towns as specified by the census of India), some bigger towns like Berhampur, Chhatrapur, Bhanjanagar, Paralakhemundi, Aska and some of the small towns nearby (Please Refer Table 2 and Figure 1). But over the years, it has started marketing milk in almost all towns of Ganjam district. We are planning to expand its marketing activity to more than 200 villages, whose population is more than 2500 as per the census 2001." Jena was emphasizing on this, as he was instrumental in taking the

Table 1: Demand of Milk in Ganjam District

Years	Milk Demand (in Liters Per Day)
2000-2001	68,968
2001-2002	71,069
2002-2003	73,237
2003-2004	75,475
2004-2005	77,786

Source: Study done for SFC by Department of Business Administration, ABC University, 1999.

Table 2: Per Day Sales of Milk by SFC in Major Towns of Orissa

Places	Average Per Day Sales in Liters
Aska	620
Belaguntha	180
Berhampur	6,976
Bhanjanagar	418
Chhatrapur	510
Ganjam	245
Golabandha	482
Hanjilicut	125
Paralakhemundi	118

Table 3: Average Per Day Sales of Milk by SFC

S. No.	Year	Average Per Day Sale of Milk (Kg)
1.	1999-00	6,501
2.	2000-01	7,815
3.	2001-02	4,821
4.	2002-03	4,855
5.	2003-04	8,457
6.	2004-05	9,674

decision of entering into the Srikakulum district of Andhra Pradesh. This was for the first time, when SFC not only went out of its traditional market but also had made efforts to enter the neighboring state. In initial years it had targeted only to notified area councils and later expanded to some smaller towns through retailer network. (Please refer Table 3 and Figure 2). Vijaya and Vishakha had market shares of 10% and 8% respectively. The local milk vendors were supplying the rest amount of milk, i.e., 35,000 liters per day. The size of Berhampur market was attracting all the players to grab a bigger market share.

SFC marketed maximum amount of its milk in Berhampur town itself and the sales in other towns are relatively low (Please Refer Exhibit 2 and Figure 1). The milk market of Berhampur town was estimated around 50,000 liters per day that accounted for 68% of the total market demand of Ganjam district. Out of these 50,000 liters, only 15,000 liters was the packed milk where the share of SFC's OMFED was approximately 46%, which was the market leader (Please Refer Tables 3, 4 and 5).

Table 4: Different Players of the Liquid Milk Market in Ganjam District and Their Respective Market Share Given Inside Brackets)

	Market Sales in Liters Per Day					
Year	OMFED	Vijaya	Vishakha	Navjeevan	Loose Milk	Total
2001-02	4,821 (6.7%)	800 (1.2%)	450 (0.7%)	300 (0.5%)	64,700 (91%)	**71,071**
2002-03	4,855 (6.6%)	1,200 (1.6%)	750 (1%)	560 (0.8%)	65,880 (90%)	**73,245**
2003-04	8,455 (11%)	1,800 (2.4%)	1,000 (1.3%)	705 (0.9%)	63,434 (84%)	**75,484**
2004-05	9,674 (13%)	1,500 (1.9%)	1,200 (1.5%)	511 (0.6%)	64,918 (83%)	**77,804**

Table 5: Market Share of Different Brands (Major) in Berhampur Market in 2005 (Total Size of Packed Milk Market in Berhampur is 15,000 Liter/Day)

S. No.	Brand	% Share
1.	OMFED	46
2.	Vijaya	10
3.	Vishakha	8
4.	Navjeevan	3

DISTRIBUTION OF LIQUID MILK BY SFC; TACKLING RETAILERS' STRIKE

Till 2000, there were few retailers, who used to sell around thirty percent of milk in the Berhampur market and were the main distribution channel for SFC. In July 2000, the retailers of SFC went on a strike and put a series of demands in front of the dairy. These retailers were not ready to sell "OMFED" brand of milk, until and unless the union accepted their demand. Their demands included appointment of new retailer with their consent, increasing the commission structure and opening of a retailer's union office inside the premises of SFC.

However, SFC did not accept their demand. After the failure of the strike, some of the retailers approached some of the private dairies and started selling their milk. This situation proved to be favorable for the entry of different players into the Berhampur milk market. One of these major new entrants was Prithwiraj Dairy, which entered the market in 2000. Vijaya Dairy entered in October 2002 followed by Vishakha Dairy in February 2003.

After the strike of retailers, SFC reformulated its policy relating to selection and appointment of retailers to break the monopoly of agitated retailers. All the formalities required before appointment of a retailer were removed. The retailers were permitted to register with SFC even without depositing the security money. However, the earlier system of compensating the loyal retailers through differential incentive structure was retained. As per Jena, it promoted loyalty and allegiance among the retailers. Earlier, the retailers could organize and gain strength vis-à-vis SFC, as they were few in numbers but big in size. In other words they yielded a lot of power and SFC depended heavily on these retailers as chunk of the sales came from these retailers. SFC could gauge their bargaining power from the fact that in 2001-02, 9 retailers were accounting for about 30% of total milk sales. However, after their strike and the steps of SFC, their bargaining power seemed to have decreased to a large extent as a large number of retail points had come up, which helped SFC to achieve better market penetration. However, the Marketing Manager and the GM of the dairy did not quite agree. This issue was still being discussed for its pros and cons. This policy of stocking OMFED milk without imposing the formalities for becoming an authorized retailer had helped SFC in increasing the number of retail points significantly. Now anyone could stock OMFED milk. But those who deposited the security amount with SFC got extra benefits like extra commission on selling more than hundred packets daily, and so on. SFC supported its retailers by providing refrigeration facility (to those retailers who have deposited their security money) for storing milk. But the criteria for allocating refrigerators were not clearly defined. For marketing of products, SFC appointed distributors for products. The places where there was no distributor, existing retailers/grocers were approached to take the responsibility of distributing milk. They were marketing the products of OMFED brand in the same way as they were selling their own products and hence were given commission. OMFED used to market its OMFED brand of products through the distributors directly but 2002 onwards started marketing its product with the help of SFC.

SFC was supposed to pay 5 paisa per packet of the liquid milk to the OMFED for using the brand name. A market development committee had been formed which comprised of personnel from various departments to plan, implement, monitor and review the marketing activities/ performance every month. Marketing department undertook different activities such as sales, distribution and market development activities.

Deliberately SFC was encouraging the competition among the retailers in the same locality. One of the retailers in a particular zone of Berhampur expressed his unhappiness over the way SFC had pitched the retailers one against the other. Many a retailer made similar kind of statements. The market of each of the retailers was confined to a set of loyal consumers Jena thought it to be a favorable situation for SFC, the GM was apprehensive that SFC was losing control over the retailers. The reasons were the large number of retailers spread over different parts of the local market. There were also complaints from the consumers that the retailers were selling above the Maximum Retail Price (MRP) in case of higher demand for the product. It was difficult to monitor their sales and more difficult to replenish their stocks regularly. In addition to that, SFC was not sure about its strategy for other markets, both in its traditional local market and outside. It was not sure about any possible strategy if a similar kind of revolt appeared in the markets in Andhra Pradesh, where it was starting off well.

Regarding this, Jena looked at the positive aspects of the decision. The number of retailers had increased to more than four times in the last two years. The policy of not denying the retailership to any willing retailer/grocer had prevented the retailers from shifting to other brands. This also helped SFC in breaking the monopoly of some retailers in a particular area who used to bother by demanding more margins and other facilities, which the dairy was not in a position to fulfil. The increase in the number of retailers had also fortified the penetration as well the distribution system of SFC. This had helped in bringing the dairy closer to the consumers.

THE ONSLAUGHT OF COMPETITORS AND THEIR MARKET SHARE

But this liberalized policy of opening up to retailers had created havoc in the market. This triggered the entry of other private players. Subsequently, they started capturing the market share of SFC in the packed milk market. Most of

Table 6: Prices and Margin Structure

S. No	Brand of Milk	Price (Rs./Liter)	Margin/Liter for Retailers (Rs.)
1.	OMFED Milk (Toned) Fat 3%, SNF 8.5%	14	0.50
2.	OMFED Milk (CRCM)[1] Fat 4.5%, SNF 8%	15	0.50
3.	Vishakha Milk (Toned)	15	1
4.	Vijaya Milk	15	1
5.	Navjeevan	15	1

Note: 1 CRCM: Cream rich cow milk.

them were from the neighboring state and because of their aggressive marketing policy SFC faced stiff competition. These players offered attractive promotional incentives to the retailers along with lower price to the final consumers (Please Refer Table 6). At the same time, the consumers in general and the institutional consumers in specific were unaware of the quality of the milk. Therefore, they did not hesitate to purchase the milk at lower price. The competitors, given their bigger size, could afford to supply milk in credit. There services were perceived to be better than that of SFC as they could frequently replace the unsold defective packs of the retailers. These encouraged the retailers to sell their milk.

Vijaya and Vishakha were the main competitors who had just set their eyes on the local market of SFC (Please Refer Tables 4 and 5). Initially both Vijaya and Vishakha were depending upon their milk from Andhra Pradesh only and targeted on Berhampur town alone (Berhampur was the district headquarter and biggest town of Ganjam district). They knew that it would not be cost effective for them to enter into other towns. This attack on the market share of SFC came as a bolt from the blue, just at a time when SFC was gaining foothold in the local market. Notwithstanding the onslaught, SFC was in an advantageous position insofar its location at Berhampur was concerned. SFC was confident that it could easily penetrate into distant rural and urban market of the two districts and could easily target the markets in the Srikakulum and Vijayawada area of Andhra Pradesh too.

The GM of SFC was discussing how the share of SFC could be viewed in two different levels, i.e., the share of the union in the total liquid market and the share in the packed milk market (Please Refer Tables 4 and 5). Over the years, the market share of all the players has increased except that of Navjeevan. During the last four years, SFC's share in the milk market of Ganjam has doubled which showed its dominant position in the packed milk market. The increase in consumption of the packed milk has led to the decrease in the share of the loose milk. This may be due to the increase of the living standard of the people and more awareness of the people towards the packed milk (Please refer Tables 3, 4 and 5). The milk market in Ganjam increased very slowly over the previous years approximately at the rate 3% per annum.

The Jumpstart in Marketing Activities, How to Expand the Market and Grab Bigger Market Share?

Now in the backdrop of this retailer's strike, SFC was losing its market share to its competitors gradually. So the assistant marketing manager did not have any clue as to how to counter the competitors in the existing market and/or to enter into new market. In this respect, he had been

Exhibit 2: The Role of OMFED in Pricing and Quality of Milk

OMFED was the apex organization in deciding the pricing and the quality of the milk, which had left little scope for the unions to decide the above parameters. Again the scale of operation of the unions was much lower than its competitors. Hence any further step in this regard would put the marketing department at stake and it would be accountable to the board.

going through the market research report submitted recently. One of objectives behind commissioning the project was to explore the rural markets of the district initially and then other parts of the state and the adjacent states. Jena was trying to understand the situation well and adopt some of the suggestions made by the researchers in their report. The researchers in their report had mentioned about the low consumption rate of packed milk. Now, as the scene is recast with the advent of biggies from nearby states as well as the local private players, Jena had a dual challenge before him. He had to target at broadening the size of the milk market of Ganjam district as well as grab a bigger market share in it. For expanding the size of the total milk market and becoming a dominant player therein there were some interesting and lucrative suggestions in the report. It had been found that 62% of the consumers used unpacked milk, which they either purchased from the local milk vendors or from their owned cows. The share of packed milk and milk powder was found to be 28% and 10% respectively. 60% of the consumers bought milk from local milkmen and only 27% chose either milk booths or retail points. OMFED milk marketed by SFC was preferred over the loose milk for making tea whereas loose milk was preferred for drinking purpose. That was precisely why there were as many as 100 OMFED tea stalls in Berhampur town alone (The tea stalls using OMFED milk for preparing tea used to popularize their stall as OMFED tea stall).

Jena while giving the details told, "These loose milk consumers are very sensitive towards pricing. Around 57% of the loose milk buyers were paying Rs. 10 per liter and another 29% paid less than that. This was certainly lower than the prevailing prices of packed milk, and especially our milk. We also saw that 45% of the consumers used 0.5 liters whereas 26% consumed less than 0.5 liters. Hence we thought of launching this 200 ml pouch targeting those who consumed less than 500 ml per day and those whose requirement exceeded 500 ml but was less than 1 liter. We became more interested as there was no proper pack size that was available in the market that targeted this set of customers." Jena continued, "Out of the total consumers of loose milk approximately 86% showed their willingness to purchase packed milk. 56% of these interested loose milk users preferred the pack size of 500 ml whereas the rest 44% preferred 200 ml pack size. It made sense to us launching this 200 ml pack size when we interpreted by looking at the cumulative percentage of the consumers showing their interest to varying prices. We are interested in the 62% of the consumers who are ready to pay a price between Rs. 3-3.5 per a 200 ml pack. There are 26% of the consumers who can be certainly banked upon as they are ready to pay Rs. 3.50 per 200 ml pack." Now how to capture the targeted segment of the urban market as well as make headways into potential rural markets. The researchers had found out that there was a huge market for the 200 ml pouch. Its net profit was also calculated to substantiate the suggestion.

FINANCIAL BENEFIT TO SFC IN LAUNCHING THE 200 ML PACK

The bulk of the demand for 200 ml milk packets was among the poor in urban

Exhibit 3: Estimate by the Researchers

The total demand for the 200 ml would be 1,400 liter out of which 400 liters came from its own 500 ml pack due to cannibalization effect of 200 ml. Hence the estimated net revenue that SFC would get was Rs. 17,150 per day. The price of 500 ml was averaged to Rs. 14 (average of two prices, i.e., Rs. 13.5, and Rs. 14.5). The cost to SFC per liter of packed milk was Rs. 12. So had there not been any 200 ml pack in the market, the profit of the dairy would have been only Rs. 800/day. But with the launch of 200 ml pouch it would have to sacrifice Rs. 800 per day. However SFC was getting profit of Rs. 5,750 per day due to this 200 ml pack. Hence the net profit was Rs. 4,950 per day, which came to around Rs. 148,500 per month.

The retailer was getting Rs. 0.50 per liter of the present packed milk, where as in case of the proposed 200 ml pack, it would get Rs. 1.25 per liter. Even if he managed to sell two packs, he would get Rs. 0.50. Hence, it was a kind of incentive for the retailer to sell the new 200 ml pack without any hesitation.

areas whose individual requirement was small, maybe a glassful for use as whitener for their tea and coffee. Nevertheless, it added up to a sizable volume—millions of liters per day. One of the researchers said, "That's the question that was bothering us. How to make milk affordable for the large majority of the local market with consumers having limited purchasing power? One practical way was to pack milk in small quantities of 200 ml or less in polythene sachets. Already, the glass bottle for retailing milk has given way to single-use sachets, which were more economical. Another viable alternative was to sell small quantities of milk powder in mini-sachets, adequate for two cups of tea or coffee."

The amount of financial benefit in term of net profit that the organization would get after the launch of the 200 ml has been presented in the Table below. (Please Refer Table 7 and the estimate in Exhibit 3).

ESTIMATE BY THE RESEARCHERS

Competing in the Existing Market through Better Incentives and Services to the Retailers:

Table 7: Benefit of SFC Due to the Proposed Launch of the 200 ml. Pack

S. No.	Parameters	500 ml	200 ml	Net Effect
1.	Price/Pack (Rs.)	7	3.25	
2.	Price/Liter (Rs.)	14	16.25	+2.25
3.	Sales (Liter)	–400	1400	1000
4.	Revenue (Rs.)	–5600	22750	+17150
5.	Cost to the Union (Rs.)	4800	16800	+14000
6.	Profit/Day (Rs.)	–800	5750	4950
7.	Profit/Month (Rs.)	24000	172500	148500

SFC could provide better services like frequent and timely delivery, easy replacement policy and credit facility in order to compete with the other players. Also the dairy could encourage the retailers to push its product by providing better incentives like higher commission. Apart from this, SFC could supply various POP materials to the retailers and create awareness through electronic media, glow signboards regularly.

Figure 6: Time of Purchase

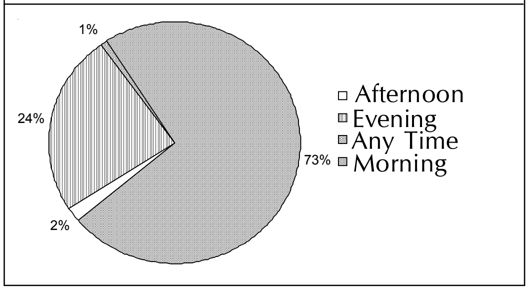
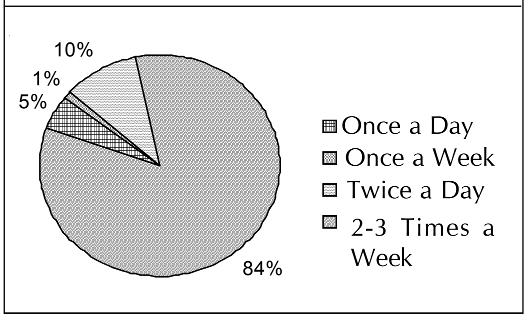


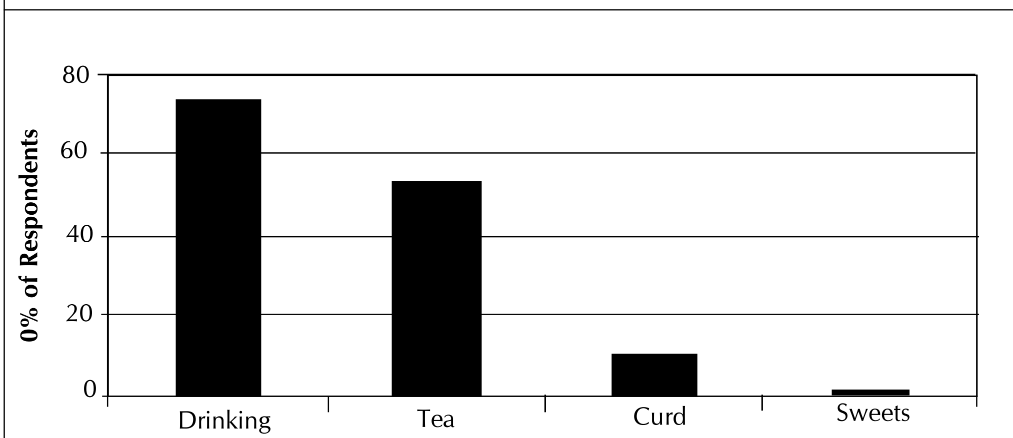
Figure 7: Frequency of Purchase



ENTRY INTO NEW RURAL MARKETS

SFC could look for new markets for its milk as most of the consumers were residing in the rural and semi-urban areas. Notified Area Council (NACs) would be able to provide new market opportunities for SFC. Jena contemplated, "We could think of starting the supply of milk to all the villages which were situated along the procurement route through its procurement vehicle which procured milk from the distant villages spread in the district and brought it to the chilling center for further processing. We could also look into the possibility of entering into the other neighboring states markets, as in most of the states the packed milk was generally not sold in smaller packs like 200 ml. This strategy could be followed at some later point of time if the 200 ml pouch performed well in local market, i.e., Ganjam district. SFC thought it could do well in other states and districts because the segment, which had been identified by the study commissioned, existed everywhere and could be targeted.

Figure 8: Usage of Milk

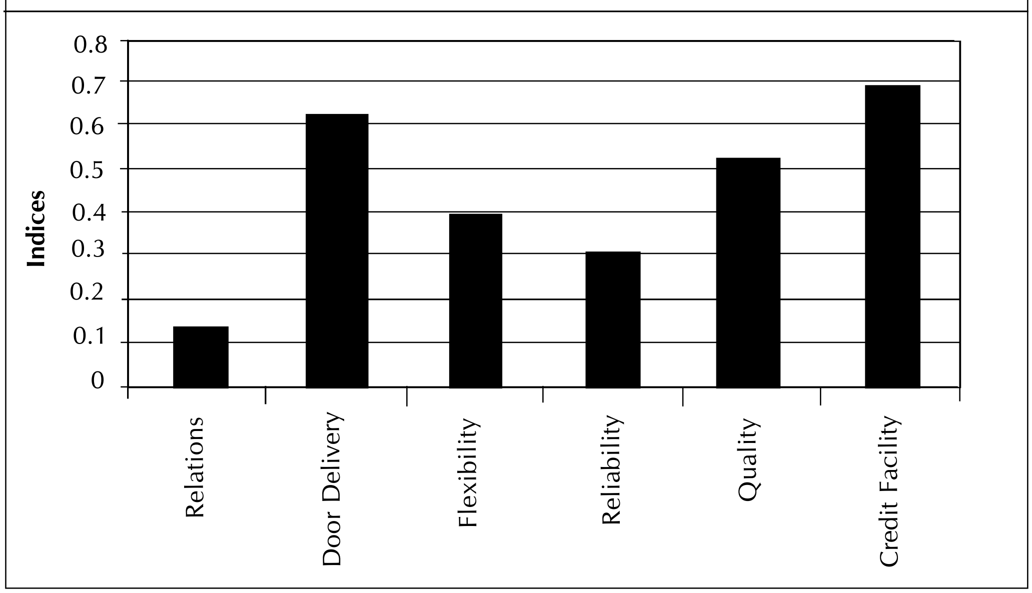


Appointment of small distributors: Jena shared some other alternative he had, "We could plan to go for small distributors, where the villages were located within a radius of 5 km and were densely populated. The distributors could distribute milk in all the nearby villages. So we would have to send distribution vehicle to one village instead of sending to all the villages, which could save both time and cost.

We must however, take care of regularity in the supply of milk, which would satisfy both the consumers as well as retailers, resulting in a long-term relationship with both. Jena was planning his strategies to make foray into the rural markets when he shared, "We could launch campaigns to make the consumers aware about the milk and milk products. The campaign must highlight the better qualities of OMFED milk over the loose milk. The awareness campaign could be done successfully with the help of unconventional media." For generating awareness, Jena was thinking of events like local fairs and festivals, 'haat', road show being more useful. During this time, free quality tests were planned in front of the consumers. Jena was to name it as "*Doodh Ka Doodh*, *Pani Ka Pani*". But he was not very sure about its success. Again it had to depend on the usage pattern of rural consumers and their preferences regarding buying of milk (Refer Figures 6, 7 and 8).

Jena had to decide about the advertising campaign for the launching of milk in the rural areas. From the survey, it was clear that radio and newspaper were better media for giving advertisements in rural areas. The dairy was planning to show the advertisements in radio for rural consumers in rural category program, which is relayed at 7.30 p.m. every day. The cost of 10-second slot was Rs. 80 and Rs. 2,400 per month. The dairy might also produce some sponsored programs regarding milk, effect of milk on health, etc. It would cost around

Figure 9: Criteria for Choosing Source



Rs. 900 for 30 minutes where free commercial time was 120 second. Jena was interested to place advertisements in local newspapers. What about wall paintings, banners, pamphlets, which Jena knew that could highlight the benefit of packed milk and other milk products?

New Product Development: In rural areas, the local milkman was the major source of milk and he could give varied qualities of the milk at different prices depending upon the amount of water added to it. Different set of customers found to have various usages such as drinking, preparing tea, making curd (Refer Figure 8). Hence, it was very convenient for consumers to choose the milk that suit their need and permissible to their wallet. Jena was thinking if he could extend its products range by including Double Toned Milk (DTM) to its existing range of toned milk and CRCM. He was hopeful that with this the market can be expanded and SFC can still be stronger.

Home Delivery: From the findings it is clear that, home delivery and credit period to the retailers were two important factors that could influence more to select the source of milk. Also the local milkmen offered competition to the dairy through these two (Refer to Figure 9).

Now, Jena was contemplating on the strategy to be followed so that the GM will be convinced about his plans for expansion of marketing operation. He was still thinking on the marketing strategies to be adopted for rural market as tentatively he had decided to venture into these new markets. He was not ready to ignore the marketing of other milk products such as curd, butter milk, ghee, paneer, sweet to name a few. He was expecting a discussion with GM regarding the decision on the change in the policy regarding retailers that had been taken

Appendix

Teaching Note—Sunshine Foods Cooperative

Relevance of the Case: This case titled "Sunshine Foods Cooperative" hereafter referred as "SFC" can be used for teaching some relevant concepts in courses like strategic management, marketing management, management of cooperatives, rural marketing and agribusiness management when taught both as core and elective courses. While analyzing the case, the participants can employ certain tools in the form of frameworks and models to identify the problem, understand and evaluate the alternatives. The description of these alternatives has been given in the next section. In strategic management course, the concepts those can be illustrated are competitive strategies and the techniques for analyzing industries and competitors therein. A tool like Ansoff's matrix (Product–Market matrix) can be used for the analysis of the case. This case can be very effectively used to teach concepts like market growth, penetration strategy, pricing strategy, product adaptation, distribution strategy in the local market, power and conflict in the channel and the overall importance of the elements of marketing mix (product, price, place and promotion) in marketing management course.

This case also aims at sensitizing the participants to the context, i.e., rural markets of India as well as familiarizing with the cooperative structure and the importance of marketing for sustained growth of the cooperatives. The case can be used to illustrate how the products of rural areas (milk) can be value-added and marketed in both urban areas and rural areas. What special care has to be taken to grab the potential of rural market? In cooperative management course (taught in institutes like IRMA, XIMB, etc.) this case can ideally fit in the marketing cooperative section. Lessons can be learnt from a successful case and the participants can familiarize themselves to the cooperatives and debate their marketing plans. In agribusiness management (taught in institutes like IIM, Ahmedabad, IIM, Lucknow, IRMA, XIMB, IIFM, MANAGE, etc.) the dairy as an allied agriculture sector, can be studied and this case can be used to teach the marketing of agriculture and allied sector.

The decision-maker seems to be enthusiastic about the future marketing plans of SFC. How to expand the market and become a dominant player in that? There are some alternatives, which have kept the decision-maker preoccupied. How can the growth in the revenue and profit of the organization be achieved? The decision-maker has depended on the market research report by two researchers for taking the decision. The survey was conducted in the district of Ganjam, where SFC marketed liquid milk. Out of the ten surveyed urban places one was a municipality, four were NACs and the rest five were semi-urban areas. SFC had selected the places and

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Teaching Note—Sunshine Foods Cooperative

it was judgmental. The total sample size of 300 was taken which included both OMFED and non-OMFED milk users in the ratio of 1:4. The researchers have conducted consumers surveys, retailer and distributor surveys with an appropriate sample. There are several findings in the market research report. The Exhibit and Graphs Section give the present picture of SFC and the market in which it is operating in.

Use of specific Models/Frameworks: In strategic management course, models and frameworks like Porter's five force model and Ansoff's matrix can be taught. While analyzing the situation and evaluating the alternative, consolidation of milk business and making marketing strategies after identifying new products, the McCarthy's 4-P framework can be discussed. The details of the use of all these models/frameworks while evaluating the alternatives are given below.

- Ansoff's Matrix: In developing new strategies for growth, 3 key issues need to be addressed.
- What directions and methods of development are "available" to the organization?
- Why some directions and methods might be preferred over others?
- Why some directions and methods might succeed better than others?

The basis of selecting any strategy depends on the environment, the resources and competencies of the organization and its stakeholders. The following matrix (See Table 1, explains the method of choosing a direction for strategy development. It considers the development directions available to an organization in terms of market coverage, products, competence base and expectations about an organization's strategies.

Table 1: Product/Market Matrix (Corporate Strategy, Penguin, 1988)

		Existing	New
Markets	Existing	**Protect/Build** Consolidation Market Penetration	**Product Development** On Existing Competencies With New Competencies Beyond Current Expectations
	New	**Market Development** New Segments New Territories New Uses With New Competencies Beyond Current Expectations	**Diversification** On Existing Competencies With New Competencies Beyond Current Expectations

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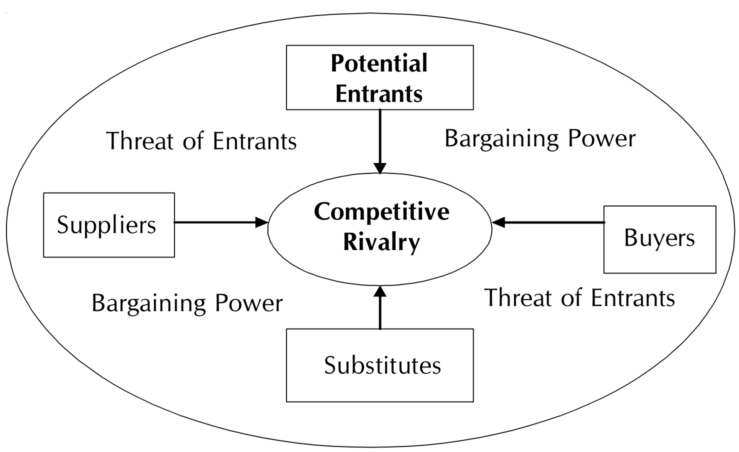
Teaching Note—Sunshine Foods Cooperative

Market penetration and consolidation are the easiest and the safest strategies and diversification is supposed to be the riskiest, as it involves entering new areas both in terms of products and markets. The future course of action for SFC may stress on market penetration for its existing milk products.

ii) Five-force Model: In deciding whether the Dairy should launch its milk new pack sizes, it needs to analyze the level of competition it is likely to encounter in this business. The Five-force framework will help us in identifying the sources of competition in the sector (See Figure 1).

Figure 1: Five-Force Framework (Adapted from M E Porter, *Competitive Strategies: Techniques for Analyzing Industries and Competitors*, Free Press, 1980)



a) The threat of entry depends on the barriers to entry that is, the factors that need to be overcome by new entrants if they are to compete successfully. Although the barriers like economies of scale, capital requirement are not significant for starting a liquid milk business, there are certainly some which will pose a challenge to SFC. The experienced milkman may pose a challenge to SFC. The existing milkmen have advantages in terms of its understanding of the market, relationships with the key buyers and suppliers. The second concern can be the lack of differentiation of the packed milk of different brands. It may be difficult to match the competitors like Vijaya and Vishakha in terms of the long period of credit he provides the retailers. The third challenge can be the expected retaliation. If the competitor perceives a threat to his

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Teaching Note—Sunshine Foods Cooperative

business, could retaliate in order to prevent losing his customers.

b) The threat of substitutes appears when the demand for a particular "class" of products is threatened as a result of availability of alternatives. At present no particular threat of substitute could be seen for SFC.

c) The power of buyers is high because there are a large number of suppliers (so many milkmen), the products supplied are undifferentiated between suppliers and the needs create new competitors. Also, the consumers are extremely price sensitive and switching costs are very low.

d) The power of suppliers is low because this is fixed for the dairy. So from that side SFC is secured.

e) Competitive Rivalry is intense because of the large number of competitors though small in size (small private dairies and local milkmen). Differentiation will be of paramount importance or else will result in switching.

iii) 4-P framework: Sufficient data is available in the case for observing and then debating on the importance of the elements of marketing mix (4-P framework). All the elements of 4-P framework, i.e., product, place, price and promotion have been covered.

Teaching Objective: Ansoff's matrix, Five Force model, product adaptation strategy (adaptive innovation), penetration strategy, choosing suitable product for the market and launching the same, countering competition, pricing strategy, distribution strategy in the local market, power and conflict in the channel, dynamics of rural markets, cooperative marketing.

The readings will be used in different combinations depending upon the course in which the case is used.

Basic Issues: To explore new growth path in the sales of milk and milk products in urban as well as rural markets, penetration strategy for existing market as well as new market, pricing strategy, distribution strategy, and competition.

Immediate Issues

- To decide whether the launch of 200 ml pack liquid milk will be accepted in the market (existing and new market). Hence, to determine the consumer preference and purchase intentions for the proposed launch of the new pack size 200 ml in the towns as well as the rural areas. For this the profitability of the plan has to be seen which may decide the merit of the proposed launch.
- To decide the target segment for the proposed 200 ml pouch of milk.
- To decide whether SFC should enter rural market to increase the sales of milk and milk products? The decision has to be justified with the help of the available data.

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Teaching Note—Sunshine Foods Cooperative

- To discuss the merit of the distribution strategy of SFC before the retailer's strike and that after it.

Teaching Approach: Questions addressing the immediate issue can be raised first leading to the basic issues in the case. The following questions can be asked at the beginning of the class.

- What is your analysis of the milk market of Ganjam and its nearby areas and what is the position of SFC?
- Why is Jena worried? Had you been in Mr. Jena's position, what would have disturbed you?
- Had you been in Jena's position, how would you have analyzed the situation?
- Had you been the decision-maker in the case, what would you have identified as the "The problem", in the case?
- Do you think the way SFC handled the retailer's strike was right? Please share if you can have a better plan in the light of the current position.
- What would have been your set of alternatives for solving the problem?
- Do you think the alternatives contemplated by Jena are sufficient? Please step down into the shoes of Jena and examine if you could have come out with any other alternatives that is not present in the case?
- Please evaluate the alternatives you think are the appropriate ones and choose the best alternative.
- Please prepare the action plan and contingency plan.

While testing the case for the first time, the above questions have been found to be generating interest and participation from the class. The participants have discussed the situation in different ways and have generated suitable alternatives after identifying the problem. For example, some students have found to be looking for a solution to the problem analyzing the data without looking at the qualitative aspect of it whereas some others have put a lot of emphasis on the qualitative side such as cooperative structure and its role in marketing. I, somehow feel that the later group of students should be handled carefully as they may lead the discussion in different direction. The objective of the case is not to debate whether cooperative union should market or not; rather the discussion should focus on the marketing operation as the organization is facing a marketing problem.

The decision on local distribution strategy of milk after the retailer's strike in 2001 may be discussed to highlight the concepts of power and conflict in a channel. To discuss this, my experience has been to ask the participants to get down to the shoes of the reporting officer of Mr. Jena and examine the implication of the decision. It is interesting to see if the student has any other solution to the

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Teaching Note—Sunshine Foods Cooperative

problem. The student may again examine the decision Mr. Jena had taken from the current position where he may look at the gains and losses (both long-term and short-term) of SFC from that decision.

The question on the Ganjam milk market would be helpful in calculating the growth rate of milk market of Ganjam and that of SFC therein. This will normally break the ice in the class with lots of facts will be discussed to infer from that. The students should be encouraged to interpret the data and do the situation analysis.

The immediate issues should be discussed which would lead to the basic issues. For example, a decision like whether to launch the 200 ml pouch milk has a lot of significance. It is an adaptive innovation, which has been done keeping the market and its customers in mind. Innovation can be in terms of perceived attribute of the product or mere packaging innovation. While interacting with Prof. Rajan Varadarajan (2004) of Mays Business School, he opined that we all have a knack of putting only the radical innovations on a pedestal and we tend to ignore the small and relevant incremental innovations like this 200 ml pouch. While testing the case, I found that there was a lot of enthusiasm among the students about this newness in the packaging. Finally, I could drive home the point that we must appreciate and encourage such market driven adaptive innovation strategies. The problem should be carefully identified. The available data should be used based on its relevance and richness to evaluate the alternatives. The best alternative should be selected followed by the action plan.

Time Plan: The discussion of the facts should take 10 minutes, the context of cooperatives 6 minutes, situation analysis of the case 10 minutes, identification of problems 15 minutes, Alternatives and their evaluations 20 minutes, Contingency planning 7 minutes, and Conclusion should be completed in 12 minutes (For a session of 80-90 minutes).

Blackboard Plan: The left hand side of the blackboard will be used for situation analysis. The central part of the blackboard will be used for identification of the problem and the possible alternatives. The alternatives analysis will be done in the right side of the blackboard.

ANALYSIS OF THE CASE

Situation Analysis

Milk Market of Ganjam

1. Total market size was 75,475 liters (Rs. 9.0 lakh) daily in 2003-04, Organized-15.96%, and loose-84.04%. The revenue earned by SFC from liquid milk is approximately 50 million whereas the other products (such as, sweet curd, paneer, butter milk, ghee to name a few) in the stable of SFC earn it a revenue of approximately 34 million.
2. The milk market in Ganjam, going by the demand projection has grown very

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Teaching Note—Sunshine Foods Cooperative

fast. The demand is seen to be increasing at the rate of approximately 3% every year. The sales of SFC's liquid milk have grown by 48% between 1999-2000 and 2004-05 over the last 6 years. After the handling of the retailer's strike, the sales in 2003-04 have almost doubled over the year 2002-03. The average growth of SFC's milk sales per annum has been found to be 3% approximately.

3. SFC earned approximately 72% of its total revenue (liquid milk) from Berhampur market alone. The rest 28% of the sales are coming from other towns of Ganjam. The share of SFC's OMFED liquid milk brand is 46% in the packed milk market of Berhampur. Vijaya and Vishakha have a share of 10 and 8% respectively. The rest are ruled by the small local players who are also selling the packed liquid milk.

Table 2 places SFC amongst its competitors in various parameters.

Retailer's strike and tackling of the situation.

1. Due to strike in July 2000, other players such as Prithwiraj Dairy made an entry into the market in 2000, Vijaya Dairy in October 2002, and Vishakha Dairy in February 2003. During 2001, OMFED started rejecting milk supplied by the SFC. There were acute marketing problems for SFC. SFC for the first time felt the urgent need to market its own products and increase its market orientation. In 2001-02, nine retailers were accounting for about thirty percent of total milk sales by SFC (approximately 260 liters per retailer). The fact that retailers were selling OMFED brand above the (MRP) in case of higher demand for the product, indicated that there were gaps in the demand vis-à-vis supply of this brand. SFC did not have a

Table 2: SFC Vis-à-Vis the Competitors

Major Parameters/Players→	Vijaya	Vishakha	Navjeevan	SFC	Local Milkmen
Market Share in Ganjam District	1.9%	1.5%	0.6%	13%	83%
Market Share in	10%	8%	3%	46%	—
Berhampur Packed Milk Price	15	15	15	14	8-14
Margin to Retailer	1	1	1	0.5	—
Relationship with Retailers	Very Good	Very Good	Very Good	Good	—
Service to the Retailers	Very Good	Very Good	Good	Poor	—
Power of Dairy vis-à-vis Retailers	Moderate	Moderate	Moderate	Strong	—
Level of Satisfaction of Retailers	High	High	High	Moderate	—
Awareness and Popularity of Brand	High	High	Average	Very High	—
Customer Relationship	Average	Average	Poor	Poor	Very Good
Dominant Usage of Milk	Making Tea	Making Tea	Making Tea	Making Tea	Drinking, Curd

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Teaching Note—Sunshine Foods Cooperative

appropriate distribution channel where it had little control on retailers (Taken from the case text: It was difficult to monitor their sales and more difficult to replenish their stocks regularly).

After the changed policy of SFC regarding the selection of retailers, there was increase in number of retailers (four times in the last two years) breaking the monopoly of major retailers/open policy prevented the retailers from shifting to other brands. It would be wrong to presume that the open policy was the main reason for the entry of other competitors. They must be planning to enter this milk market at some stage. No doubt the strike provided them the platform to get a foothold taking the advantage of the dissidence of the retailers.

The situation became more competitive with the aggressive marketing policy adopted of competitors including attractive promotional incentives for the retailers, lower price (penetration price), credit facility to the retailers, better replacement policy and above all more margin. Thus it was natural for the retailers to go for alternate brands where they would get more returns. The retailers would stock a brand as long as the brand had customers and he could good returns from the company. This principle would hold good for the consumers as well. The only difference was that consumer sought "value for money" ("return" in case of retailer) and convenience of availability.

DECISION-MAKING BY THE CUSTOMERS

Milk was a product requiring low involvement in decision making by the consumer. Consumer perceived low differentiation of quality among different brands of milk. The very nature of the product (perishability) and consumption pattern (daily purchase, in morning, near home) by the consumer, pose great challenge to the marketer in terms of distribution. (Taken from the text: At the same time, the consumers in general and the institutional consumers in specific were unaware of the quality of the milk. Therefore, they did not hesitate to purchase the milk at lower price.). The only competitive strengths necessary for marketers to survive were distribution reach/network, ability to know the daily demand of milk and supply the same, and building the brand. Till date SFC was enjoying monopoly in the local milk market. It was lacking professional marketing skill, which was necessary for tackling the competition. That was why it could not sense the entry of these competitors.

SWOT ANALYSIS OF SFC

- Strengths of SFC: Biggest player in the local market (Ganjam as a whole and in the single largest market of Berhampur) amongst the organized players, fair amount of marketing experience as SFC had been marketing since the last 10 years approximately, deals with a popular

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and strong brand like OMFED, has a constant procurement source and processing facility, ability to go for product adaptation (for example launching of 200 ml pouch of liquid milk), SFC had the support of government, and had an enthusiastic marketing manager. The procurement network of SFC which included vehicles going to villages for procuring the collected milk in the dairy societies can be used to market the liquid milk and the other products.

- Weaknesses of SFC: It was lacking professional marketing skill as its marketing managers and team was from all departments without necessary experience. (Taken from the case text: SFC was not sure about its strategy for other markets, both in its traditional local market and outside, no contract for giving refrigerators to retailers), (assistant marketing manager did not have any clue as to how to counter the competitors in the existing market and/ or to enter into new market). Availability or distribution reach/ timing were doubtful. Though SFC is the market leader in Berhampur does not have a strong foothold in other towns of Ganjam.
- Opportunity for SFC: A big market of Berhampur, other nearby towns as well as the rural areas had huge demand for milk. Ganjam is the only district of Orissa with largest number of towns, which reflect its potential packed milk users. The market served by the local milkmen can be targeted to convert the customers to packed milk users. This will help in expanding the total liquid milk market as well as increasing the market share of SFC. The other products (such as buttermilk, ghee, paneer, sweet curd, etc.) of SFC could be launched in the rural areas after popularizing the liquid milk brand in the rural areas.
- Threats perceived by SFC: The dissatisfied retailers expecting more incentives, attention and better service facility may create a difficult situation for SFC in the future. The past incidence (retailer's strike) should be kept in mind.

Problem Identification

- The Assistant marketing manager did not have any clue as to how to counter the competitors in the existing market and/or to enter into new market.

Decision Problem

- Whether to enter rural markets? Yes or no? If yes, then what will be the entry strategy?
- Whether to launch 200 ml packs in rural/urban markets?
- How to counter competition from other players and retain market share?
- How to have deal with retailers (reducing dependency on key retailers, reducing resentment and increasing satisfaction).

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Teaching Note—Sunshine Foods Cooperative

Identification of Alternatives

- Entering rural markets (with 200 ml packs or milk powder in mini-sachets.)
- Building the brand
- Increasing distribution reach in local town

Evaluating the Alternatives

Assumptions to be made: There is negligible cost involved in the designing of the 200 ml pouch.

1. Entering Rural Markets

- The plan of entering rural markets with 200 ml packs seemed reasonable.

Table 3: Cost of Producing One Liter of Packed Milk

S.No.	Particulars	Cost (in Rupees)
1.	Procurement Price	9.0
2.	Transportation Cost for procurement	0.9
3.	Distribution Cost	0.5
4.	Chilling Cost	0.25
5.	Processing Cost	0.70
6.	Administrative and Overhead Cost	0.80
	Total	**12.15**

Source: Records of SFC.

But the plan to enter with products like milk powder in mini sachets should be dropped, as SFC had no powder plant as of now and already national players like Amul, Britannia and others were present milk powder market and dominating it. The strength of SFC lay in liquid milk and not milk powder. The following Table showing the cost structure can be seen along with the other details on the launching of 200 ml (See Table 3).

Hence the cost was around Rs. 12 and the average selling price was Rs. 14 per liter. So the profit came to approximately Rs. 2 per liter to SFC. The financial benefit from the launch of 200 ml can be seen from the available data in the case. The retailers were set to get more benefit from the sales of 200 ml pouch. In a one-liter packet, they had a margin of Rs. 0.5, whereas the margin for a 200 ml pouch will be Rs. 0.25. So even if the retailer managed to sell only two 200 ml pouches, he ends up getting Rs. 0.5. So apart from the demand of the consumers, the 200 ml pouch would get support of the retailers too.

- The rural areas en route SFC's procurement vehicle can be tried out first as there is no distribution cost and it has been found from the study that there was demand for the 200 ml pouch milk in the villages too. Actually, when this was test marketed recently, it met with remarkable success. This success of test marketing can be kept in mind while leading the discussion in the class.

However, detailed feasibility study is required for entering into other parts of the rural areas. This is because the volume may be less and distribution cost to cater rural markets may be

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Teaching Note—Sunshine Foods Cooperative

high. SFC is preparing a list of most potential villages and in some villages it is planning to market through distributors and retailers.

Launching 200 ml Packs in Rural/ Urban Markets

- Must be done in both urban and rural markets. Entry strategy for rural markets. For local urban market 200 ml pack will be a competitive advantage over competitors. It will capture the customer in the lower income group. 200 ml milk launch (only profitability view or strategic view), will increase consumer base.

3. Countering Competition from Other Players and Retain Market Share

- Brand building: POP materials to retailers and create awareness through local electronic media, glow signboards, etc., may help in increasing the brand recall. Awareness campaign on quality of milk versus loose milk, newspaper pamphlets to informing consumers about the availability of SFC brands at the nearest outlet in the lanes or may constantly remind the consumer of the brand. It may go a long way in building the brand. Consumer contests, health check ups, cooking contests can also be planned
- Retailers: Timely delivery, easy replacement policy, target based incentive to key retailers, promptness in attending the problems of the retailers are also of paramount importance as shown in Graph 9. Increasing the commission or margin and extending credit facility to retailers can not be taken arbitrarily and by doing so it does not guarantee increase in sales. Again this issue has to be decided in the board meeting going by the intricacies involved with a cooperative structure.
- Exclusive SFC parlors: Exclusive parlors have to be opened in selected areas in the local town. It could three achieve objectives such as reducing the dependency on key retailers, increasing sales, and helping to build the brand. As SFC was already marketing products of OMFED (butter, spices, turmeric, ghee, flavored milk, etc.), with these product ranges, the parlors could be viable. SFC could enter into agreement with private parties to operate these parlors on exclusive basis. So extra commission could be given to these parlors.
- 200 ml milk pack launch: For local urban market 200 ml pack would be a competitive advantage over competitors. It will capture the customer in the lower income group. 200 ml milk launch (only profitability view or strategic view), will increase

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Teaching Note—Sunshine Foods Cooperative

consumer base. This must be treated as an adaptive innovation worth implementing. For this the Table given in the page no. 16 and Exhibit 7 can be used. It comes out clearly that this product adaptation strategy can be used with the launching of 200 ml pouch of liquid milk.

- New product Development: SFC did not have any Double Toned (DT) milk in its product category. The low price of DT milk will attract the consumers resulting in more profitability. It would also fight with the flexible price of local milkmen. It will also give more choice to both retailers and consumers.
- Pricing: As competitors are supplying toned milk with higher price, it gives the consumer a high brand image. So SFC can evaluate the option of increasing its price from Rs. 14 to 15 (toned) and Rs. 15 to Rs. 16 (4.5% fat) per liter. Regarding the complaints of retailers charging more price than the MRP, SFC can inform the customers with price pamphlets in newspapers, advising them not to pay above the MRP. It has to take action against retailers selling prices higher than the MRP. However as the price and product decisions are with OMFED, SFC has to give reasonable arguments for doing so.
- Home delivery option can be worked out with employing local boys on commission basis.
- Countering competition: This can be done with the help of all the above-mentioned actions. The expansion of market, new product development (including new packaging), pricing strategy (penetration pricing), maintaining good relationship with the retailers with regular and assured supply, credit facility within a permissible limit, utilizing the strengths and cashing in on the opportunities existing in the environment (like the demand for 200 ml pouch in both the urban and rural areas, utilizing its strong procurement network for marketing the products etc.). SFC can achieve a strategic fit this way. The competitors of SFC can't boast of many of the strengths that SFC enjoys.

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Book Reviews

Data Warehousing: Design, Development and Best Practices

By Soumendra Mohanty

Tata McGraw Hill Publishing Company Limited, New Delhi 2006, Pages: 375; Price: Rs. 395; ISBN: 0-07-059920-3.

INTRODUCTION

There is plethora of information available on Data Warehousing (DW) methodology, technology and implementation but very few attempts have been made to synchronize them into a concise form. In this book, the author discusses DW lifecycle events end-to-end and each is strongly backed up by reallife experience dished out in the form of case studies, examples, diagrams and tables. The author, being a DW practitioner, has portrayed the reallife issues right from inception till implementation and how a consortium of business, technology and project management experts can overcome them. However, the unique feature of this book is its collection of the best practices which are tried and tested and which passed the test of time, place and complexity.

The book is organized into three stages (i.e., Foundation, Consolidation and Advanced) divided in 15 Chapters. First five Chapters are dedicated to DW concepts, its framework and methodology and to discussing sample problems which DW can solve. Next seven Chapters deal with more advanced topics like best practices for Extract Transform and Load (ETL), dimensional modeling, metadata management, data quality control, testing, performance analysis and Returns on Investment (ROI) analysis. The book concludes with concepts of MOLAP, ROLAP, realtime DW and how DW can play a significant role in Customer Relationship Management (CRM).

FOUNDATION STAGE

It introduces DW in the same line as W H Inmon had suggested, i.e., "a subject-oriented, integrated, time-variant, and nonvolatile collection of data in support of management's decision-making process". It explains the business situations where DW can be helpful and how this is different from operational or informational systems. Next the DW lifecycle is elaborated with emphasis on requirement management techniques, multilayered architecture and dimensional modeling. The key underlying principle is that entire DW initiative should be backed up by one or more strong business cases which is/are as precise and pointed that can be shared during a ride of an elevator—the 'elevator test'. The case study on Retail Banking Industry is used to substantiate the above points.

Note: Readers from outside India are encouraged to send reviews of books which may not have been published in India to the Book Review Editor (arifwaqif@amdisa.org).

However, some portion of Chapter 3 have been inadvertently copied from, Tom Haughey's article, "Is Dimensional Modeling One of the Great Con Jobs in Data Management History?" published in the *DM Review Magazine*, April 2004 Issue, specially the topics on 'Helper Tables', "Multi-valued Dimensions', 'Complex Hierarchies", etc. Reference to the original article would have justified this.

CONSOLIDATION STAGE

During the next phase, the author tries to consolidate the theory of building a data warehouse with practicalities. Time is a dimension in almost all DW applications, but the modeling decision is not easy as there are many alternatives depending on the scenarios (e.g., Transaction Snapshot, Periodic Snapshot, Accumulating Snapshot, etc., for fact table extraction). Also it has been explained that a fact table can work as a dimension table and vice versa based on the situations.

ETL process divided the entire process into a number of subprocesses, e.g., interface, trigger, audit, etc. The author rightly cautions practitioners of ignoring aspects like event management, performance and network monitoring, backup and recovery, and service level agreements while paying all attention towards facts, dimensions, ETLs, KPIs, queries, etc.

Data quality has been given a special emphasis in this work. The author has drawn an analogy between software development and data management processes by explaining how Capability Mature Model (CMM) philosophy can be applied for both to measure the maturity level. The text is enriched with techniques and examples of data assessment, profiling, cleansing and integration.

The Chapter on Metadata Management emphasizes its importance and how this should be done from various perspectives, e.g., business, operation, technical, etc. In the absence of a comprehensive tool for testing a DW application end-to-end, it is imperative to have strategies for testing (e.g., unit, system, integration, etc.) an application from technical as well as business point of view. It also talks about the capacity planning and configurational aspects to extract the best possible response keeping in mind data volume, number of users, type of queries, etc.

ADVANCED STAGE

DW is an evolutionary instrument. Thus the ability to measure effectiveness and quality of a DW enables one to plan for the enhancement. Various metrics have been suggested for the purpose and possible strategies for improvement have also been suggested. To represent multidimensional data model, ROLAP and MOLAP are two possibilities. The relative advantages and disadvantages for ROLAP and MOLAP architectures are discussed. Introduction to HOLAP could have made the text more complete.

Realtime DW demands an environment where the data is available to the warehouse for information extraction before it is stale. However, continuous data integration is a costly affair—hence there should be a strategy to evaluate scenarios where this can prove worthwhile. The book also narrates methodological changes that one needs to adopt, and associated challenges.

CRM is gaining popularity with every passing day for every ambitious corporate. The author has suggested a route map for building a DW based on CRM applications in use. Topics like Conceptual Customer Data Model, Customer-centric DW Architecture, Growth Handling (in number of customers, transactions, interactions, etc.) have been discussed.

CONCLUSION

The reviewer feels the following suggestions may further enhance the utility of this book to a wider audience:

- By ensuring continuity between the topics under the Foundation Stage and first few Chapters of Consolidation Stage, this may be more useful for beginners as well (e.g., "Transaction Snapshot, Periodic Snapshot and Accumulating Snapshot" in Chapter 6 is more basic to Dimensional Modeling than "Implementing Many-to-Many Relationship between Fact and Dimensional Tables" in Chapter 3). Chapter 5 is too small to be a Chapter; rather this could have been merged with Chapter 7.
- The book can be made richer by providing more contextual "References" at the end of each Chapter. Relevant books and journal references will definitely add value to the present content.
- There may have been a Chapter on Query Languages used for DW, which can show the difference with SQL and can pave the way for Data Mining (e.g., DMQL, Starnet query model, MDX, etc.).
- A list of latest OLAP, ETL tools from various vendors (e.g., Oracle, SAS, IBM, etc.) can be included.
- It can be better to illustrate intricacies in a DW lifecycle on the basis of a single continuing case study across Chapters.
- Last but not the least, the book contains some typographical and referencing errors. For example: (a) on page 73, the where clause of a query contains BPE diagnosis_group_key but this field is absent from the table layout of "Billable Patient Encounter Fact Table" on page 72; (b) on page 77, it talks about adding (2N+1–2N) number of rows for each new diagnosis which is wrong; (c) in the preface, Page viii, there is no reference to the actual Chapter 8, i.e., "Guidelines for Operations Architecture", etc.

By his own admission, the author has tried to bring in accuracy, brevity and completeness (ABC) more and cared less about conventional logical flow of text books. This is not meant to be a beginner's book; rather it presupposes knowledge on various concepts and terminologies. However, practitioners will find this book interesting as the theory is mostly backed up by reallife experiences.

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Loyalty Myths: Hyped Strategies That Will Put You Out of Business and Proven Tactics That Really Work

By Timothy L Keiningham, Terry G Vavra, Lerzan Aksoy, Henri Wallard

Wiley, New York, 2005; Pages: 254; Price : US$ 31.99;
ISBN: 10-0-471-74315-1

Customer loyalty is a concept that has enjoyed wide attention in the marketing literature for many years. In spite of its importance not much of literature exists on the measurement of customer loyalty. Generally, loyalty is something, which consumers exhibit to brands, services, stores, product categories and activities. Customer loyalty is a feature of people rather than something inherent in brands.

The competition for customer retention is intensifying day by day. But most of the businesses are not taking full advantage of customer loyalty as one of the strategies to retain their customers. Managers all over the world are slowly realizing the fact that the customer loyalty strategies which they were using for so long are not easily getting translated into business success. The goal of authors in this book is to help the managers to devise their own customer loyalty programs, implement them and monitor them on a regular basis. In the book the authors have identified fifty-three most accepted notions about customer loyalty and criticized all of them with real world examples. They have also put forward certain strategies in the name of "Loyalty Truths" to put businesses back on track.

The book seems to be clearly divided into two parts. The first part consisting of six chapters debunks the fifty-three common loyalty myths held by businesses for a long time. The second part, comprising two chapters, deals with "the foundations of customer loyalty" and "the right way to manage for customer loyalty." Each of the six chapters contains various loyalty myths based on their common themes viz. "Loyalty Myths That Subvert Company Goals," "Loyalty Myths Concerning Loyalty Programs," "Loyalty Myths Regarding Employees," etc. Each and every myth has been dismantled with examples from the business world. Some examples from the book are the following:

Loyalty Myth 1: The number one goal of any firm should be customer loyalty. But the authors state that many broke-but-beloved companies have gone bankrupt. The example put forward by the authors is that of Apple Computer which always had stronger customer loyalty than Microsoft and Intel, but lost the computer battle. The fact is that the fundamental purpose of a business is to identify and satisfy customer needs at a profit.

Loyalty Myth 2: Firms should emphasize retention efforts rather than acquisition activities. The most obvious flaw in this misconception is its complete disregard for the product life cycle. In the early years of a product, customer acquisition is critical and in the later stages of the lifecycle customer retention becomes more important.

Loyalty Myth 3: Companies should strive to make all of their customers attitudinally and/or behaviorally loyal. The underlying assumption in this myth is that all customers are or can be made profitable for a firm. But a close examination of customer profitability reveals that some of the customers are highly profitable while others are highly unprofitable. It is suicidal for a firm to retain the unprofitable customers.

Loyalty Myth 4: Companies with more loyal customers will always have higher market share. But the fact is that companies with the highest loyalty levels such as Harley-Davidson and Fender Musical Instruments are niche players but not market leaders.

Loyalty Myth 7: Retaining 5% more of a company's customers will increase profit by 25% to 85%. This is one of the well known statistics in the loyalty literature, but this proposition is criticised by the authors on three grounds, viz, the company needs to generate relative rate of return in the range of 5%, the ability to generate further profits by improving retention is highly contingent upon a firm's current retention rate, and for most of the firms, the most profitable 20% customers generate between 150 and 300% of total profits.

Likewise, the authors have dismantled the remaining loyalty myths. The approach of authors is enough to make us rethink about the existing approaches towards customer loyalty.

The final two chapters deal with the loyalty models, viz, the behavioral loyalty model, the attitudinal model, and the co-determinants of choice model, and with seven loyalty truths. The truths of customer loyalty laid down by the authors are the following:

- Don't manage for customer retention before you manage for customer selection.
- Customer loyalty takes more time to grow than most management teams have to give: planning and patience are required.
- Focus on the customers' share-pf-wallet. Don't disregard those customers with current low shares; customer polygamy is the rule these days. But don't accept your current share, instead learn how to improve it.
- Loyalty requires mutually beneficial interaction while most corporate loyalty programs are tilted in the company's favor.
- The chain of events from loyalty to profits is twisted and complex. Learn the specific response patterns of your customers and your industry.
- Satisfied and loyal employees can make a difference, but customer satisfaction and loyalty can and often do happen in the absence of employee satisfaction and loyalty.
- Customer loyalty and brand imagery are far from independent; you must manage them hand-in-hand.

The authors have illustrated with clarity how to build loyalty programs around these seven loyalty truths.

The only seamy side of the book is the large number of myths recognized by the authors. Some of these myths seem to be overlapping. But on the whole this book makes a very fascinating and satisfying reading with its nicely woven examples and the customer loyalty principles for success in business today. It is an easy-to-read and fast-paced book. The arguments put forward in all the chapters make real sense and are convincing. The real benefactors will be the managers, CEO's, and business owners who are trying to exploit the real power and effectiveness of customer loyalty. For any business leader who really wants to understand and implement customer loyalty programs to get the best results, this book can be of great help.

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The Google Story

By David A Vise and Mark Malseed

Delacorte Press/Random House Publishers Pvt. Ltd., New Delhi, 2005;
Pages: 336; Price: Rs. 595; ISBN: 055380457X.

The story behind Google is something that most people would love to know. Here is the story behind one of the most remarkable Internet successes of our time. This book talks about the phenomenal rise of 'Google' in a short span of seven years. Vise and Malseed interviewed over 150 people, including numerous Google employees, Wall Street analysts, Stanford professors and venture capitalists to give insights into a company whose name is recognized around the world today.

In 1998, Moscow-born Sergey Brin and Midwest-born Larry Page dropped out of graduate school at Stanford University to, in their own words, "change the world" through a search engine that would organize every bit of information on the Web for free. They formed a company and moved into a friend's garage. They were dragged into incorporating it by a venture capitalist and started out by hiring a few people. They adopted the motto "Do no Evil" and seemed to mean it. Seven years later, they are worth $10 billon each and their company is larger than McDonalds, General Motors and Disney.

The book takes the reader back to the early days of the development of the search engine, when Page and Brin were both graduate computer science students at Stanford. It is interesting to know that the name the two students chose to register their business under was actually the result of a spelling error. Apparently, the intended name was "Googol", which actually refers to the concept of the largest exponential number possible. The word was inadvertently replaced with the now famous "Google". Google's immense computing power comes from ordinary PCs stacked in tall racks and linked by cables and custom software.

Vise initially takes the reader through a number of search engine acquisitions and competing product developments. However, readers may find it difficult to demystify phrases like "special sauce". The term is used to describe the secret combination of nearly 100 different factors which Google uses to rank results in such a way that the most useful and accurate ones appear as close to the top of the search page as possible. At least, this is the way that Google explains its ability to provide information in context. However, a serious reader would probably like to have a deeper probe into the search factors.

The reader, moreover, realizes that Google's approach to search is superior to others, courtesy the Page Rank model, whereby a search returns web pages in order of their popularity (based on how many other pages were linked to it). This was the start of project Google and the cornerstone of its differentiation. Yahoo returned searches based at least in part by how much was paid to be listed. Brin and Page saw that as corrupt and against their philosophy "Don't Be Evil".

There is a lot in the book about the culture of Google, which is compared to a university campus more often than a corporation. Most people work in teams of three to five maximum, and engineers are given "20% time", one day a week in which to work on stuff that is interesting to them, regardless of its commercial viability. Google employees are encouraged to stay on site through the provision of various office perks and benefits, which include football, ping-pong, free beverages, whale-watching excursions, cafeterias, a private lake, a baseball diamond, soccer field, volleyball courts, a campus shuttle as well as an office movie day. Staff can also avail themselves of spa therapy, which includes the option of stress reducing massage therapy. In short, "Googleplex" is a fun place to work in and serves as a "Home Away from Home".

For the business reader, it is fascinating to learn how venture capital firms, still reeling from the post dot com collapse, approached the infant Google with great suspicion, but found the founders and their ideas irresistible. One lesson from the book—no matter how brilliant your science or engineering credentials, you need a business person to talk to Wall Street and lead your company into an Initial Public Offer (IPO). The one stipulation the VCs put on Google—hire a CEO.

Their business model relies on the hypothesis that, while searching for something, the end-user might very easily locate a supplier of a commercial solution and that this could result in a monetary transaction in favor of the supplier. It is not at the point of sale that the Google commission model kicks in but at the point of "click". In other words, when the searcher finds a suitable vendor or supplier with an online presence, he "clicks" his mouse to enter the website where the product or service is on offer. Once the person clicks, Google can then begin to start counting the cash. Obviously, this model is not fool proof and Google has already had to pay out big time in instances where competitors have tried to drain the marketing coffers of online sites by clocking up a huge number of fraudulent clicks.

The launch of Google IPO in August 2004 was one of the biggest in history, and done like no other, using a Dutch auction approach to make stock available to everyone who could afford it, not just institutional investors. It is this phase that witnessed the transformation of the Google guys from mere technologists with little business acumen to incredibly sharp deal-makers, partnering with competitors to make their search engine the backroom for Ask Jeeves, AOL and thousands of other affiliates.

There is some odd jumping around—there is a whole chapter on the Google chef that is sandwiched in between the IPO and competitive wars with Microsoft. However, Charlie Ayers' influence at Google could not be ignored by the authors.

The balancing factor in the book is its reference to some setbacks in Google's journey to fame: launching Gmail close to the IPO and facing fierce criticism from privacy advocates, complaints from advertisers about corrupt clicking on their ads by competitors, even the odd multi million dollar court settlement. The book looks at the ugly side of capitalist corporate warfare, including the delicate relationship between Google and Microsoft and the political pressures of trying to establish a presence in countries such as China.

Finally, the authors have some fun predicting what is next from Google. Thinking way beyond search, they are looking into cheap space travel, googling the gene, and powering the human mind with a plug-in. Well, the day may not be probably far off. These are some of the best minds in the world with a lot of money to play with and 20% of their time to play in.

Like the company it profiles, The Google Story is a bit of a wild ride, and fun, too. Its first appendix lists 23 "Tips" which readers can use to get more utility out of Google. Appendix II has a copy of the Google Labs Aptitude Test, complete with test code. It has some very interesting questions, although I think I would have failed the test and therefore stand no chance of working for Google.

It is, however, a disappointment in parts for a serious reader wanting to have some inside information on technology issues. Part of it could be because the company has guarded its privacy well. The entire book is a result of the authors' having read through interviews and articles, and simply summarizing them into a mostly-chronological account of Google. They mostly relied on conversations with other players, press releases, public information and, of course, what they could find on Google about Google. The authors don't seem to have got any inside access to the founders, the CEO, the VCs or any other key protagonist.

The authors also go overboard in claiming that no other invention, since Gutenberg invented the modern printing press, has transformed access to information as profoundly as Google. Maybe this credit should be reserved for the Internet. The authors' describe Google's library project, but don't have a clue on how these millions of books are to be scanned. They say "click fraud" is jeopardizing Google's advertising model, but don't explain how these bots are created or how they can be stopped. The book mentions Sergey Brin being a great deal-maker several times, but the only instance given to this effect is redirecting his private jet to London to pull an AOL Europe deal out of the fire by dramatically outbidding Yahoo.

The strength of the book comes from its focus on the human side of the Google story, as opposed to the technical one. Some may prefer a more analytic approach to Google's impact on the Internet, like The Search. Entrepreneurs at heart wanting to understand the motivation and personal growth of founders Larry Page and Sergey Brin, however, will enjoy this book.

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