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SHOBHIT UNIVERSITY, MEERUT
School of Business Studies

Shobhit University, established under Section 3 of the University Grants Commission Act, 1956, was envisaged and inspired by Babu Vijendra Kumar *ji*, who was an eminent agriculturist and social worker from Gangoh, Saharanpur. Shobhit University stands for going beyond the established standards and for nurturing technocrats and managers that have a global vision and insight in their chosen field and are globally employable in emerging areas, with a special focus on the 21st century professional requirement. The university is marching ahead under the dynamic leadership of Vice-Chancellor Padmashree Prof. R. S. Sirohi, former Director of IIT, Delhi and former Vice-Chancellor of Barkatullah University, Bhopal.

The **School of Business Studies (SBS)** is an integral part of the University Campus. It inherits the academic legacy of NICE Management College (Estd. in 1995) and gets a fresh window of autonomy in curriculum designing and flexibility of foreign collaborations through academic exchange, credit transfer mechanism and bringing in increased industry component.

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Under the academic guidance of a team of renowned faculty, the SBS offers a unique Master of Business Administration (MBA) programme, with specialisation and super specialisation in all contemporary fields of management.

NICE *JOURNAL OF BUSINESS*

NICE *Journal of Business* is a half-yearly journal, earlier published by NICE Management College, Meerut, and now being brought out by the School of Business Studies, Shobhit University, Meerut. It seeks to provide a platform to research scholars, practicing managers, and academicians in business management, commerce, economics, and allied fields, to present their research findings and share their views and experiences.

The journal aims at disseminating information about recent developments in the relevant fields, by way of research articles and to publish book reviews, Ph.D. thesis abstracts, case studies, and bibliographies on relevant topics.

Original contributions, received for publication in the journal, are subjected to a blind review by experts in the relevant fields.

From the Editor's Desk

I am delighted to place before the readers, the fourth issue (Volume 2, Number 2) of *NICE Journal of Business*. The response from the readers and the contributors for the earlier issues as well as the current one has been overwhelming.

As in the previous issues, this issue of the Journal contains research papers, short articles and notes, and book reviews, on varied topics of current interest in business and allied areas. The research papers and short articles pertain to varied business areas: *marketing* (customer satisfaction and delight, marketing of banking services, marketing of insurance, and quality of healthcare services), *finance* (mutual funds), *organisational behaviour* and *human resources management* (organisational climate, managerial effectiveness, and organisational citizenship behaviour), *production and operations management*, and *industrial economics* (energy management and production-cost reduction, automobile components industry, and banking industry).

Globalisation and liberalisation have led to stiff competition among the firms. This has resulted in a new marketing phenomenon, known as 'customer delight'. Professor R.D. Sharma, Dr. Gurjeet Kaur, and Dr. Jyoti Sharma have analysed the nature of customer delight and sought to measure the extent of its prevalence in selected banks. They have devised an appropriate action plan for ensuring customer delight in banks. The study reveals that the Indian banks are far away from providing customer delight and that the private-sector banks are somewhat better placed in this direction as compared to their counterpart in the public sector.

The insurance sector in India has been rapidly advancing to capture a big market since its deregulation in 1999. Professor Raghbir Singh and Mr. Arunesh Garg make a comparative analysis of the promotion and distribution strategies of public and private-sector insurance companies in respect of home insurance, car insurance, and health insurance. The authors have noted that the general insurance companies have made vigorous efforts to attract customers by widening their marketing network, enlarging their product portfolio, and customising their product offerings and allied services.

Professor R.C. Dangwal and Mr. Arun Sacher have examined the two important variables which affect the organisational performance, namely, organisational climate and managerial effectiveness. Their study reveals that age, experience, and salary play a significant role in determining the organisational climate and managerial effectiveness of an organisation.

The article of Mr. A.K. Tiwari and Dr. Atul Pandey focuses on the energy management criteria and policy-planning in selected companies. The authors assess the effect of different energy-saving methods and staff-training programmes in energy conservation. They demonstrate that energy-saving and efficiency-improvement programmes require a co-ordinated action from all functional departments of the company. According to the authors, this would lead to better energy security in the country and, at the same time, Indian companies would be able to substantially reduce their production cost.

The major determinants of Organisational Citizenship Behaviour (OCB) have been studied by Mrs. Garima Mathur and Mrs. Silky Vigg. They present a comparative study of OCB factors, including courtesy, sportsmanship, conscientiousness, loyalty, civic virtue, extra-role behaviour, and commitment, which play an important role in service organisations as compared to manufacturing organisations. They have found that the employees' behaviour in service and manufacturing sectors differ significantly insofar as the soft skills are concerned.

Delivering superior service quality and ensuring customer satisfaction are essential for survival and growth of any organisation. Based on a survey of 520 patients, taken from four hospitals located in three cities, the study by Dr. Mushtaq A. Bhat and Mr. Mohd. Yaseen Malik, has revealed that there is a wide gap between patients' expectations and perceptions. The authors suggest measures for improvement across all the major dimensions of service quality of healthcare organisations.

In their analytical study, Dr. Valeed Ahmad Ansari and Dr. Saghir Ahmad Ansari have examined the influence of the fund size on the performance of a mutual fund. The study has revealed that the fund size is positively related to the organisational performance, irrespective of the category of the mutual fund – diversified, tax planning, and equity-oriented. According to the authors, there is an optimal size beyond which the mutual fund may experience the diseconomy of scale.

The automobile industry has made an aggressive inroad into the Indian market after the 1940s. This has caused an enormous boost to the automobile components industry. In his article, Professor Rajesh K. Pillania reviews the growth of this key industry of India in the global perspective. The author also compares the status of Indian automobile components industry with that of China, and draws valuable lessons from the latter's experience in designing and manufacturing of automobiles and automobile components.

In his analytical study, Dr. R.K. Uppal examines the competitive efficiency of various types of banks in terms of their productivity, profitability, financial soundness, and quality of assets, after the entry of new private and foreign banks. He has found that the private-sector banks have geared up their efficiency by making improvement in almost every aspect of their working.

In the book review section, we have six reviews, written by experts in the relevant fields. The books reviewed pertain to subjects as diverse as quality management, organisational behaviour, corporate governance, knowledge management, rural marketing, and economic co-operation between China and India.

I express my gratitude to the eminent paper writers and book reviewers, for their valuable contribution.

Several experts extended their help and expertise by way of assessing articles and making critical comments and suggestions for improving their quality. I extend my sincere thanks to each one of them.

Mr. Shobhit Kumar, Chancellor; Kunwar Shekhar Vijendra, Pro-Chancellor; and Professor R.S. Sirohi, Vice-Chancellor of Shobhit University, took keen interest in this academic endeavour. I express my profound gratitude to them.

Shobhit University
MEERUT

D.P.S. VERMA
Editor

CUSTOMER DELIGHT
A Road to Excellence for Banks

R.D. Sharma,* Gurjeet Kaur, ** and Jyoti Sharma***

Abstract

Although marketing practitioners and academicians have considered customer delight (CD) as high level of customer satisfaction, yet there is no unanimity among them about the behavioural foundations, antecedents and consequences particularly in the context of service sector. The service sector is witnessing fast growth, along with intense competition among service providers. Thus, the task of establishing and maintaining the customer base is today's greatest challenge before the service marketers. They improve their service package along with the delivery mechanism for attracting and retaining customers. This requires a well planned strategy for enduring customer delight. This can be ensured when marketers fully understand as to what delights the customers. It is in this context that the present study seeks to identify the core dimensions of consumer banking services that delight the customers. The study reveals that despite introducing market-oriented bank products, customer delight is yet to be achieved. Moreover, public-sector banks are lagging behind the private-sector banks in their effort to attain customer delight.

Key Words: ***Customer expectation, Customer delight, Moments of truth, Consumer banking***

INTRODUCTION

GLOBALISATION, liberalisation, and deregulation have resulted in a sea change in the form of time and cost-effective consumer banking services (Javalgi, 1992). These competitive innovations have made bank customers more concerned about their money value and surrounding environment that leads to high customer expectations from service providers. In fact the customer expectations rise with the use of latest technology, like on-line services or e-banking, inspiring them to explore the alternatives available to all from around the world and eventually arming them with an unprecedented amount of market knowledge (Parasuraman, 2000).

Thus, with ever-escalating customer expectations, companies have to offer additional values to make an ever-lasting impression in the minds of customers (Gurney, 1999), because mere delivery of satisfaction as the confirmation of expectations is considered as a minimum threshold. Therefore, in the present era, the emphasis is on customer delight (CD) so as to exceed customer's expectations (Yeung, Ging, and Ennew, 2002).

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Delight resulting from high level of surprisingly positive disconfirmation can satisfy customers only when it is experienced but does not dissatisfy when it is not experienced (Rust and Oliver, 2000). It is an experience of product performance where customer feels overjoyed at the service provision (Verma, 2003) that culminates into a positive emotional reaction when the customer receives a product / service that not only satisfies but also provides an unexpected value or unanticipated satisfaction (Chandler, 1989; Rust and Oliver, 2000). The important aspect of service contributing to CD is how a customer is treated in a service industry, i.e., with politeness, respect, friendliness and other similar considerations because caring attitude adds much more value to CD than the service quality dimensions being maintained, like tangibility, responsiveness, reliability and empathy (Verma, 2003).

In an endeavour to delight customers, companies need to determine what a market segment truly values and accordingly provides customised value through integrated service delivery solution, ensuring responsive, timely and cost-effective services (Wilson, Leckman, Cappucino and Pullen, 2001). In this regard, three dimensions, viz. security, justice and self-esteem, are equally important elements to create customer delight and avoid any outrage (Verma, 2003).

Further, CD provides a distinct advantage to a company that does it first and does it well (Chandler, 1989) and, thus, creates a desire for pleasurable performance in the future. Companies attempt to go beyond just meeting customer expectation in order to enjoy proportionately greater gains (Yeung, Ging and Ennew, 2002), as delighted customers buy more, complain less, spread positive word of mouth (Gurney, 1999), ensure loyal customer base and repeat purchases (Rust and Oliver, 2000).

Initially, customer satisfaction came up as a competitive feature (Fornell, *et al.* 1996) to strengthen customer loyalty for enjoying sustainable competitive advantage, but later researchers also showed tremendous interest in CD for retaining the customers. Though, there are discrepancies among researchers regarding the concept, antecedents, and the consequences of CD. For example, Mano and Oliver (1993) and Westbrook and Oliver (1991) considered the drivers of satisfaction and delight to be the same, whereas Rust, Zahorik, and Keiningham (1994) opposed it.

Keiningham, *et al.* (1999) assert that a delighted customer is "very satisfied", whereas a very satisfied customer is not necessarily delighted. According to Rust and Oliver (2000), although additional cost of designing, implementing and marketing the delighting product / service feature generates loyalty, there is a tendency that customers may forget delight with the passage of time if it is not maintained forever. Such value add-ups raise expectations of the customers and then it becomes difficult to maintain the similar delight level for future (Rust and Oliver, 2000). However, delight creates a desire for future recurrences of pleasurable surprising performance and thus instigates the customer to return to the service-provider.

Earlier, Rust, Zahorik, and Keiningham, *et al.* (1995) had found that customers who were satisfied had a probability of 95 per cent and those who were delighted (100 percent satisfaction) had a probability of 97 per cent for returning back to the same service-provider.

It is in this context, the economic reforms initiated by the Government of India, in 1991, have changed the landscape of the banking sector. It faces multiple and concurrent challenges, such as increased competition, rising customer expectations and diminishing customer loyalty due to increase in financial sophistication of customers. This on-going process of change, with its focus on international integration, necessitates the emergence of not just domestically strong players but also globally competitive ones. The forces of change have led the banks move towards customer-oriented strategies so that it is the quality of services that becomes the ultimate factor which differentiates one organisation from another (Coskun and Frohlich, 1992). Presently, the banking industry is witnessing strong competitive pressures and facing an increasingly discerning clientele. Even to survive, banks need to differentiate themselves strategically from their competitors by improving service quality, enhancing accessibility and responding to customer demand (Yavas and Yasin, 2001). Present-day customers demand direct access to financial information and services at any time or place.

The changing profile of the Indian consumers as well as his expectations have transformed today's banks into 'one-stop shop' that meets all the banking and financial needs of the customers. As a result informed consumers are demanding greater convenience over banking transactions as they have a much wider menu to choose from.

Thus, delight depends on the level of awareness and it is the expectation formed on the basis of awareness that makes a difference. However, the status of delight does differ from customer to customer due to his/her different socio-economic or demographic background.

REVIEW OF LITERATURE

For identifying the research gap sought to be bridged by the study, the existing literature on the subject is being reviewed in the following paragraphs.

Chandler (1989) distinguishes between delight and satisfaction by saying that while delight provides unexpected value (equating costs with benefits) or unanticipated satisfaction, satisfaction (whatever is the level, low/ moderate/high) is a static phenomenon that focuses on known situations.

Going beyond service quality and customer satisfaction, Whittaker (1991) points out that delight is the only key to survival in today's competitive world.

Oliver, Rust and Varki (1997) contended that delight, being the higher level of satisfaction, is the key to the more evasive goals of loyalty and loyalty-driven profit. They rightly pointed out that customer delight is qualitatively different from satisfaction, as it is found to have 'near zero effect' on repurchase intention and, hence, one must entertain delight as a goal apart from satisfaction.

According to Gurney (1999), customer delight is an opportunity, provided employees are trained to take up these opportunities and are empowered to act on them as the customers want service workers to be efficient, helpful and pleasant.

Verma (2003) observed that customers get delighted when they interact with customer-oriented staff, but such a staff only senses, serves and satisfies customers' identified needs, whereas delight is one level above such an orientation. It is a state where the customer feels happy or elated at the service provision, which drives his or her commitment or loyalty. Further, it occurs when the customer is pleasantly surprised in response to an experienced disconfirmation about the expected product performance. It provides an unexpected value or unanticipated satisfaction (Chandler, 1989). Delighters include friendliness, courtesy, consideration, problem-solving and personalisation, which are considered as most essential elements of service quality. Courtesy (employee politeness, respect, friendliness and consideration), prompt customer-oriented recovery management, personalisation, going beyond the call of duty or out of the way helps provision and customisation also delight customers.

Nash and Nash (2003) emphasised that customer delight results in long-term profitability and loyalty among customers. Delighting the customers by taking the extra mile leaves a memorable impression on them, which the customers talk about from time to time by becoming profitable customers.

Ghodeshwar (2000) stresses upon the importance of understanding the customer expectation properly and delivering actual performances that exceed those expectations so as to make them delighted customers.

Ngobo (1999) treats delight and 100 per cent satisfaction equally for initiating managerial efforts attempting at attracting new or retaining old customers. He opines that customer delight may not be worth the efforts of the marketers because after a certain threshold point, the effect of satisfaction on loyalty increases at a decreasing rate and the firm stops reaping the benefits of customer satisfaction in terms of loyalty.

Research Gap

Thus, the existing literature neither identifies the service dimensions which delight the customer nor measures the extent of CD in a given situation. The present study examines how far the Indian consumer banking industry has stood up to the new challenges thrown by the ever-increasing customer expectations to ensure customer delight and what more needs to be done for building and maintaining reasonably high level of the CD in the ongoing cut-throat competition in the industry.

OBJECTIVES AND HYPOTHESES

Economic liberalisation, privatisation, IT revolution, changing customer requirements and expectations and increasingly discerning clientele have posed a challenge to the existing Indian banking industry (Phatak and Abidi, 2000) in terms of survival, sustenance and success in the prevalent turbulent environment. In fact, for a long time, Indian banking industry has remained far behind customer expectations (Bhattacharyay, 1990), thereby indicating the necessity of better service quality (Kumar and Mittal, 2002; Debasish, 2003; Krishnaveni and Prabha, 2004). This leads to the formulation of the first objective and the first hypothesis:

O1: To measure the nature and extent of customer delight in the selected banks.

H1: Indian banks are far away from customer delight.

Today, Indian service sector is the fastest growing sector even in a tough competitive environment. The marketers are facing a challenge of how to create a service package, which can delight customers and build their loyalty with the vendors. With the ongoing economic reforms, the Indian banking industry entered into an era of global competition (Gopal, 1997). Consequently, the entry of new private-sector banks, both domestic and foreign, having international banking standards manifested three fold competition i.e., size, range and quality of services offered (Phatak and Abidi, 2000), which were ignored by Indian banks prior to the reforms. Public-sector banks are losing their market share and thus their profitability is being seriously squeezed (Chaudhuri, 2002). Moreover, the financial performance and efficiency of private-banks is significantly higher than that of public sector banks (Sathye, 2005). Thus, the second and third objectives and hypotheses are:

O2: To ascertain the nature and extent of customer delight in both public and private-sector banks separately.

H2: Private sector banks are better placed in terms of their efforts in delighting customers as compared to their public-sector counterpart.

O3: To formulate an appropriate action plan for delighting the customers.

H3: Indian banking industry follows the concept of customer satisfaction and, thus, the efforts for building customer delight need to be planned in the context of ongoing demand for cashless and/or paperless banking services.

RESEARCH METHOD: INSTRUMENT DESIGN AND DATA COLLECTION

In the light of aforesaid hypotheses and objectives, an instrument (see Annexure) was developed to collect information on

- Nature and concentration of popular consumer banking services,

- Overall experience with the prime bank. The prime bank here means the bank with which the customer has maximum dealings.
- Delight with transaction and specific banking services, and
- Demographic profile of the customers (Exhibit I).

This instrument was pre-tested on a small sample of 50 respondents residing in Sarita Vihar colony in New Delhi. With the variability in the responses from the sample drawn from the population of approximately 5000 households, sample size for the main study thus came out to be approximately 300 respondents (Mukhopadhaya, 1998). However, after final scrutiny, 250 properly filled data forms were used for the research. For data collection the respondents were selected with the help of an abridged list of random numbers (Churchill, 1988). The study was conducted in New Delhi as it, being the national capital, witnesses the latest changes in the banking services and has almost all the present day consumer banking service dimensions which delight the customers. Moreover, this colony is a representative of people belonging to various demographic profiles of urban life relevant to modern consumer banking services.

Respondents were first asked two screening questions to check whether they currently have an account with a bank and an experience of other consumer banking services. Since most of the urban bank customers have dealings with more than one bank for deposits, loans and other ancillary banking services, they were asked to respond to the queries on the basis of their experience in their prime bank i.e., the bank with which they do maximum business. A 3-point scale (3<——>1) ranging from 'performance below expectation' (1) to 'performance above expectation' (3) was used to measure customer delight as per its conceptual framework given by Kotler (2003), Rust and Oliver (2000) and Bhattacharyya and Rahman (2004).

Customer delight within the domain of consumer banking has been measured with the help of arithmetic mean, standard deviation and frequency distribution. The construct validity of the questionnaire has been established through review of literature and discussions with experts in the fields. Convergent validity and split half reliability of the data have also been established.

Reliability and Validity

As stated above, the measurement of difference in the scores obtained from the respondents has been done through split half reliability (Chuchill, 1979) so as to check the internal consistency in the gathered data. The data collected from bank customers has proved reliable in terms of split half reliability (Table 4) as the measures obtained by dividing the respondents into two equal halves (group I: 2.47, group II: 2.37) are satisfactory. The values of Cronbach alpha also came out to be satisfactory for both the groups (group I: 0.78 and group II: 0.82). Further, the reliability for the study as a whole worked out through Cronbach alpha also came out as high as 0.873. Convergent validity of the construct reflecting the consistent information obtained from the respondents has also been worked out. The overall mean score of 2.41 has been proved convergently valid as the statement, "overall experience" has secured 2.65 mean score from the majority of sampled respondents (Table 5) reflecting an average level of delight. Moreover, nomological validity has indicated all the items that are expected to load together actually doing so (Malhotra and Mukherjee, 2004).

ANALYSIS AND DISCUSSION

As per the objectives and hypotheses drawn from the literature and ongoing practices regarding the research domain of CD taken here, consumer banking industry embodies some of the common characteristics considered essential for service industry viz., reliability, assurance, customization, etc. (Zeithaml, 2000). The data collected from the customers was analysed by segregating the responses for the banks for which the proportions of the respondents figured quite high. Consequently, ICICI, HDFC, SBI, and PNB emerged as major prime banks. Further, the banks were again classified into two distinct groups - public-sector banks comprising SBI and PNB and private-sector banks comprising ICICI and HDFC. The results reveal that the dimension 'service quality' (2.53) of the banks under the study have met the expectations of the customers', thus confirming a sea change in the past few years in the shape of greater efficiency and stability in Indian banking sector (Mohan, 2007). Moreover, the public-sector banks have responded proactively to the challenges posed by the private sector banks by accepting the changed customer demands and expectations. They also retained the core competencies to deal with these changes, thereby exhibiting a significant improvement in their performance in terms of profitability and operational efficiency (Kamath, *et. al.*, 2003).

This has further been reflected in the mean scores of CD with regard to a dimension of the research domain viz., 'public relation' and 'employees' orientation' (Table1). The data reflect that in the case of HDFC and SBI, 72 per cent customers are delighted with the employees' orientation towards customer focused banking service (Table 2). This depicts that banks are focusing on building long-term customer relationships based on series of moments of truth which are experiential in nature and necessary in building delight among customers (Yavas and Yasin, 2001).

Further, public-sector banks have failed to promote their products with the help of effective marketing communication techniques. Though, HDFC and ICICI were able to meet the customers' expectations (2.23 each), PNB and SBI failed even to reach their expectations (1.70 and 1.94) respectively (Table 1). Though private-sector banks are aggressively promoting themselves, still they are unable to delight the customers. However, the public sector banks are lagging behind their competitors with regard to their promotional strategy. They should understand that a promotional strategy directed towards target markets needs to communicate all the information concerning the bank products/ services, prices etc., to the consumers and a 'value proposition' for each segment of customers needs to be developed that explicitly decides which benefit will be delivered to which customer through which channel, at which place, and at what price, etc. (Frieder and Gregor, 1996).

The 'place' aspect has also reflected its relevance through the mean scores obtained by ICICI (2.62), HDFC (2.58), PNB (2.29) and SBI (2.40) (Table 1). However, like all other banking aspects, it has also failed to delight the customers. On the one hand, where 60 per cent of HDFC and 65 per cent of ICICI customers are delighted with the physical environment, only 42 per cent of SBI customers are delighted (Table 2), which reflects that private banks focus more on providing an ambience and better infrastructure to customers so as to extend convenience and comfort to them.

With ever-escalating expectations, companies have to offer additional values to make an everlasting impression in the minds of the customers (Gurney, 1999) by extending a unique experience for customers' each visit regarding the physical environment. Another aspect that reflects banks inability to delight customers is 'procedure'. The main grudge that customers hold towards the banks is the cumbersome procedural formalities. Though from the scores it becomes evident that both the private-sector banks (ICICI-2.72 and HDFC-2.58) and public-sector banks (SBI-2.57 and PNB-2.48) have met the customer expectations in terms of less tedious procedures, the procedures have yet to be made customer friendly as per the present level of delight in this regard. Interestingly, about 63 per cent and 77 per cent customers of HDFC and ICICI respectively are delighted with the procedural policies adopted by the banks as compared to 72 per cent and 55 per cent of customers SBI and PNB, respectively (Table 2). This is mainly due to the personal interest taken by the bank personnel in helping the customers in completing the procedural formalities. Present day banks' primary emphasis is on how the work is to be done in order to satisfy the needs of the customers, which reflects the customers' point of view rather than that of the organisations: (Prabhakaran and Satya, 2003).

The bankers are able to meet the customers' expectations as revealed on the 3 point Likert scale for some of the aspects (e g., place, hassle-free procedures etc.) and are also marching towards customer delight. Moreover, the calculated value of 't' (1.99) is greater than the table value (1.81), thereby rejecting the first hypothesis that Indian banks are far away from CD. In fact, banks are consciously working towards delighting the customers. At the time when banking industry witnesses strong competitive pressures and increasingly discerning clientele, it needs to strategically differentiate from its competitors by not only improving service quality, enhancing accessibility and responding to consumer demands, but also by building and maintaining higher zone of CD.

The analysis also reveals the levels of delight between both the male (2.38) and female (2.49) customers, indicating better performance in the eyes of the latter. However, interestingly, the CD declines with rise in the education level of the respondents (*i.e.*, under graduates 2.54, graduates 2.43, post graduates 2.39), thereby expectations increase with awareness or sare directly proportional to awareness. Among the various occupation holders, businessmen are close to delight (2.50), while the service class respondents and the professionals are just able to meet their expectations. Similarly, the respondents with annual income between Rs.50,000 to Rs. 100,000 accorded maximum mean score of 2.50 towards customer delight (Table 3).

Strategic Action Plan

From the above deliberations, it can be inferred that the behavioural aspect of bank employees contributes a lot in delighting the customers. In fact, delight depends on the treatment meted out to the customers in a service episode. Delighting incidents occur when service providers take on to ensure customised services to their customers.

The present study reflects that the overall level of delight for HDFC (2.46) and ICICI (2.47) is almost same, while for PNB (2.29) and SBI (2.38) (Table 1) it is less, thus accepting the second hypothesis, indicating private-sector banks being better placed in their efforts of delighting consumers as compared to their public-sector counterpart. This level of CD is effected mainly due to two variables viz., bank's competitiveness (PNB- 1.67 and SBI- 1.89) and promotion mechanism (PNB- 1.70 and SBI-1.94), whose mean scores are low. This implies that public-sector banks still lack competitive culture and thus, are always the followers of private-sector banks. Private-sector banks generally set the trend in terms of service delivery process, though gradually also adopted by the public-sector banks. The same is found true for the promotion mechanism of the private banks. The employees of these banks follow aggressive promotion policy, resulting into high customer awareness regarding the products/services being offered by them. Public-sector banks need to advertise their services, interest rates, loan schemes, branch expansion, and latest technology adopted etc., so as to create awareness among their customers regarding various banking services. Attractive, frequent, educative, timely and innovative promotional tools such as awareness camps, articles in newspapers, magazines, banners, advertisements etc., help not only in attracting new customers but also in generating loyalty and larger customer base through up-selling and cross-selling.

With the steep rise in the level of awareness and expectations of the customers, their perceptions of the speed, efficiency and quality of services have been altered, which has put pressure on the bankers (especially the public-sector banks) for developing desired skills, sensitivity, and perception to understand customers expectations and needs in the changing scenario (Chakarbarty, 1996). This can be achieved through soliciting views, suggestions from the customer meets, complaint handling etc., where customers can voice their opinions. The bankers need to utilise this data judiciously for providing customised services, thereby ensuring customer delight.

It has also been observed that public-sector banks are lagging behind their private-sector counterpart with regard to physical environment. Though the basic expectation of the customers regarding this aspect has been met, yet they are inevitably drawn into a comparison of physical environment provided by these banks. Since the mean scores obtained for this aspect by SBI (2.40) and PNB (2.29) are less than that of ICICI (2.62) and HDFC (2.58), this observation stands empirically validated. Therefore, public-sector banks need to make and maintain their branches attractive and inviting. Inappropriate positioning of different sections, ritualistic sequencing of activities, time consuming procedural matters etc., have contributed to the low quality of services. They need to provide a better ambience, which makes customers' experience of entering into the branch a positive one and helps in positioning the bank as user-friendly (Deutsch, 1990).

In fact, the low efficiency observation in public-sector banks essentially emanates from the general perception that these banks are usually less efficient as compared to private-sector counterpart that rather enjoy customer oriented image in society. Thus, for ensuring a lasting impression in the minds of the customers, public-sector banks need to ensure added value in their offerings (Gurney, 1999), whereby greater emphasis ought to be shifted to delight the customers with much better planned efforts so that their performance in the eyes of the market exceeds its expectation level (Yeung, Ging and Ennew, 2002).

FUTURE RESEARCH DIRECTION

The study provides a detailed investigation into the fast growing new marketing concept of customer delight. This affords a new perspective in customer delight research particularly in urban consumer banking sector. The findings highlight important areas that require immediate attention of bankers and policy makers for understanding consumer feedback towards services offered by them.

Although the study makes significant contribution to the knowledge in the area, certain future research opportunities need to be explored. One of the key areas of focus for future studies is measurement of the concept of delight with much wider sample and sub-sample of the wider research domain. The study uses 3-point expectation scale varying from 'performance below expectation' (1), to 'performance above expectation' (3) as referred to by Kotler (2003), Rust and Oliver (2000) and Bhattacharyya and Rahman (2004). However, a multi-item scale also needs to be developed that will discriminate delight from its close adjectives viz., joy, surprise, or high level of satisfaction.

Moreover, new theoretical insights into the conceptual domains of CD with corresponding empirical tests need to be undertaken. The longevity of the delight phases among customers and its impact on their behavioural intentions still require to be explored.

Further, the financial impact of delight programmes on the bankers needs to be studied from the service providers' vantage. Whether delight increases the loyal customer base for the service provider or not still remains to be investigated in detail.

Thus, customer delight is a contemporary topic both for the industry and academicians. Though an attempt has been made to provide certain insights into customer delight, further research is required to provide an in-depth understanding of the concept and ongoing practices.

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Appendix A

List of Service Quality Dimensions

1.	Prime bank's service quality on the whole
2.	Prime bank's competitiveness compared to other banks
3.	Prime bank charges and fees
4.	Prime bank's promotion mechanism
5.	Prime bank's branch functioning and maintenance
6.	Procedural formalities for opening an account and availing other services
7.	Providing error free services
8.	Behavioural performance of bank personnel
9.	Public relations
10.	Overall experience with the bank
11.	Handling of customer complaints

Table 1

Bank-wise Measurement of Customer Delight on a 3-point Likert Scale through Mean and Standard Deviation in Sample Banks

Sr. No.	HDFC Bank		ICICI Bank		PNB		SBI		Composite of all banks	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Overall Service Quality	2.51	0.50	2.56	0.58	2.48	0.51	2.53	0.58	2.53	0.55
Competitiveness	2.28	0.66	2.30	0.69	1.67	0.75	1.89	0.67	2.06	0.73
Bank Charges	2.12	0.63	2.11	0.67	2.16	0.52	2.53	0.58	2.21	0.63
Promotion Mechanism	2.23	0.68	2.23	0.73	1.70	0.74	1.94	0.76	2.02	0.76
Branch Functioning & Maintenance	2.58	0.54	2.62	0.57	2.29	0.69	2.40	0.58	2.49	0.62
A/c Opening Procedure	2.58	0.58	2.72	0.48	2.48	0.63	2.57	0.74	2.64	0.59
Error-free services	2.58	0.54	2.63	0.54	2.68	0.47	2.45	0.62	2.56	0.57
Employee Behaviour Personnel	2.69	0.51	2.67	0.47	2.52	0.57	2.62	0.68	2.65	0.55
Public Relations	2.58	0.54	2.46	0.61	2.42	0.72	2.53	0.69	2.52	0.62
Customer's Overall Experience	2.53	0.55	2.54	0.53	2.45	0.50	2.55	0.65	2.55	0.55
Complaint Handling	2.39	0.66	2.36	0.62	2.35	0.61	2.23	0.67	2.34	0.65
Overall View	2.46	0.60	2.47	0.62.	2.29	0.67	2.38	0.70	2.41	0.65

Table 2

Frequency of Responses on Customer Delight on a 3-point Likert Scale

Sr. No.	HDFC Bank			ICICI Bank			PNB			SBI			All banks		
	BE	EE	AE	BE	EE	AE	BE	EE	AE	BE	EE	AE	BE	EE	AE
Overall Service Quality		49	51	4	34	59		52	48	4	38	57.4	3	42	55
Competitiveness	12	49	39	13	42	42	48	35	16	28	55	17	23	47	30
Bank Charges	14	60	26	17	52	28	6	11	23	4	38	57.4	12	56	32
Promotion Mechanism	14	49	37	17	41	39	45	39	16	32	43	25.5	27	43	30
Branch Functioning & Maintenance	2	37	60	4	28	65	13	45	42	4	51	44.7	7	37	56
A/c Opening Procedure	5	32	63	1	24	72	6	39	55	15	13	72.3	6	25	70
Error-free services	2	37	61	3	30	65		32	68	6	43	51.1	4	36	60
Employee Behaviour Personnel	2	26	72		32	65	3	42	55	11	17	72.3	4	28	68
Public Relations	2	37	61	6	41	51	13	33	55	11	25	64	6	35	59
Customer's Overall Experience	2	42	56	1	42	54		55	45	8	28	64	3	39	58
Complaint Handling	9	42	49	7	48	42	6	52	42	13	51	36	10	47	43

Note: BE - Below expectation, EE - Equal to expectation, AE - Above expectation

Table 3 (A)

Demographic-wise Measurement of Customer Delight on a 3-point Likert Scale through Mean and Standard Deviation

Sr. No.	Gender				Occupation						Qualification					
	M		F		B		P		S		UG		G		PG	
	M	S.D	M	S.D	M	S.D	M	S.D	M	S.D	M	S.D	M	S.D	M	S.D
Overall Service Quality	2.46	0.58	2.65	0.47	2.67	0.57	2.56	0.57	2.73	0.53	2.67	0.65	2.52	0.55	2.52	0.55
Competitiveness	2.04	0.72	2.11	0.74	2.12	0.74	2.11	0.71	2.05	0.71	2.17	0.93	2.10	0.74	2.02	0.69
Bank Charges	2.18	0.67	2.25	0.54	2.34	0.66	2.16	0.60	2.13	0.64	2.42	0.51	2.14	0.65	2.25	0.62
Promotion Mechanism	2.00	0.76	2.07	0.75	2.13	0.75	2.05	0.73	2.00	0.76	2.08	0.90	2.04	0.74	2.00	0.76
Branch Functioning & Maintenance	2.49	0.62	2.48	0.61	2.57	0.62	2.49	0.60	2.49	0.62	2.50	0.67	2.55	0.59	2.42	0.65
A/c Opening Procedure	2.62	0.61	2.68	0.54	2.72	0.48	2.58	0.63	2.61	0.61	2.83	0.38	2.66	0.57	2.59	0.62
Error-free services	2.52	0.56	2.65	0.53	2.47	0.59	2.54	0.60	2.56	0.57	2.50	0.52	2.67	0.54	2.46	0.59
Employee Behaviour Personnel	2.61	0.65	2.72	0.53	2.73	0.45	2.56	0.69	2.61	0.54	2.83	0.39	2.64	0.53	2.64	0.58
Public Relations	2.45	0.52	2.68	0.49	2.68	0.54	2.42	0.71	2.46	0.61	2.75	0.45	2.52	0.63	2.51	0.61
Customer's Overall Experience	2.52	0.53	2.61	0.54	2.67	0.54	2.47	0.66	2.47	0.50	2.67	0.65	2.55	0.56	2.53	0.53
Complaint Handling	2.27	0.63	2.49	0.61	2.33	0.65	2.29	0.74	2.29	0.62	2.58	0.51	2.35	0.64	2.29	0.66
Overall View	2.38	0.63	2.49	0.58	2.50	0.60	2.39	0.66	2.37	0.61	2.54	0.60	2.43	0.61	2.39	0.62

Note:M = Male, F = Female, B = Business Class, P = Professional, S = Service Class, UG = Under-graduate, G = Graduate, PG = Post-graduate

Table 3 (B)

Demographic-wise Measurement of Customer Delight on a 3-point Likert Scale through Mean and Standard Deviation

Sl. No.	Income								Qualification					
	a		B		c		d		UG		G		PG	
	M	S.D	M	S.D	M	S.D.	M	S.D	M	S.D.	M	S.D.	M	S.D.
Overall Service Quality	2.00	.00	2.5	0.66	2.43	0.54	2.59	0.54	2.67	0.65	2.52	0.55	2.52	0.55
Competitiveness	1.50	.71	2.23	0.83	2.01	0.76	2.09	0.70	2.17	0.93	2.10	0.74	2.02	0.69
Bank Charges	1.00	.00	2.31	0.75	2.19	0.62	2.22	0.62	2.42	0.51	2.14	0.65	2.25	0.62
Promotion Mechanism	1.50	.71	2.31	0.85	1.84	0.73	2.12	0.74	2.08	0.90	2.04	0.74	2.00	0.76
Branch Functioning & Maintenance	1.50	.71	2.54	0.52	2.48	0.61	2.51	0.63	2.50	0.67	2.55	0.59	2.4	20.65
A/c Opening Procedure	3.00	.00	2.54	0.52	2.60	0.60	2.66	0.59	2.83	0.38	2.66	0.57	2.59	0.62
Error-free services	2.00	1.4	2.54	0.52	2.54	0.54	2.58	0.58	2.50	0.52	2.67	0.54	2.46	0.59
Employee Behaviour Personnel	2.5	.71	2.69	0.48	2.67	0.52	2.63	0.57	2.83	0.39	2.64	0.53	2.64	0.58
Public Relations	1.00	.00	2.77	0.44	2.44	0.60	2.57	0.61	2.75	0.45	2.52	0.63	2.51	0.61
Customer's Overall Experience	2.00	.71	2.61	0.65	2.49	0.55	2.58	0.55	2.67	0.65	2.55	0.56	2.53	0.53
Complaint Handling	1.5	0.4	2.46	0.51	2.29	0.63	2.36	0.66	2.58	0.51	2.35	0.64	2.29	0.66
Overall View	1.77	0.45	2.5	0.61	2.36	0.61	2.45	0.62	2.54	0.60	2.43	0.61	2.39	0.62

Note: a, b, c, and d refers to the income category as shown in Exhibit 1

Table 4

Split Half Reliability

All Banks	1st half	2nd half
All Banks	2.47	2.37

Table 5

Customer Delight Converged with 'Overall Experience'

All banks	BE	EE	AE
x	1.65	2.08	2.65
%	3	39	58

Exhibit 1

Brief Profile of Respondents in Delhi City.

Gender:	Male (M)	67%	Female (F)	33%
Qualification:	Under Graduate (UG) Graduate (G)	4% 50%	Post Graduate (PG)	46%
Occupation:	Business (B) Profession (P)	24% 22%	Services (S) Others	41% 13%
Income:	(a) Upto50,000 (b) Rs. 50,000-100,000 (c) Rs. 100,000- 200,000 (d) Above Rs. 200,000	1% 5% 34% 60%		
Name of the Prime Bank:	HDFC SBI PNB	17% 19% 12 %	ICICI Other Banks	28% 24%

PROMOTION AND DISTRIBUTION STRATEGIES OF GENERAL INSURANCE COMPANIES

Raghbir Singh* and Arunesh Garg**

Abstract

The opening up of the general insurance business has provided an opportunity to private-sector companies to enter the market. The present study, undertaken in the State of Punjab and the Union Territory of Chandigarh, seeks to examine the promotion and distribution strategies of selected personal insurance offerings by general insurance companies in the public as well as the private sector. These offerings include car, home and health insurance. It has been found that almost all the general insurance companies have used better customer service as a tool of competition. While the public-sector insurance companies already have a wide network and product portfolio, their counterpart in the private sector have expanded their operations in a big way. The study has revealed that both the public and private–sector companies largely use the references of existing customers for promoting and selling their insurance policies. For distributing the selected insurance covers, individual insurance agents are mostly used. Other modes of distribution of their policies include the other banks and financial institutions, car dealers, workshops, manufacturers, and the brokers. The findings of the study have important managerial implications.

Key Words: ***Promotion strategies, Distribution strategies, Car insurance, Home insurance, Health insurance***

WITH the deregulation of the insurance industry in India in 1999, private companies got an opportunity to enter the insurance market. Prior to its deregulation, the insurance business was dominated by public-sector companies. In the liberalised insurance sector, as many as twelve new companies have entered the general insurance business alone. Consequently, the public-sector companies have to face towards countering the challenges posed by the new players. The private-sector players have to strive to build confidence of the customers and get a foothold in the market. In a competitive market, insurance companies are coming out with innovative general insurance products, and are trying to reach the customer through various means of promotion and distribution. The present study, conducted in the State of Punjab and the Union Territory of Chandigarh, seeks to

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examine the promotion and distribution strategies adopted by the general insurance companies for the marketing of car insurance, home insurance, and health insurance.

PREVIOUS RESEARCH FINDINGS

Research studies by Crosby, Lawrence, Evans and Cowles (1990), Naumann (1992), Balachandran (2000), Coulter and Coulter (2002), Larpsiri and Speece (2004) and Awasthi (2005) have revealed that, in the insurance business, trust is a key factor in establishing long-term relationship with the customers. Generally, a customer buys insurance because he trusts the salesman. The studies have also stressed that insurance salesman has basically to perform the role of a relationship manager.

Singh (1985), Chuganee (2002), Joseph, Mathews, Stone and Anderson (2003), Shah (2003), Rao (2004), Awasthi (2005), Bharath (2005), Kalyani (2005), Rao (2005), Shenoy and Raju (1990), and Singhal (1994) have emphasised on transparency and efficient and timely settlement of claims by the insurance companies. They have observed that policy-holders are generally dissatisfied with the insurance companies, due to delay in receiving the policy and, that they want the insurance companies expeditiously settle the claims and issue the documents. Palande, Shah and Lunawat (2003) have emphasised that the main thrust of the insurance companies should focus on bringing the customers to the centre-stage, improvement of their services and design of new products. Vaidyanathan and Jyothilakshmi (2003) have stressed that rural insurance should be looked as an opportunity by the insurers. They have pointed out that rural market needs customized products, which are simple to understand and easy to administer, and have underlined the need to tap the vast rural branches of commercial banks, regional rural banks, co-operatives, and post offices.

Shah (2003), Larpsiri, and Speece (2004), and Pai (2006) have emphasised the role of information technology in enabling the insurance companies to market their offerings effectively. They pointed out that technology has to be the insurance organisation's major tool to introduce the necessary changes and increase the productivity. According to them, the need of the hour is to design and implement systems to be integrated into inter-personal relationships. They have also observed that technology should be used to enhance customer experience and deliver fast service.

Krishnamurthy, Mony, Jhaveri, Bakhshi, Bhat, Dixit and Maheshwari (2005) have stressed that insurance companies should offer products that meet the needs of the people and, at the same time, are affordable. Their study has revealed that major challenges faced by insurance companies pertain to demand conditions, competition, product innovations, delivery and distribution systems, use of technology, and regulation. According to Ramakrishna (2005), while the terms and conditions of the policy should be clear, the language of the policy document should be easy to understand and industry-wide programmes should be launched to educate consumers. He advised brokers and agents to educate their clients through seminars and workshops and to collect data regarding customers' changing needs and grievances.

Clow, Kenneth, James, Kranenburg, and Berry (2006) have concluded that in a service organisation, the presence of the service quality cues is a strong influencer of purchase intentions. Shelton (1995), Vishwanathan (2006) and Gentle (2007) have emphasised the role of efficient distribution channels in marketing of insurance products. The authors have predicted that in the insurance industry, direct salesforce channel would become less important in future and insurance companies would need to develop alternative distribution channels. They stressed that the success of insurance companies would depend on matching the appropriate customer segment with the right distribution channel.

Thus, it appears that marketing of general insurance by public and private-sector companies in India has remained almost an unexplored area. Hardly any comprehensive study has been conducted so far in this field. The present study is an attempt to bridge the gap in this important field of business.

RESEARCH OBJECTIVES AND HYPOTHESES

The present study has two major objectives:

1. To examine the facilities offered by public-sector and private-sector general insurance companies to their customers.
2. To compare the promotion and distribution strategies adopted by public-sector and private-sector general insurance companies for the selected offerings.

In the light of the objectives of the study, the following null hypotheses were formulated:

H_1: There is no significant difference between the public-sector and the private-sector companies in respect of the promotion strategies adopted for marketing of the selected offerings.

H_2: There is no significant difference between the public-sector and the private-sector companies in respect of their distribution channels for marketing of the selected offerings.

METHODOLOGY

The scope of the study is restricted to three personal general insurance products: (1) car insurance, covering privately-owned cars, (2) home insurance, covering home and various household goods, and (3) individual health insurance, covering sickness and accident in the case of individuals and their family members. The selection of these covers was made on the basis of their penetration and potential. While car insurance is mandatory, home insurance is a pre-condition for getting home loans insisted on by almost all the financial institutions. Health insurance also holds a lot of business potential in India due to the scarcity and affordability issues in the healthcare sector. The data on promotion and distribution practices was collected from the general insurance companies operating in the State of Punjab and the Union Territory of Chandigarh. The population for this purpose consisted of all the general insurance companies offering various insurance covers. A total of twelve general insurance companies, four from the public sector and eight from the private sector were selected. An effort was made to collect data from each one of them. These are:

Public-Sector Companies

1. National Insurance Company Limited
2. New India Assurance Company Limited
3. Oriental Insurance Company Limited
4. United India Insurance Company Limited

Private-Sector Companies

1. Bajaj Allianz General Insurance Company Limited
2. Cholamandalam General Insurance Company Limited
3. HDFC Chubb General Insurance Company Limited
4. ICICI Lombard General Insurance Company Limited
5. IFFCO-TOKIO General Insurance Company Limited
6. Reliance General Insurance Company Limited
7. Royal Sundram Sun Alliance Company Limited
8. Tata AIG General Insurance Company Limited

The actual respondents for the study were the branch heads or regional heads of these companies. The reason for their selection was that the executives working in such capacity were responsible for the execution of promotion and distribution strategies of his company. Hence, they were supposed to provide the most reliable information with respect to their companies.

The survey method, using personal interview, was adopted for collection of the data. A pre-tested, structured and non-disguised questionnaire was used for the data collection. The offices of these companies were personally visited to approach the target respondent. The data was analysed through cross tabulation, percentages, mean scores, and t-test for independent samples.

FINDINGS AND DISCUSSION

It has been observed that the number of policies of a particular type and the variants and coverage offered vary from company to company. However, it has been noted that none of the private-sector companies was able to match the product range available with the public-sector companies. Moreover, the most comprehensive range of insurance policies in the private sector is offered by ICICI Lombard, followed by Bajaj Allianz, Tata AIG, IFFCO-TOKIO, Reliance and Royal Sundram. All the public and private general insurance companies have their offices in Chandigarh. In Punjab, more than 50 offices each have been set up by the four public-sector companies. These offices were there in all the major cities and towns and even in the remote areas of Punjab. The private-sector companies had offices at very few places in the State of Punjab. However, they were in the process of expanding their branch network.

Facilities Offered by General Insurance Companies

The various facilities offered by the general insurance companies to their customers are briefly described in the following paragraphs:

General Facilities

In the general insurance business, four private companies, viz., ICICI Lombard, Bajaj Allianz, Tata AIG, and HDFC Chubb, enabled the customers to buy on-line some of the insurance covers, including the three general insurance covers under study. However, none of the public-sector general insurance companies provided the facility of buying insurance covers on-line. All the general insurance companies in the public sector have set up dedicated information and facilitation counters to enable the customer to contact the centre in case of any query or problem. General insurance companies in the private sector have set up either a 24-hour toll-free telephone or a call centre. Some companies provide facility to register a customer query on their respective website. ICICI Lombard and Bajaj Allianz also provide on-line chatting facility to customers.

All the companies accept payment by cheques, cash, drafts or credit card. Some companies offer facility of the premium calculator for certain forms of insurance covers on their web site. In case of the public-sector companies, the facility of premium calculator is offered for some of the covers by New India, National Insurance, and Oriental Insurance. In case of the private-sector companies, the premium calculator is offered in respect of some of the covers by ICICI Lombard, Cholamandalam, IFFCO-TOKIO, Bajaj Allianz, and HDFC Chubb.

Claim Settlement

The information regarding the claim procedure and documentation requirement is available on respective web sites and in the brochures and handouts, brought out by different companies from time to time. The claim can be filed in the company's office through phone, fax, or personal visit. The private-sector general insurance companies also enable claim reporting by contacting the helpline or the call centre of the company. Some private-sector companies, like Bajaj Allianz, IFFCO-TOKIO, Royal Sundram, Reliance, and Tata AIG, provide facility for on-line claim registration. Tata AIG also provides facility to register the claims through short messaging service using mobile phone. On receipt of a request from the customer, the claim status is made available within seven days in the case of a public-sector company and in 1 to 2 days in the case of a private-sector company. Among the private-sector companies, ICICI Lombard provides on-line facility to check the status of a motor or health claim. Bajaj Allianz which provides on-line facility to check the status of a health claim, has also started the short messaging service available through mobile phone for informing the customers about the status of their motor claim settlement.

Moreover, all the general insurance companies offer the facility of 'cashless' repair of the accidentally damaged car in approved garages. In case the car is serviced at any other garage, the insured can claim reimbursement of the expenses incurred. The companies are in the process of entering into tie-up with car garages to provide cashless repairs to their customers. All the general insurance companies, except Bajaj Allianz, Tata AIG, and HDFC Chubb, provide for health insurance claim processing and settlement through the third-party administrators. The third party administrator sends health identity card directly to the insured, which entitles him to avail cashless claim facility at the company-empanelled hospitals and nursing homes, subject to the approval by the third-party administrator. In the case of cashless hospitalisation, the third-party administrator/insurance company settles the amount directly with the empanelled hospital/nursing home. The insured can also opt for re-imbursement claims at both empanelled and non-empanelled hospitals and nursing homes. While Bajaj Allianz, Tata AIG, and HDFC Chubb settle the insurance claim directly, without involving the third party administrator, Tata AIG and HDFC Chubb do not offer cashless settlement; the two companies offer re-imbursement settlement. Bajaj Allianz offers cashless treatment facility, which is subject to approval by the health administration department of the company.

PROMOTION AND DISTRIBUTION STRATEGIES

Promotion Strategies

An attempt was made to identify the promotion strategies employed by various public and private-sector insurance companies in Punjab and Chandigarh. For this purpose, these companies were asked to specify the extent to which they employed various promotion tools, on a four-point scale, from 1 to 4 (1= nil, 2= to a small extent, 3= to a medium extent, 4= to a large extent). Mean scores (m.s.) were calculated for various promotion tools. The responses received are presented in Table 1.

As shown in the table, for promoting their respective insurance covers, general insurance companies used references of the existing customers to a large extent (m.s. = 4.00). This is followed by national channels on television (m.s. = 2.34), fairs/exhibitions (m.s.= 2.00), national newspapers (m.s. = 1.92), sponsorships (m.s. = 1.83), hoardings, display boards, poster, banners and wall paintings (m.s.= 1.75), magazines (m.s. = 1.67), local newspapers, seminars and conferences (m.s.= 1.50 each), mobile advertising (m.s.= 1.42), pamphlets, brochures and other product literature (m.s. = 1.34), and radio, internet and emails, and telemarketing (m.s.= 1.17 each), in that order. The sector-wise analysis reveals that public as well as private-sector companies used references of the existing customers to a large extent (m.s.= 4.00). Thus, all the general insurance companies seem to appreciate the importance of their existing customers. National newspapers and national television channels are the next preferred means of promotion by public-sector and private-sector companies. None of these companies used means, like regional or local cable television channels and short messaging service using mobile phones. Further, while the

Table 1

Mean Scores Showing the Extent of Usage of Various Promotional Tools

S. No.	Tools of Promotion	Mean Scores (Rank)			t-test Values
		Overall Sample	Public Sector	Private Sector	
1.	National TV Channels	2.34 (2)	3.25 (3)	1.88 (2)	2.083
2.	Regional / Local TV Cable Channels	1.00 (12)	1.00 (9)	1.00 (7)	–
3.	Radio	1.17 (11)	1.50 (8)	1.00 (7)	2.582*
4.	National Newspapers	1.92 (4)	3.50 (2)	1.13 (6)	6.230*
5.	Local Newspapers	1.50 (8)	2.50 (5)	1.00 (7)	3.464*
6.	Magazines	1.67 (7)	2.25 (6)	1.38 (4)	1.386
7.	Pamphlets and Brochures	1.34 (10)	1.75 (7)	1.13 (6)	2.532*
8.	Hoardings, Display Boards, Posters,				
	Banners and Wall Paintings	1.75 (6)	3.00 (4)	1.13 (6)	5.710*
9.	Mobile Advertising (Buses, Trucks, etc.)	1.42 (9)	2.25 (6)	1.00 (7)	3.892*
10.	Seminars and Conferences	1.50 (8)	2.25 (6)	1.13 (6)	4.557*
11.	Fairs and Exhibitions	2.00 (3)	3.00 (4)	1.50 (3)	3.873*
12.	Sponsorship	1.83 (5)	3.00 (4)	1.25 (5)	7.379*
13.	References from the Existing Customers	4.00 (1)	4.00 (1)	4.00 (1)	–
14.	Short Messaging Service through Mobile Telephones	1.00 (12)	1.00 (9)	1.00 (7)	–
15.	Internet and e-mails	1.17 (11)	1.00 (9)	1.25 (5)	1.054
16.	Telemarketing	1.17 (11)	1.00 (9)	1.25 (5)	1.054

*Significant at 5% level

Internet and e-mails, and telemarketing were not used for promotion by public-sector companies, radio, local newspapers and mobile advertising were not used by private-sector companies.

The values of mean scores reveal that the means of promotion, like national television channels, radio, national and local newspapers, magazines, pamphlets, brochures and other product literature, hoardings, display boards, posters, banners, wall paintings, mobile advertising, seminars and conferences, fairs, exhibitions and sponsorships were used to a greater extent by public-sector companies as compared to private-sector companies. The remaining means of promotion were used to almost the same extent by both groups of companies. The results of t-test show that, statistically, the two categories of insurance companies differ significantly at 5 per cent level with respect to the extent of usage radio, national and local newspapers, pamphlets and brochures, hoardings, display boards, posters, banners and wall paintings, mobile advertising, seminars and conferences, fairs and exhibitions, and sponsorship; thus, rejecting the null hypothesis (H_1) in the case of these means of promotion. However, no significant difference has been noticed with respect to the extent of usage of means of promotion, like national television channels, regional and local television cable channels, magazines, references of existing customers, short messaging services, Internet and e-mail, and telemarketing, thus, accepting the first null hypothesis (H_1) in the case of these means of promotion.

Distribution Strategies

It has been found that general insurance companies used different modes of distribution, such as salesforce, individual agents, brokers, and corporate agents. ICICI Lombard, Bajaj Allianz, Tata AIG and HDFC Chubb from the private sector have made provisions for on-line issue of the policies through internet. The general insurance companies have also entered into a tie-up arrangement with banks and other financial institutions to distribute their insurance products. Some of these tie-ups, as informed by companies, are given in the Table 2.

The sample general insurance companies had also tied up with car dealers, car manufacturers and automobile workshops to distribute insurance covers. National Insurance has entered into a tie-up with Maruti and General Motors, United India with Hyundai Motors and Tata Motors, and Royal Sundram with Maruti and Fiat India. A few companies had also tied up with local car dealers and workshops.

For distribution of products in the rural areas, the public-sector companies were in the process of tying up with co-operative societies, co-operative banks, rural banks, self-help groups, and certain non-government organizations (NGOs). National Insurance had entered into tie-up with HelpAge India. Oriental Insurance has entered into a tie-up with the Department of Posts to create a Postal Non-life Insurance Model. It seems that in the private sector, ICICI Lombard, Bajaj Allianz and IFFCO-TOKIO were most aggressive in the rural and sub-rural areas of Punjab. IFFCO-TOKIO is banking upon brand awareness about its promoter, Indian Farmers and Fertilizer Cooperative (IFFCO), in the rural areas of Punjab. In addition, the company has tied up with approximately 10,000 co-operative societies in Punjab. The company is also working with farmer service centres.

ICICI Lombard used the network of ICICI Bank, its franchisees as well as 'mandi' branches and the Indian Tobacco Company's e-chaupal to sell customised products to the rural customers. Bajaj Allianz has entered into a tie-up with Krishak Bharati Cooperative (KRIBHCO) to distribute personal accident insurance covers to farmers. IFFCO-TOKIO, ICICI Lombard, and Bajaj Allianz have tied up with co-operative banks, members of micro-finance institutions, self-help groups, and certain non-government organisations. These

Table 2

Tie-up Arrangements with Banks and other Financial Institutions

Sector	Company	Banks and other Financial Institutions
Public-Sector	National Insurance	UCO Bank, State Bank of Bikaner & Jaipur, State Bank of Mysore, State Bank of India, Bank of Baroda, Allahabad Bank, Vijaya Bank, and City Union Bank
	New India Assurance	Central bank of India, Corporation Bank, Union bank of India, and United Western Bank
	Oriental Insurance	Punjab National Bank, Oriental Bank of Commerce, Dena Bank, and State Bank of Saurashtra
	United India	Canara Bank, Indian Bank, Syndicate Bank, Bank of Rajasthan, Indian Overseas Bank, and State Bank of Travancore
Private-Sector	Bajaj Allianz	UTI Bank, IDBI Bank, Bank of Maharashtra, Yes Bank, United Bank of India, J&K bank, and Deutshe Bank
	Cholamandalam	IndusInd Bank
	HDFC Chubb	HDFC Bank
	ICICI Lombard	ICICI Bank, Centurion Bank of Punjab, ABN Amro Bank, American Express Bank, and SIDBI
	IFFCO-TOKIO	Punjab National Bank, Dhanlakshmi Bank, PNB Housing Finance, and Peerless Group
	Reliance	–
	Royal Sundram	Citi Bank, ABN Amro Bank, Standard Chartered Bank, Citi Financial, American Express Bank, ING Vyasa Bank, and Sundaram Finance
	Tata AIG	Bajaj Capital, HSBC, UTI Bank, Citi Financial, India Bulls, and PNB Housing Finance

Table 3

Distribution of Car Insurance: Mean Scores showing the Extent of Usage of Various Modes

S.No.	Distribution Modes	Mean Scores (Rank)			t-test Values
		Overall Sample	PublicSector	PrivateSector	
1.	Company salesforce	3.09 (4)	3.00 (3)	3.13 (4)	0.381
2.	Individual agents	4.00 (1)	4.00 (1)	4.00 (1)	–
3.	Banks and financial institutions	3.25 (3)	3.00 (3)	3.38 (3)	0.616
4.	Corporate agents (Non-banking/ Non- financial)	1.75 (7)	1.50 (5)	1.88 (6)	0.799
5.	Car dealers, car workshops and				
	car manufacturers	3.42 (2)	3.25 (2)	3.50 (2)	0.592
6.	Brokers	2.33 (5)	2.50 (4)	2.25 (5)	0.506
7.	Internet	1.33 (6)	1.00 (6)	1.50 (7)	1.826

Note: t-test values are not significant at 5% level

companies have been in the process of putting up more of such tie-ups to sell their products in the rural Punjab. It seems that rest of the private-sector companies have not focused on the rural Punjab.

Distribution of Car Insurance Policies

In order to examine the distribution strategies of the selected insurance covers in Punjab and Chandigarh, the general insurance companies were asked to indicate the extent to which they used various distribution modes on a four-point scale. The mean scores showing the extent of usage of various modes to distribute private car insurance are shown in Table 3.

As shown in the table, for distributing private car insurance policies, general insurance companies engaged individual agents to a large extent (m.s.= 4.00). This is followed by car dealers, car workshops and car manufacturers (m.s.= 3.42), banks and financial institutions (m.s.= 3.25), company's own salesforce (m.s.= 3.09), brokers (m.s.= 2.33), Internet (m.s.= 1.33), and corporate agents (m.s.= 1.75), in that order. The sector-wise analysis reveals that public as well as private-sector companies engaged individual agents to a large extent (m.s.= 4.00) for selling the car insurance. Car dealers, car workshops and manufacturers, banks and other financial institutions and company's own salesforce were the next preferred modes of distribution by public-sector as well as private-sector companies. None of the public-sector companies sold car insurance policies on-line.

The mean scores indicate that the banks and other financial institutions, corporate agents (non-banking/non-financial), car dealers, workshops and manufacturers, and Internet were used as distribution modes for car insurance policy to a greater extent by private-sector companies than their public-sector counterparts. The public-sector companies mostly sold through brokers. Company's own salesforce and individual agents were used to almost the same extent by both types of companies. The t-test values reveal that there is no significant difference at 5 per cent level between the two types of companies with respect to the extent of usage of various distribution modes for car insurances; thus, resulting in the acceptance of the second null Hypothesis (H_2).

Distribution of Home Insurance Policies

The mean scores, showing the extent of usage of the various modes to distribute home insurance policies, are shown in Table 4.

As shown in the table, for the purpose of distributing home insurance policies, general insurance companies engaged individual agents

Table 4

Distribution of Home Insurance: Mean Scores showing the Extent of Usage of Various Modes

S.No.	Distribution Modes	Mean Sores (Rank)			t-test values
		Overall Sample	Public Sector	Private Sector	
1.	Company salesforce	3.09 (3)	3.00 (3)	3.13 (3)	0.381
2.	Individual agents	4.00 (1)	4.00 (1)	4.00 (1)	-
3.	Banks and financial institutions	3.34 (2)	3.25 (2)	3.38 (2)	0.198
4.	Corporate agents (Non-banking/ non- financial)	1.50 (5)	1.25 (5)	1.63 (5)	0.900
5.	Brokers	2.00 (4)	1.75 (4)	2.13 (4)	0.624
6.	Internet	1.25 (6)	1.00 (6)	1.38 (6)	1.414

Note: t-test values are not significant at 5% level

to a large extent (m.s.= 4.00). This is followed by banks and other financial institutions (m.s.= 3.34), company's own salesforce (m.s.= 3.09), brokers (m.s.= 2.00), corporate agents (m.s.= 1.50) and internet (m.s.= 1.25), in that order. The sector-wise analysis reveals that public as well as private-sector companies engaged individual agents to a large extent (m.s.= 4.00) for selling home insurance. Banks and other financial institutions, company's own salesforce and brokers were the next preferred mode of distribution by public-sector as well as private-sector companies. None of the public-sector companies sold home insurance on-line.

The mean scores indicate that for selling home insurance, the distribution modes, like corporate agents, brokers and the Internet were used to a greater extent by private-sector companies as compared to public-sector companies. There is hardly any differen'ce between public-sector and private-sector companies in the extent of usage of company's own sales force, individual agents, and banks and other financial institutions. The t-test values show that, statistically, there is no significant difference at 5 percent level between the two groups of companies with respect to the extent of usage of various distribution modes in case of home insurance. Hence, the null hypothesis (H_2) is accepted.

Distribution of Health Insurance Policies

The mean scores showing the extent of usage of various modes to distribute individual health insurance are given in Table 5.

The table indicates that, for distributing individual health insurance policies, general insurance companies engaged individual agents

Table 5

Distribution of Individual Health Insurance: Mean Scores showing the Extent of Usage of Various Modes

S. No.	Distribution Modes	Mean Scores (Rank)			t-test Values
		Overall Sample	Public Sector	Private Sector	
1.	Company salesforce	3.09 (2)	3.00 (2)	3.13 (3)	0.381
2.	Individual agents	4.00 (1)	4.00 (1)	4.00 (1)	-
3.	Banks and financial institutions	3.08 (3)	2.75 (3)	3.25 (2)	0.899
4.	Corporate agents (Non-banking/ non- financial)	1.34 (5)	1.25 (5)	1.50 (5)	0.778
5.	Brokers	1.67 (4)	1.50 (4)	1.75 (4)	0.443
6.	Internet	1.25 (6)	1.00 (6)	1.38 (6)	1.414

Note: t-test values are not significant at 5% level to a large extent (m.s.= 4.00). This is followed by company's own salesforce (m.s.= 3.09), banks and other financial institutions (m.s.= 3.08), brokers (m.s.= 1.67), corporate agents (m.s.= 1.34) and internet (m.s.= 1.25) in that order. The sector-wise analysis reveals that public and private-sector companies engaged individual agents to a large extent (m.s.= 4.00) for selling health insurance. This is followed by company's own salesforce (m.s.= 3.00), banks and other financial institutions (m.s.= 2.75) and brokers (m.s.= 1.50) in the case of public-sector companies. In the case of private-sector companies, individual agents are followed by banks and other financial institutions (m.s.= 3.25), company's own salesforce (m.s. = 3.13) and brokers (m.s.= 1.75). None of the public-sector companies sold health insurance on-line.

The mean scores indicate that for selling health insurance, the distribution modes like banks and other financial institutions, corporate agents (non-banking/non-financial), brokers and the Internet were used to a greater extent by private-sector companies as compared to public-sector companies. Other modes of distribution, namely, company's own salesforce and individual agents are used to almost the same extent in the case of the two types of companies. The values of t-test reveal that, statistically, there is no significant difference at 5 per cent level, between the two categories of companies with respect to the extent of usage of various modes for distributing health insurance. Hence, the null hypothesis (H_2) is accepted.

Use of Information Technology

The public-sector insurance companies were working towards implementing customer relationship management and data-mining techniques to capture the data at source for analysis and decision-making. Software was being established to enable data exchange, data integration and data consolidation across the organisation, thus providing business intelligence. These companies were in the process of setting up data warehouses at respective head offices as well as regional offices. This would assist in data analysis and generation of statistics and reports. Companies were also planning for central data repository. In the private-sector, companies like ICICI Lombard, Bajaj Allianz, IFFCO-TOKIO and Tata AIG had already established sophisticated customer relationship management and data mining techniques. Data exchange and data consolidation was carried out by these organisations. Data warehouses had also been established by these companies. Reliance was working at a fast pace to develop these kinds of technologies.

CONCLUSIONS AND POLICY IMPLICATIONS

The fore-going analysis reveals that almost all the general insurance companies have improved their customer service. While public-sector companies have already set up a wide network and enlarged their product portfolio, private-sector companies have sought to differentiate through customised product offerings and allied services to the customers. They have significantly expanded their operations. Both the public-sector and private-sector companies have used references of their existing customers to a large extent for promoting their insurance policies. National newspapers and national television channels are, respectively, the next preferred means of promotion by public-sector and private- sector companies. For distributing the selected insurance covers, individual agents are most commonly used. Other modes of distribution include banks and other financial institutions, car dealers, workshops and manufacturers, and brokers. The companies were also tying up with co-operative societies, co-operative banks, rural banks, and non-government organisations (NGOs) in the rural Punjab. Further, the general insurance companies have started putting sophisticated tools and technologies, like customer-relationship management and data mining. The three most aggressive private-sector companies in Punjab and Chandigarh are ICICI Lombard, Bajaj Allianz, and IFFCO-TOKIO.

The study has some important implications for the general insurance companies. While the private-sector companies need to expand their branch network, all the companies would do well if they provide on-line issue of policies. The public-sector companies may set up call centres. Further, toll-free phone facility may be made available to the customers. The facility to register customer queries on respective websites may also be provided. On-line chat facility to enable the customers to chat with the company executives can also be made available. All these initiatives would enhance the customer experience. In fact, some of the general insurance companies are already providing these features. The companies should try to make their claim settlement procedure speedy, efficient and hassle-free. The policy-holders should be provided necessary information regarding the "do's" and "don'ts" in case of an eventuality leading to claim. They should be provided maximum touch points for filing the claim. These may include phone, fax, on-line facility, and short messaging service through mobile phones. Claim status, on real-time basis, should be made available to the customers. The companies may tie up with various mechanical workshops to provide the towing facility for cars from the place of accident to the workshop in the event of an accident. The companies should enlist more car workshops and hospitals for providing cashless facilities to the claimants. These facilities can be made available even at remote locations. The insurance companies might consider strategies for aggressive brand-building and promotion. It is noticed that in many cases, the companies did not employ relevant tools for promotion. The companies may bring out literature in local languages and make it available to target population. Further, FM radio, which has become a popular medium, can be used to advertise. In the rural areas, fairs and exhibitions can be effectively used as a medium of sales promotion. Telemarketing, the Internet and e-mails, and short messaging service through mobile telephones can also be explored for the purpose.

The insurance companies can have tie-up arrangements with banks and other financial institutions to distribute their products. Car dealers and workshops can also be associated for distributing car insurance. For distribution of home insurance, property dealers, construction companies, and cement companies can be of help. Further, help of hospitals, pharmacists and pharmaceutical companies can be solicited by health insurance companies for the purpose. The companies can also explore the on-line medium of sales to a larger extent. For distribution of insurance products in the rural areas, some of the companies have sought the help of co-operative banks, rural banks, self-help groups, and NGO's. However, the companies have yet to focus on rural Punjab. In fact, the companies ought to try to use these modes to get a foothold in the rural areas.

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INFLUENCE OF ORGANISATIONAL CLIMATE ON MANAGERIAL EFFECTIVENESS
A Study of Selected Pharmaceutical Companies

R.C. Dangwal * and Arun Sacher **

Abstract

Pharmaceutical industry is one of the major industries of India, which is experiencing major changes because of the Intellectual Property Rights (IPR) and other World Trade Organisation regimes. An assessment of the effect of organisational climate on managerial effectiveness and the relationship of the two in prominent organisations of this industry has a great significance. This paper seeks to examine how various factors of organisational climate influence the managerial effectiveness in pharmaceutical industry. For that purpose, the concepts of organisational climate and managerial effectiveness are analysed. An in-depth study of Glaxo India Ltd. and Novartis India Ltd. (both multinationals) has revealed existence of favourable organisational climate which leads to managerial effectiveness as compared to the other two Indian multinational pharmaceutical companies—Ranbaxy Labs Ltd. and Nicholas Piramals Ltd.

Key Words: *Organisational climate, Managerial effectiveness, Pharmaceutical companies*

INTRODUCTION AND SURVEY OF LITERATURE:

TECHNOLOGICAL revolution, innovation, rising competition, mergers, acquisitions and emergence of newer dimensions of organisational dynamics are the important factors for the growth and sustenance of modern organisations. In this era, because of rising uncertainties, intellectual capital, in the form of human resources and processes, are considered to be the intangible assets important for survival strategies for corporate success. New generation managers are the leaders who define success and become the lifeline of organisations. They symbolise the vital organ of performance and effectiveness not only in the corporate world but also in the society. They are responsible for the innovation, implementations and achievements of goals of the organisations. To ensure consistency in their operational fields and management development, existence of suitable climate is very important. Organisational climate is not only a significant tool for effective utilisation of human relations and resources at all levels but also a major motivating factor that leads to achievement of higher dimensions in the life

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of employees. Effectiveness of a manager is termed as continuous attainment of various objectives and implementation of desired processes. The only thing that can hamper performance and effectiveness of a manager is unsuitable organisational climate.

Organisational Climate

Organisational climate (OC) is of great significance for the utilisation of human relations and resources at all levels and exerts major influence on productivity and effectiveness. Organisational climate is also a cognitive framework consisting of attitudes, values, behavioral norms and expectations shared by members of organisation. At the root of any organisation's climate, there is a set of core characteristics that is valued collectively by the members of the organisation. The climate of an organisation can be understood by the organisational behaviour system. There are several controversial issues in organisational climate research. One of them is the definition of organisational climate and organisational culture. As far as organisational culture is generally understood, it is a set of habitual and traditional ways of thinking and feeling. Some researchers are of the opinion that organisational climate is the same as culture. Others feel that climate is a sub-set of culture and still others think that climate refers to how people feel about their culture. But in this study, these two terms have been used interchangeably.

Research in Organisational Climate

Sharan (1968) studied the organisational climate and divided the major factors by which the climate of an organisation is conditioned and created in to three parts: formal, subjective and environmental. He noted that the application of the formal theory of organisation, aimed at ensuring organisational efficiency, can create conditions for conflicts and tensions and adverse effect on climate of an organisation.

Biswas (1993) compared 26 dimensions of organisational climate and 8 dimensions of organisational effectiveness in comparing regional rural banks and district co-operative banks. He noted that, in terms of effectiveness, the regional rural banks have done significantly better on social responsibility aspects than the district co-operative banks but there has been no significant difference as far as their economic performance is concerned.

Further, a large number of other studies like Finemann (1975), Schein. (1983), and Martin and Meyerson (1988), Martin and Frost (1995) sought to explain organisational climate, its various parameters and relationships with other factors.

Managerial Effectiveness

The Concise Oxford Dictionary defines the word 'effectiveness' as having a definite or desired effect'. It is a measure of the end result of authority. Effectiveness is a very wide term in the quantitative as well as the qualitative sense. Because of its core operational areas and specific job requirements, every organisation needs effective management for better corporate governance. Strategic human resource management has become the core operational area and it has an extra-ordinary importance in organisations. Therefore, it is very important to know the type of factors and circumstances that can make a manager effective and successful at his workplace. The skill set and managerial effectiveness leads to smooth operations of an organisation. As multi-tasking and multi-functional approaches for managers are gaining importance in today's enterprises, assessing and measuring managerial effectiveness (ME) is a challenging task.

Research in Managerial Effectiveness

Jurgensen (1970) noted that to be effective a manager must be decisive, aggressive, self-starting, productive, clear-thinking, responsible, determined, energetic, creative and intelligent. The person who possesses these characteristics is considered to be successful and effective executive.

Vaidya (1993) explored the existence of a hypothesised construct of managerial effectiveness in relation to managerial styles and personality traits with the help of a status-cum-development survey in an automobile industry, to determine the relationship between managerial effectiveness and managerial styles, and a few personality traits, to find out the characteristics of more effective and less effective managers.

Research studies on managerial effectiveness conducted by Peters and Waterman (1982), Venkatraman (1983), Wilkins (1983), and Pareek (2002), sought to explain various behaviour characteristics and other parameters that lead to managerial effectiveness.

Research in Organisational Climate and Managerial Effectiveness

The behaviour of an individual in an organisation is influenced by various attributes and characteristics of the physical as well as psychological environment. A number of research findings show the influence of an employee's perception about the climate which ultimately affects his performance and effectiveness.

Bijlani(1974) noted that in-spite of clarity of objectives and good intentions, nothing concrete can be achieved if the right climate does not exist.

Hollomann (1976) collected data of about 111 managers in a large utility firm and concluded that organisational climate and managerial effectiveness were positively related.

Jahangiri (1983) examined relationship between the organisational climate and managerial effectiveness in relation to personality, occupational goal value and leadership style in educational institutions. The study established that managerial effectiveness was associated with the organisational climate.

Mamuthy (1990) noted that an organisation survives and forms its image because of the culture that it develops. Suitable culture helps employees to perform effectively in the oganisation.

Pestonjee, Pathak, and Dharmani (1993) reported that managerial effectiveness was a function of personal and situational factors. They also noted that the way employees viewed their organisational climate would influence both their satisfaction and performance. They collected the data from 196 branch managers to study the relationship of managerial effectiveness with motivational climate and leadership effectiveness. Self-ratings by managers and subordinates' ratings of their managers' effectiveness did not differ significantly.

From the above studies, it is vivid that although many researchers have examined the concepts of organisational climate and managerial effectiveness separately, only a few of them have taken up the two variables together. However, no study has been conducted on the influence of organisational climate on the managerial effectiveness in the pharmaceutical industry in India.

OBJECTIVES AND SCOPE OF THE STUDY

This study includes two important variables, viz., organisational climate, and managerial effectiveness in the context of the pharmaceutical industry in India. The main objectives of this study are:

(a) To examine the nature of organisational climate and managerial Effectiveness.

(b) To ascertain the relationship between organisational climate and managerial effectiveness.

(c) To make a comparative analysis of organisational climate and managerial effectiveness in the selected companies.

(d) To discover the relationship of age, experience and salary of employees with the organisational climate, and managerial effectiveness.

For a developing country like India, pharmaceutical industry is one of the important sectors which are undergoing widespread changes. On the one hand, patents and restrictions are mounting on Indian pharmaceutical companies for new product launches. On the other hand, the cost of healthcare facilities and global competition are on the increase. Thus, studying organisational climate and managerial effectiveness in pharmaceutical companies carries a lot of significance. It is expected that this study would produce useful results for improving the organisational climate and managerial effectiveness in the pharmaceutical industry. Further, the four companies under study are among the top organisations of this industry. While two of them are multinationals of non-Indian origin the other two are Indian multinationals, with different organisational climate and set-up.

RESEARCH METHODOLOGY

The Sample

The study is based on the convenient sampling technique because all the executives were not approachable at the same time and with the similar methodology, as some executives did not respond during the personal interview but preferred to send filled-in questionnaire by post afterwards. The responses from 112 executives (28 executives from each company) from Glaxo, Novartis, Ranbaxy and Nicholas were considered for the study.

Questionnaire Design

For studying organisational climate and managerial effectiveness, the data were collected using two questionnaires-cum-scales which are reliable and tested by various research scholars.

1. **Organisational Climate Questionnaire**[1]: Developed by Bhatia and Vohra, the scale contains 15 factors of organisational climate, viz., structure, responsibility, reward, initiative and risk, warmth, support, standards, conflicts, identity, leadership, delegation, human relations, communication, grievance-handling and decision-making. Each factor consisted of 3 statements. All executives were divided into three categories on the basis of the score obtained and mean and standard deviation, that is, 'highly satisfied' with scores more than 74.9, 'moderately satisfied' with scores between 63.4 and 74.9 and then 'less satisfied' with scores less than 63.4.
2. **Managerial Effectiveness Questionnaire**[2]: The questionnaire, developed by Pareek, covers 4 aspects (with 10 statements for each aspect): (1) Action orientation (2) Self-disclosure (3) Receptivity to feedback and (4) Perceptiveness. All the executives were divided into four categories on the basis of the score obtained and mean and standard deviation that is highly effective with scores more than 73.7, moderately effective with scores between 64.2 to 73.7, hopefully effective with scores between 61.1 to 64.2 and less effective with scores less than 61.1.For bringing in uniformity, all the scores were divided by 2, that is instead of 200, the maximum score was 100.

The Data: The study is based on the primary data collected personally by filling of questionnaires during personal interviews of the respondents.

Statistical Tools used the necessary statistical tools, such as Spearman's rank correlation and multiple regressions, were used for data analysis.

Profile of the Pharmaceutical Industry

Pharmaceutical industry is one of the prominent industries in the world, with the current world drug turnover of approximately 500 billion \$. US market alone stands for 50 per cent of the total world market and is continuously growing. The top 20 pharmaceutical companies in the world approximately equal 50 per cent of the world sales and new emerging segments include biotech industry which equals the turnover of approximately 50 billion dollar and contributes approximately 10 per cent of total pharmaceutical market. Indian pharmaceuticals market currently stands around 6 billion dollars and is growing at a steady rate of 10-15 per cent every year.

GlaxoSmithKline: It is one of the largest multinational companies in the industry. The company is known for some of the pioneering initiatives in the country, besides being the first ever pharmaceutical company to commence manufacturing activities in India in the early 20th century. While most of the clinical research activities today are concentrated around US, Western Europe and Japan, GlaxoSmithKline is continually investing in research and development procurement in emerging markets in Asia, Eastern Europe and Latin America (Annual Report 2006 of Glaxo)

Novartis : In 1996 Sandoz and Ciba joined to form Novartis in one of the largest corporate mergers in history. Novartis is ranked by IMS health as one of the fastest-growing global pharmaceutical companies worldwide in recent years. Novartis vaccines and a diagnostics business that retains the Chiron name. Sandoz is a leading global supplier of generic pharmaceuticals that develops, produces and markets these drugs along with pharmaceutical and biotechnological active substances. Novartis Consumer Health focuses on creating, developing and manufacturing a wide range of competitively differentiated products that restore, maintain or improve the health and well-being of customers (Annual Report 2006 of Novartis).

Ranbaxy: The Indian pharmaceutical industry is at the centre-stage in the global healthcare arena and Ranbaxy endeavours to deliver the India-centric advantages to the advanced and developing countries of the world. From a small domestic company at inception, Ranbaxy has grown formidably to be a billion dollar institution. Ranbaxy aims at providing quality generics at affordable prices to the patients worldwide with a view to helping in bringing down the healthcare costs and intent to be a leading player in the global generic space in the years to come with strong focus on becoming research-based international pharmaceutical company (Annual Report 2006 of Ranbaxy)

Nicholas: The company was formed when the Piramal Group acquired Nicholas Laboratories, a small formulations company in 1988, from Sara Lee. It has followed a multi-pronged strategy to integrate and maximise synergies with the planned acquisitions and develop and consolidate its major strength in marketing to therapeutic niches. Nicholas' key strengths come from its strong brand building, selling and distribution, manufacturing and alliance/partnership management skill. (Annual Report 2006 of Nicholas)

RESULTS AND DISCUSSION

Analysis of Organisational Climate and Managerial Effectiveness

Organisational climate and managerial effectiveness are the two variables which have some relationship and are concerned with human psychology. But in many organisations, human resource management exists in theoretical dimensions only and the human behaviour area is often ignored. In these organizations, real human resource system is missing. It is very important to find out which factors and what circumstances in the organisation enable the managers to be more effective, more successful, and more satisfied with their work. For this purpose, the two concepts, organisational climate and managerial effectiveness are analysed and the results of the data analysis for each variable are shown in Tables 1, 2, 3, and 4.

Organisational Climate and Managerial Effectiveness in Glaxo

As shown in Table 1, executives from Serial No.1 to 28 belonged to Glaxo India Ltd. In the case of organisational climate, 19 executives belonged to the first category that is 'highly satisfied', 4 Executives belonged to the 'moderately satisfied' and 5 executives fell in the third category that is 'less satisfied' for whom the climate is unfavourable. Since the vast majority (82 per cent) of executives felt that the climate was favourable; thus, suggests that organisational structure in Glaxo was suitable to most of the executives.

As regards the score obtained on the managerial effectiveness scale, only 4 executives belonged to highly effective, 16 executives moderately effective and 8 executives fell in the hopefully effective category where improvement was made possible. No executives fell under the category of less effective executives. The overall scoring indicates that majority of managers (71 per cent) belonged to the category of highly effective and hopefully effective executives. Although the results are favourable, but still there is slight variation, because 28 per cent executives are in the 'moderately effective' category. This indicates that there may be slight difference of opinion or conflict among the executives and slight confusion mounts in communication, grievance-handling and decision-making at different levels of management. Thus, the results for Glaxo are quite favourable.

Table 1
Organisational Climate and Managerial Effectiveness Scores in Glaxo

S.No.	OC Total	ME Total
1.	80	73
2.	81	71
3.	77	69
4.	75	70
5.	70	69
6.	76	66
7.	87	87
8.	75	68
9.	82	72
10.	87	83
11.	76	69
12.	84	82
13.	80	69
14.	85	76
15.	81	71
16.	78	68
17.	79	65
18.	78	72
19.	80	66
20.	76	69
21.	60	68
22.	55	63
23.	64	66
24.	58	64
25.	62	69
26.	64	67
27.	58	68
28.	74	66
Total	28	28
Mean	74.35	70.21
S.D.	9.13	5.54

Organisational Climate and Managerial Effectiveness in Ranbaxy

As shown in Table 2, executives from Serial No. 29 to 56 belonged to Ranbaxy. In the case of organisational climate no executive belonged to the first category that is 'highly satisfied'. 20 executives belonged to 'moderately satisfied' and 8 executives fell in third category of 'less satisfied' for whom the climate is unfavourable. Since a large majority (72 per cent) of executives felt that the climate is moderately favourable indicates that the organisational structure in Ranbaxy was considered as suitable, by most of the executives among the Indian pharmaceutical companies. Some of the executives (28 per cent) who found unfavourable organisational climate wanted change in the organisation structure, rewards, method of grievance-handling and decision-making.

The scores obtained from managerial effectiveness indicated that only 7 executives belonged to the first category of 'highly effective',4 executives 'moderately effective', 3 executives 'hopefully effective' and 14 executives came under the category of 'less effective'. The managerial effectiveness scores of executives in Ranbaxy was just satisfactory and revealed that

Table 2

Organisational Climate and Managerial Effectiveness Scores in Ranbaxy

S.N	*OC Total*	*ME Total*
29.	70	60
30.	70	78
31.	67	67
32.	68	58
33.	65	65
34.	66	54
35.	71	76
36.	64	54
37.	72	74
38.	72	75
39.	78	54
40.	72	75
41.	67	55
42.	73	84
43.	70	53
44.	71	73
45.	67	56
46.	66	54
47.	66	67
48.	67	70
49.	60	53
50.	57	57
51.	60	70
52.	60	77
53.	55	68
54.	58	56
55.	56	56
56.	60	58
Total	28	28
Mean	65.64	64.17
S.D.	5.36	9.60

Table 3

Organisational Climate and Managerial Effectiveness Scores in Novartis

S.N	*OC Total*	*ME Total*
57.	79	84
58.	79	81
59.	77	80
60.	77	78
761.	76	76
62.	80	75
63.	80	87
64.	83	75
65.	76	75
66.	78	84
67.	78	72
68.	79	82
69.	84	73
70.	80	78
71.	79	74
72.	76	71
73.	80	71
74.	79	77
75.	78	72
76.	77	73
77.	79	75
78.	78	72
79.	79	70
80.	78	74
81.	75	69
82.	76	71
83.	77	71
84.	72	69
Total	28	28
Mean	78.17	75.32
S.D.	2.34	4.84

the tendency of the executives was towards negative side. Most of the executives did not like much changes and varieties in the work, and taking the right kind of initiative.

Organisational Climate and Managerial Effectiveness in Novartis

As shown in Table 3, executives from Serial No. 57 to 84 belonged to Novartis India Ltd. In the case of organisational climate, 27 executives belonged to the category of 'highly satisfied', only 1 executive was 'moderately satisfied' and no executive fell in category of 'less satisfied' for whom the climate was unfavourable. Thus, the type of organisational structure in Novartis was suitable to most of the executives.

The score obtained for the managerial effectiveness scale revealed that 16 executives are 'highly effective', 12 executives 'moderately effective' and there was no executive in the category of 'hopefully effective' and 'less effective'. The overall score of managerial effectiveness in Novartis is very good as 57 per cent of the managers are in the class of highly effective and rest (43 percent) are in the class of moderately effective where the chances of improvement are very high. The overall score of executives in Novartis is very good. Thus, the organisational climate of Novartis is more favourable to the majority of executives.

Organisational Climate and Managerial Effectiveness in Nicholas Piramal

Table 4 shows that the executives from Serial No. 85 to 112 belonged to Nicholas. In the case of organisational climate, no executive belonged to the category of 'highly satisfied', 5 executives belonged to 'moderately satisfied' and 23 executives fell in the category of 'less satisfied' for whom the climate is unfavourable. Thus, the majority of executives perceived the organisational climate of Nicholas as unfavourable and is less satisfied.

The scores obtained from managerial effectiveness scale shows that no executive falls in the category of highly effective, 3 executives belonged to moderately effective, 8 executives belonged to hopefully effective and 17 executives came under the category of less effective. The overall scoring of the executives in Nicholas is much below satisfaction as 61 per cent of the managers are in the class of less effective. Although 39 per cent executives are hopefully effective and moderately effective, still it is perceived that confusion mounts in communication, grievance-handling and decision-making among the executives at different levels of management. Conflict, differences of opinion and less adjustability to the environment are more prevalent in the company.

Thus, the organisational climate at Nicholas is not very favourable to most of the executives and they are struggling to adjust with the environment.

Table 4

Organisational Climate and Managerial Effectiveness Scores in Nicholas Piramals

S.N	*OC Total*	*ME Total*
85.	60	54
86.	72	68
87.	71	63
88.	53	54
89.	71	61
90.	54	54
91.	59	70
92.	56	54
93.	55	65
94.	56	67
95.	59	54
96.	55	67
97.	60	54
98.	55	71
99.	59	58
100.	55	62
101.	52	62
102.	61	54
103.	53	54
104.	52	62
105.	54	59
106.	54	62
107.	51	59
108.	70	64
109.	66	60
110.	62	54
111.	61	53
112.	57	62
Total	28	28
Mean	58.6	60.03
S.D.	6.20	5.25

Comparison of Organisational Climate and Managerial Effectiveness

As shown in Table 5, if we compare the scores and their mean values, scores in Novartis are the highest in case of organisational climate with a grand total mean of 78.17. This reflects that executives in Novartis are more satisfied with their climate as compared to the other three companies. On the other hand in Nicholas Table

Table 5

Comparison of the Organisational Climate and Managerial Effectiveness of the four pharmaceutical Organisations

Rank	*Organisational Climate*	*Managerial Effectiveness*
1	Novartis	Novartis
2	Glaxo	Glaxo
3	Ranbaxy	Ranbaxy
4	Nicholas	Nicholas

4 (Mean of 58.6), most of the employees do not feel that organisational climate is suitable to them. It seems that because of mergers and acquisitions in Nicholas, some problems of understanding the climate exists. This clarifies that some changes in structure, policies and procedures are required.

In the case of managerial effectiveness, again the score of Novartis is the most satisfactory (Table 3), with the mean value of 75.32. Here again, the lowest score (60.03) (Table 4) is obtained by Nicholas. In comparison to other organisations, executives in Novartis are effective, self disclosing and open to feedback systems. This helps in reducing negative points and discovering more and more of one's potential. The scoring in Nicholas reflects low activity level and low perceptiveness. In order to improve effectiveness, they will have to bring in some major changes in attitudes and work philosophies.

MAIN FINDINGS

In the case of organisational climate, the results of Novartis are the best and those of Nicholas are the worst. The executives perceive organisational climate favourable in Novartis and unfavorable in Nicholas. For managerial effectiveness, again the managers in Novartis are most effective than those of other three companies of pharmaceutical industry. Contrary to this score of managerial effectiveness, Nicholas reflects lowest effectiveness, low activity level and low perceptiveness among all. Hence, the most of the executives in Nicholas are perceived to be less effective. Based on organisational climate sub-factors listed in Table 6 and their analysis given in Table 7, in the case of Novartis, none of the factor contributes negatively. Responsibility, reward, structure and warmth were found as important sub-factors because of the higher scores obtained and contribute towards perceived favorable organisational climate in Glaxo and Novartis, while faulty communication system, improper and delayed grievance-handling and inappropriate decision-making, because of lower

Table 6

Sub-Factors of Organisational Climate in the Series

S.No.	*Sub-factors of organisational climate*	*S.No.*	*Sub-factors of organisational climate*
1.	Structure	9.	Identity
2.	Responsibility	10.	Leadership
3.	Reward	11.	Delegation
4.	Initiative and Risk	12.	Human relations
5.	Warmth	13.	Communication
6.	Support	14.	Grievance handling
7.	Standards	15.	Decision making
8.	Conflicts		

Table : 7

Comparative Analysis of Organisational Climate Sub- factors in Four Pharmaceutical Organisations

S. No	*OC-Sub Factors*	*Glaxo Mean 28 executive*	*Ranbaxy Mean 28 executive*	*Novartis Mean 28 Executive*	*Nicholas Mean 28 executive*
1	Structure	4.12	3.54	4.30	2.83
2	Responsibility	4.14	3.46	4.35	3.02
3	Reward	4.05	3.33	4.11	2.86
4	Initiative andRisk	3.87	3.76	3.95	3.00
5	Warmth	3.30	3.77	3.11	3.91
6	Support	3.75	3.51	4.02	3.23
7	Standard	3.85	3.48	4.29	3.11
8	Conflict	3.23	3.01	2.83	3.30
9	Identity	3.67	3.30	3.90	2.91
10	Leadership	3.88	3.17	4.08	2.86
11	Delegation	3.96	3.35	4.05	2.82
12	Human Relation	3.20	3.32	3.51	3.21
13	Communication	3.59	2.67	4.01	2.1
14	Grievance Handling	3.59	2.71	3.94	2.2
15	Decision Making	3.56	2.80	4.14	2.50

scores obtained, are responsible towards the perceived unfavourable organisational climate in Ranbaxy and Nicholas.

Based on managerial effectiveness sub-factors listed in Table 8 and their analysis given in Table 9, all the four organisations in relation to sub-factors of managerial effectiveness show a similarity in the case of action-orientation, which contributes the maximum in all the four organisations. Perceptiveness and self-disclosure in the case of Ranbaxy and Nicholas contribute the minimum because of lower scores obtained towards managerial effectiveness which contributes the maximum towards managerial effectiveness, because of higher scores obtained in the case of Glaxo and Novartis.

Table 8

Various Sub-factors of Managerial Effectiveness in series

S.No.	*Sub Factors*
1.	Action Orientation
2.	Self- Disclosure
3.	Receptivity to Feedback
4.	Perceptiveness

Table 9

Comparative Analysis of Managerial Effectiveness Sub- factors in Four Pharmaceutical organisations

S.No.	*Managerial Effectiveness (Mean) Sub-Factors*	*Glaxo India Ltd.*	*Ranbaxy Labs Ltd.*	*Novartis India Ltd.*	*Nicholas Piramals Ltd.*
1.	ME-1 Action Orientation	37.75	37.03	39.32	33.78
2.	ME-2 Self- Disclosure	33.32	29.75	37.10	27.82
3.	ME-3 Receptivity	35.67	31.5	38.32	29.32
4.	ME-4 Perceptiveness	33.67	30.07	35.89	29.14

Correlation of Organisational Climate and Managerial Effectiveness

The computation regarding correlations of organisational climate and managerial effectiveness is shown in Table 10.

Table 10

Correlations of Organisational climate and Managerial effectiveness

			OC	*ME*
Spearman's Correlation coefficient σ	OC	Correlation Coefficient N	1.000 112	.708(**) 112
	ME	Correlation Coefficient	.708(**)	1.000
		N	112	112

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

As shown in the table, correlation matrix obtained by Spearman's Rank Correlation method' organisational climate and managerial effectiveness are closely associated as the value of correlation coefficient is 0.708 which is very close to +1. It demonstrates that if an executive perceives climate favourably, he will work with zeal and shows effectiveness and vice versa.

The correlation of organisation climate and managerial effectiveness is positive, that is, $r = 0.708$. The strong positive relationship indicates that if a manager perceives organisational climate favorable , he will be very effective and is an efficient manager.Further, the two variables show positive and strong relationship among themselves and are mutually dependent on each other. Thus, the two variables taken for the study are mutually dependent on each other and with respect to the four main pharmaceutical companies and are positively related.

For testing the significance of relationship, t-test has been used. In the case of organisational climate and managerial effectiveness, the value of t is

$$t = 0.708 \sqrt{(112\text{-}2) / (1\text{-} 0.708)\,(1\text{-} 0.708)}$$

$$= 25.42$$

This value, when compared with the table value of t at 5 per cent level of significance, indicates that the table value of t is less than the calculated value. This indicates that the relationship between organisational climate and managerial effectiveness is largely significant.

Therefore, on the basis of rank correlation, the relationships are observed to be positive between organisational climate and managerial effectiveness. On the basis of t-test, they are found to be significant.

Differences in the Perceptions of Executives across Companies

For this purpose, the Chi-Square Test has been used. The calculated value of Chi-square for organisational climate is

$$\chi^2 = 44.64$$

The value of Chi-Square at 3 degrees of freedom and 5 per cent level of significance is 7.81. The calculated value of H is more than the table value. Thus, the null hypothesis is rejected. It suggests that the mean values of 112 executives of the four pharmaceutical companies are not the same in respect of organisational climate and the perception of different executives about organisational climate prevailing in their companies is different.

The calculated value of Chi-Square for managerial effectiveness is

$$\chi^2 = 31.42$$

The value of Chi-Square at 3 degrees of freedom and 5 per cent level of significance is 7.81. The calculated value of H is more than the table value. Thus, we reject the Null hypothesis. Hence, the managerial effectiveness of 112 executives of the four pharmaceutical companies is not equal. There is a significant difference in terms of effectiveness of the executives in the four companies.

With the help of these results, we conclude that the perception of organisational climate and degree of managerial effectiveness of the executives are not equal across the four companies. The executives of the same company and of different companies have different perceptions of organisational climate and managerial effectiveness. Even after availing the same type of facilities in the same industry, their satisfaction levels and effectiveness differs.

Regression Analysis and Effect of Organisational Climate on Managerial Effectiveness

Regression analysis and effect of organisational climate on managerial effectiveness is shown in table 11 .It indicates that

$$R^2 = 0.609$$

$$F = 9.963$$

where R^2 the coefficient of determination, shows the goodness of fit and also tells the closer degree of association between the dependent variable (managerial effectiveness) and independent variable (organisational climate) because the value is close to 1. This shows better fitness.

Table 11

Regression Analysis for Organisational Climate Sub-factors and Managerial Effectiveness

Variable	*Coefficient*	*t-ratio*	*Significance*
OC1	0.263	1.981	0.051
OC2	0.013	0.109	0.914
OC3	0.108	0.893	0.374
OC4	-0.087	-0.873	0.385
OC5	-0.103	-1.147	0.254
OC6	0.173	1.786	0.077
OC7	0.355	3.679	0.000
OC8	-0.010	-0.135	0.893
OC9	-0.098	-0.878	0.382
OC10	0.255	2.122	0.036
OC11	-0.012	-0.116	0.908
OC12	0.175	2.324	0.022
OC13	-0.042	-0.307	0.760
OC14	-0.196	-1.337	0.185
OC15	0.050	0.408	0.684

The calculated value of F is 9.963, which is higher than the table value (1.55), which shows better significance of R^2. It means that the regression, as a whole, is significant. Out of the fifteen sub-factors of organisational climate, OC7 (Standard), OC1 (Structure), OC10 (Leadership), OC12 (Human relations), OC2 (Responsibility) have positive relation with managerial effectiveness, while the other factors like OC4, OC5, OC8, OC9,OC11,OC13, OC14 that is initiative and risk: warmth, conflicts, identity, delegation, communication, and grievance-handling have negative relation with managerial effectiveness.

The values of t for OC5 (Warmth), OC14 (Grievance-handling) in spite of negative relationship with managerial effectiveness are statistically significant. It states that non-encouragement of grievance-handling in meetings, relaxed atmosphere with competitiveness is created by most of the managers to be effective. Statistically, OC7 (Standard), OC10 (Leadership), OC12 (Human relations), OC1 (Structure) are more significant. Thus, we can say that if we want to improve performance and effectiveness of managers, we must keep in mind standard, leadership, human relations and structure in pharmaceutical industry.

Relation of Personal Characteristics with Organisational Climate and Managerial Effectiveness

Spearman Rank correlation method has been used to find the relationship between personal variables of age, experience and salary with organisational climate and managerial effectiveness. The results are shown in Table 12.

As shown in the table, the value of correlation coefficient between organisational climate and age is 0.016, which shows a positive relationship, that is, if the age goes up, the perceived climate becomes more favourable. The next value of 0.017 is also positive between organisational climate and experience which indicates the positive relationship, that is, with increase in experience, the climate is perceived to be favourable. For organisational climate and salary, the value of correlation coefficient is 0.111, which explains that the highly paid executives perceive climate more favorably. The values obtained in the case of organisational climate with age, salary and

Table 12

Values of Spearman's Correlation Co-efficients (n =112)

		N	*Correlation Co-fficient*	*Signifi-cance*
Pair 1	OC and Age	112	.016	.864
Pair 2	OC and Experience	112	.017	.862
Pair 3	OC and Salary	112	.111	.246
Pair 4	ME and Age	112	.070	.460
Pair 5	ME and Experience	112	.107	.263
Pair 6	ME and Salary	112	.210 *	.026

Note : * Correlation is significant at 0.05 level (2 tailed)

experience are not highly significant but show positive relationship.

Managerial Effectiveness and Age, Experience and Salary

As shown in Table 12, the value of correlation coefficient between managerial effectiveness and age is 0.070 which indicates positive relationship, that the older executives are generally more effective than the young ones. The value of 0.107 is related to managerial effectiveness and experience which points positive relationship that is more experienced, executives are generally more effective. For managerial effectiveness and salary, the value of correlation coefficient is 0.210 which explains that if the salary of a person is high, he will work more effectively to justify his salary. The co-relation between the managerial effectiveness with age and experience, are less significant, and with the salary, thus, are more significant but all these values shows positive relationships. Although the results show positive relationships, most of the values are small that shows less significance. So, if we take 112 executives together with their personal characteristics, like age, experience and salary, these influence organisational climate and managerial effectiveness to a reasonable extent. Further, these personal characteristics are more or less positively related to all the three parameters of age, experience, and salary.

In order to obtain further results, the above-mentioned personal characteristics, in respect of the four companies, were analysed. The results are shown in Tables 13, 14, 15, and 16.

In respect of Glaxo (Table 13), age, experience, and salary show significant and positive relationship with OC and ME.

In the case of Ranbaxy (Table 14), all the variables are positively related to one another; except that the relationship of OC with salary is significant.

In the case of Novartis (Table 15), age, experience, and salary work as a motivating factor and lead to ME, because of positive and significant relationship.

Lastly, in the case of Nicolas (Table 16), the three variables are negatively related. Thus, OC has positive, but less significant, relationship with age, experience, and salary.

Table 13

Values of Correlation Coefficients of OC, and ME with Age, Experience and Salary in Glaxo India Ltd.

		N	*Correlation Coefficient*	*Significance*
Pair 1	OC and Age	28	.407 *	.031
Pair 2	OC and Exp	28	.547 **	.003
Pair 3	OC and Sal	28	.638 **	.000
Pair 4	ME and Age	28	.443 *	.018
Pair 5	ME and Exp	28	.476 *	.010
Pair 6	ME and Sal	28	.626 **	.000

Note: **Correlation is significant at 0.01 level (2 tailed)
*Correlation is significant at 0.05 level (2 tailed

Table 14

Values of Correlation Coefficients of OC, and ME with Age, Experience and Salary in Ranbaxy Labs Ltd.

		N	*Correlation Coefficient*	*Significance*
Pair 1	OC and Age	28	.314	.104
Pair 2	OC and Exp	28	.363	.058
Pair 3	OC and Sal	28	.379 *	.046
Pair 4	ME and Age	28	.248	.203
Pair 5	ME and Exp	28	.177	.369
Pair 6	ME and Sal	28	.273	.160

Note: *Correlation is significant at 0.05 level (2 tailed)

Table 15

Values of Correlation Coefficients of OC, and ME with Age, Experience and Salary in Novartis India Ltd

		N	*Correlation Coefficient*	*Significance*
Pair 1	OC and Age	28	.305	.115
Pair 2	OC and Exp	28	.307	.112
Pair 3	OC and Sal	28	.357	.062
Pair 4	ME and Age	28	.691 **	.000
Pair 5	ME and Exp	28	.639 **	.000
Pair 6	ME and Sal	28	.668 **	.000

Note: **Correlation is significant at 0.01 level (2 tailed)

Table 16

Values of Correlation Coefficients of OC, and ME with Age, Experience and Salary in Nicholas

		N	*Correlation Coefficient*	*Significance*
Pair 1	OC and Age	28	-.275	.157
Pair 2	OC and Exp	28	-.244	.212
Pair 3	OC and Sal	28	-.156	.427
Pair 4	ME and Age	28	.068	.732
Pair 5	ME and Exp	28	.074	.710
Pair 6	ME and Sal	28	.195	.320

Note: **Correlation is significant at 0.01 level (2 tailed)
*Correlation is significant at 0.05 level (2 tailed)

CONCLUSIONS

The results of the study are significant in relation to managerial effectiveness. The results in respect of the multinational organisations, which are research-driven, are more significant than those of the growing multinational organisations, which are still developing processes and research capabilities. In the case of multinational organisations, people generally perceive the climate favourably; they are relatively satisfied with their jobs and are comparatively effective as far as their managerial duties are concerned. It is found that the performance of managers of Novartis (multinational) is highly significant and Nicholas (Indian) trails at the bottom, as far as performance is concerned. In the case of Novartis, the results are better than those of Glaxo. So, organisational climate and managerial effectiveness do not have to do much with the type of organisation (such as multinational or national). Moreover, certain factors carry more importance, such as initiative and risk, warmth, conflict, human relation, as there is not much variance in these factors.

For managerial effectiveness, the results are not much different in all the four companies. Action orientation does influence the effectiveness of managers. The other two factors, viz., self-disclosure and receptivity to feedback, also contribute significantly towards the effectiveness of a manager.

The study has revealed that support, standards, and human relation have positive effect on managerial effectiveness and delegation and communication have negative effect on managerial effectiveness in the pharmaceutical industry. T-test depicts that support, standards and conflicts are statistically more significant. In the case of organisational climate and managerial effectiveness, standard gets the high value, than human relation and leadership. Structure, responsibility, rewards and decision-making also contribute positively towards managerial effectiveness. All other factors have negative relationship with managerial effectiveness.

ENDNOTES

1. This questionnaire, developed by Prof. B.S. Bhatia (Punjabi University, Patiala) and Prof. Vohra (Haryana Institute of Public Administration), was selected because it contains the maximum number of factors of organisational climate (15) and is already tested and used by many researchers.
2. This questionnaire, developed by Prof. Udai Pareek (IIM Ahmedabad), covers 4 aspects with 40 statements in total. This questionnaire was tested and used by many researchers in their research studies.

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MEASURING ENERGY EFFICIENCY IN COMPANIES THROUGH ENERGY SMART STANDARD
A Study of Singrauli Area in Madhya Pradesh

A.K. Tiwari* and Atul Pandey**

Abstract

With rising energy costs, opening up of electricity and gas markets and the adoption of new climate change policies, the need for business managers to monitor and reduce energy consumption is now greater than ever before. Energy management requires a logical and comprehensive management approach and needs managerial decision making based on energy data analysis. This paper seeks to make an assessment of energy management in industries in the Singrauli area of MP (India), based on energy SMART standard. The research methodology involves the collection of primary data through questionnaire and interviews from the officers and workers of selected companies and secondary data from the energy bills of these companies. The companies were measured on 1000-point energy-efficient scale, based on the data and the energy smartness of these companies has been compared.

Key Words: ***Strategic energy management, Energy audit, Specific energy consumption, Energy SMART standard, Resource optimisation***

INTRODUCTION

Energy management is the process involving planning, organising, directing, and controlling the supply and consumption of energy in order to maximise the productivity and comforts, and to minimise the energy cost and pollution, with conscious, judicious, and efficient use of energy. The process of managing energy is not new or complicated. Energy should be regarded as a business cost similar to other business costs, including raw material and labour. The effort required to manage energy effectively will vary between companies, depending on their size and energy intensity (energy costs expressed as a percentage of total costs) and the current level of efficiency. A company starting out in energy management can very well achieve a 20 per cent reduction in their energy bills by good housekeeping measures alone. This cost saving has a straight positive impact on the bottom line, yet is very often overlooked by firms who perceive energy management as not central to their business, or not "strategic enough" to warrant the management attention. However, as

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costs are rising and margins are being squeezed, introducing strategic energy management into a firm makes clear business sense and should be a priority area for management. The basic objective of energy management function is to see that energy needs of the companies are satisfactorily met at the minimum cost at present and in future to the maximum extent possible (Wulfinghoff, 1999). A strong commitment from the top management is essential for a successful energy management programme which includes managerial decision-making. However, managing energy does not necessarily require a formal system; any firm can improve its energy performance by following a few simple techniques. As with any business strategy, strategic energy management incorporates a few fundamentals:

1. Commitment of senior management
2. Assessment of current situation
3. Setting of goals and targets
4. Establishment of an action plan
5. Allocation of resources
6. Implementation of resources plan
7. Review and evaluation

Energy strategy spans a number of the key functions within a firm and, therefore, requires co-operation and commitment from all. *Senior management* provides the leadership and sets the direction; *finance* seeks to ensure that the purchasing decisions are most appropriate; *production*, as the key user, has to ensure that the energy usage is appropriate; *engineering* ensures that the plant is operated and maintained efficiently, and the *human resources* are involved to facilitate training and to create energy awareness.

The most successful energy management strategies, suggested by Rajan (2004), typically involve the setting up of an energy management team, having participants from each of the functions mentioned above. This team would support a dedicated energy manager with responsibility for the co-ordination of energy management activities. Depending on the size of the business, this may or may not be a full-time post. The team, in association with the senior management, would establish an energy management policy, which should include general aims and specific energy cost-reduction targets, timetables and budget allocation, the methods to be employed, and the organisation of management resources. The energy manager should set up a system to collect, analyse, and report on the energy consumption and the costs involved. This may consist of reading meters on a regular basis and the analysing of utility bills (*i.e.*, gas, fuel, oil, and electricity). Business opportunity, potential risks, and company positioning are the key drivers for any company's energy management. Figure 1 shows how energy management can impact corporate planning.

Fig. 1: Drivers for Company Energy Management
How Energy Management can Impact Corporate Planning

Strategic Management Model for Energy Cost Reduction in Industry

A simple and widely-adopted energy management system model, with guidelines, has been developed by Tripathi and Pandey (2006). It is shown in Figure 2. The guidelines recommended for energy-conservation measures in companies are:

1. Reducing energy consumption through operational improvements, resulting in little or no investment with immediate pay-back/within one year (Short-term measures)
2. Making low-cost modifications and improvement to the existing equipment, having the pay-back period of one to two years (Medium-term measures; Low-cost alternative)
3. Making equipment changes and implementing new techniques and technologies, involving large investments, leading to capacity utilisation and major energy-savings, having payback-period of more than two years (Long-term measures, high-cost alternative)

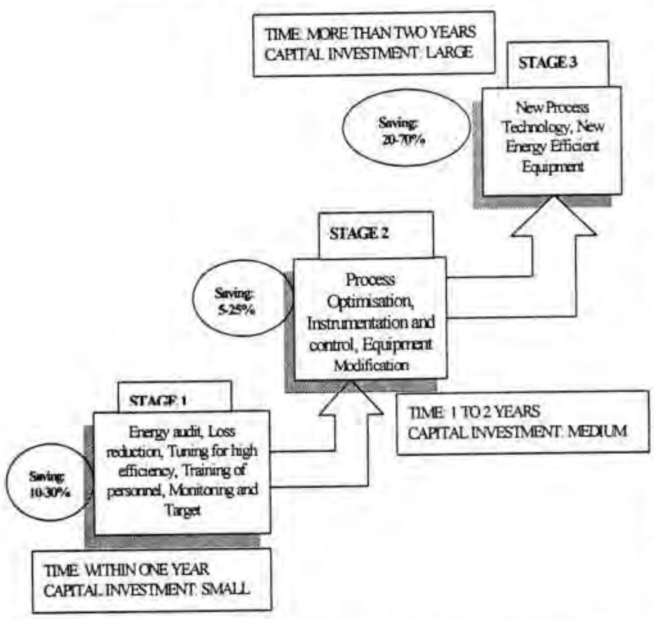

Fig 2: Strategic Model for Energy Management

Source: Tripathi and Pandey (2006)

REVIEW OF LITERATURE

The importance of energy management, as a tool of reducing the cost of production has been recognised, particularly, during the last two decades. In recent years, however, low global energy costs have generated interest in energy savings initiatives and in many U.S. companies, as a means of controlling costs, (Hollander and Schneider, 1996). As the U.S. economy enters an era of uncertain deregulated production, transmission, distribution, and marketing of electricity, it is fair to ask whether an energy-efficiency strategy adds value to a corporate portfolio of wealth-building initiatives, and what the evidence of such a value-added proposition is.

For firms wishing to manage their energy usage more effectively, there are numerous sources of assistance. Indeed, the global market for energy-efficient products and services has been estimated at more than $ 80 billion per year (Hagler Bailly Consulting, 1996), and the providers of such technologies and services are widely available. In addition to long-standing electric utility, the demand-side management (DSM) programmes and a number of public and private initiatives have been developed over the past decade or so, from promoting adoption of active energy-use strategies. A prominent example is the U.S. Environmental Protection Agency's (EPA) Energy Star Buildings and Green Lights Partnership (ESB/GL), which has been in existence since 1991. The partnership contributes significantly to the process of educating and encouraging facility and energy managers, to conserve energy and save money, by providing tools and guidance for identifying energy-efficiency targets that offer the best pay-off. It also assists the managers in quantifying the prospective benefits of investing in energy efficiency.

Wulfinghoff (1999) shows how to save energy and conserve water in all types of buildings, industrial facilities, and homes – from the smallest to the largest, 400 superbly-explained energy conservation measures to optimise energy usage in every part of a building or facility. Carefully-organised measures cover the building structure, heating and air-conditioning, central heating and cooling plants, water systems, lighting, use of sunlight, and common industrial equipment. Each measure has a unique rating and selection scorecard, quickly identifying the best efficiency improvements for industrial application. One can understand how equipment and materials work, including all types of lighting, insulation, heating and air conditioning equipment, high-efficiency motors and drivers, pumps, and fans. Designs of day lighting and solar heating, and how to use energy measurement and calculation tools can also be learnt successfully. It selects refrigerants to minimise global warming and compares the properties of energy sources from fossil fuels to wind and solar.

In India, the Central India Institute of Management, Nagpur, organised the first national seminar on energy management in October 2002, and the need of energy audit, efficient use of energy conservation, and demand side management of energy were discussed at length. Dixit (2002) discussed all aspects of energy conservation through energy audit. His work is an attempt to identify the various losses that existed in the manufacturing process and then developing a strategy and methodology to enable significant energy-saving management. According to him, the energy costs eat into the profits of big units like white ants. Energy audit generates a wealth of useful information-base, which serves as a vital link for the corporate energy management and provides datam for evaluation of energy-conservation programmes. He stressed that a sound energy management programme in any organisation should include monitoring of energy consumption and energy flows at various locations, keeping a record of such measurement and analysing the data of improving the energy efficiency.

Chittawar, Gharpure, and Dilliwar (2002), presented knowledge-based expert systems: *see-utisave* (for electrical energy conservation) and *see- thermisave* (for thermal energy conservation) have been adopted by experts already working in the field of energy management, copying out energy audits and implementing energy-saving measures. They sought to identify and quantify energy wastage and facilitate selection and implementation of energy-saving measures in thermal and electrical systems. Rajaraman (2002) dealt with the efficient use of thermal energy in plants and focused on: (i) Overall efficiency improvement; (ii) Better design of fuel burning system, and (iii) Suitable operation technique to save fuel.

Two eminent scientists of the Central Fuel Research Institute, Sahoo and Topno (2002), discussed various instrumentation and control systems used for energy auditing and management. According to them, before planning any energy-audit programme, one should be aware of the energy-usage pattern of the plant and present energy indices that can be known by measurement of various on-line operating parameters. They suggested that selection of instruments, with accuracy for measurement of required parameters, was essential and periodic calibration of instruments was needed for accurate measurement.

Sokya and Power (2002) observed that energy efficiency had become an important aspect of corporate strategy to control costs and increase productivity. Moreover, using less energy for lighting, ventilation, heating, and air-conditioning of buildings reduces the adverse environmental impact of the use of fossil fuels, and provides other benefits to society. Nevertheless, in most organisations, optimising energy use to meet the production, distribution, and health and comfort needs, as well as management of costs, has generally been viewed as a tactical, site-based, middle management issue, rather than one of potential strategic importance at the corporate level. The author noted that in larger organisations, designated energy managers played the principal role, while in smaller companies and public-sector organisations, facility managers often were responsible for energy-related issues.

Optimising Energy Efficiencies in Industry, the book written by Rajan (2004) is a noteworthy contribution in this field. Giving an overview of

Indian's energy situation, the book presents a dismal scenario. The author notes that the various state electricity boards collectively owe Rs. 30,000 crore to the Central Utilities; their losses standing at a staggering Rs. 24,237 crores during 2000-01 and that power worth Rs. 20,000 crore is pilfered every year, mostly by industries. The facts and figures ring alarm bells. Significantly, half the country's total energy resources are consumed by process and power industries. The silver lining, however, is that some reputed private Energy Management (EM) consultants and Government agencies, like Indian Renewable Energy Development Agency (IREDA), are for promoting and augmenting energy efficiency, conservation and productivity. Viewed in this backdrop, the book authored by a experienced technocrat is a great asset, especially to shop floor supervisors and managers of energy-intensive power plants, refineries, and chemical and process industries.

In their book, *Guide to Energy Management*, Capehart, Turner, and Kennedy (2006) identified the critical areas of effective energy cost-cutting. It provides the latest strategies for improving lighting, combustion processes, steam generation and distribution, and industrial waste re-utilisation. The noted energy professionals in the industry examine the core objectives of effective energy management and illustrate the techniques and tools for achieving the results.

The Institution of Engineers (India) organised a national seminar on Energy Security at Hyderabad in November 2006. The expert committee, in this seminar, framed a 1000-point scale for assessing the energy smartness of companies. Padmanaban (2006), in his paper, brought to the fore India's progress in improving its energy productivity in comparison to that in China and the United States since 1971. He stressed the need to accelerate the pace momentum and direction of the energy-efficiency movement to spread over the Indian states, the institutional and policy measures to effect the change. He suggested the establishment of regional energy-efficiency centers in various States to catalyse business and, to market transformation that could advance commercial penetration of energy-efficiency technologies, serving as avenues to enhance public education.

More and Banerjee (2006) provided a framework to study the impact of improvement of end use efficiency on the Maharashtra State load curve in terms of energy as well as peak demand. They developed a methodology for estimating the end-use load shapes in the residential sector; the technique developed can also be applied for different end uses in commercial, industrial, and agricultural sectors.

Rama Rao (2006) has shown energy analysed the energy consumption of integrated steel plants across the globe which has found to be varying widely, due to variations in processes, as well as levels of waste heat recovery systems. He examined the optimisation of energy consumption, high level of waste heat-recovery, demand-driven electricity management as well as efficient utility management of Energy Conservation Act 2001, appointment of designated energy manager, revision of company energy plan, appointment of energy co-ordinators, formulation of department-level energy teams, energy conservation suggestion campaigns, training of an internal energy auditor, formulation of a department of energy audit teams, training of departmental energy management and audit, launching of renewable energy policy, and energy smart system survey. He noticed that the results were fruitful. The implementation of energy strategy with involvement of all and continuous monitoring has helped in implementing many energy-saving projects and resulted in reducing the specific energy consumption from 7.10 Gcal/ tls to 6.08 Gcal/ tls in 2005-06.

Agrawal (2006) proposed some best practices for commercial loss-reduction. He emphasised energy-accounting system and energy audit schemes, on a continuous basis and favoured these practices for identification of strategies to reduce the losses and to contain them at reasonable levels. He advocated the use of all big energy audit by every large industry and utility.

Sanyal (2006) presented identification and development of energy conservation opportunities and cost-benefit analysis, which, he said, was necessary for assessment of technical feasibility, commercial viability, and prioritisation of energy conservation options. He also observed that energy conservation measures ware prioritised by low cost- high return as a short-term measure, followed by medium cost-medium return as a medium term measure, and, finally, high cost- high return as a long term measure.

According to Anjuli Chandra (2006), the adoption of proper energy accounting and audit would ultimately facilitate increased profit realisation, and would help the industry in bringing accountability and efficiency in its working. Thus, improving its financial health, Thomas and Srivastava (2006) was conducted two surveys about the delivering of quality electricity in India; found that commercial customers were willing to pay higher rates for better quality electricity. They advised the distribution companies to come out with a differentiated premier service of higher rates. This will give the customers a choice.

In their study, titled, *'Innovative Action Plan and Implementable Guidelines towards mega savings for energy conservation in Coal Sector'* Tripathi and Pandey (2006), observed that a finite planet cannot support infinitely increasing energy consumption in every sector of the globe, and that the rapidly-increasing need for energy and fast-depleting sources of energy were causing anxiety to the world community. They further noted that the energy cost all over the globe was rising and developing countries were looking up for energy security to maintain the pace of development. They emphasized that the need of energy conservation in both electricity and diesel, and formulation of systematic comprehensive action plan for its implementation was the call of the day. This paper sought to design a comprehensive and innovative action plan for identification of short-term, medium-term (low-cost alternative), long-term (high-cost alternative) energy conservation measures suitable for open-cast coal mines. Estimated investment required for implementation of the proposed energy conservation measures along with the pay-back period, annual potential savings on energy and cost-benefit analysis have also been recommended.

In view of the energy security net of the country, it is necessary to have a long-term vision for proper development of the coal sector. For the success of the energy management programme (EMP), not only the top management should have ample interest in the programme, but co-operation from all employees who are either energy-users or energy technicians is necessary. In fact participation of the entire workforce is required to accomplish the task of energy conservation in mining operation. While the technology upgradation and modification should be taken up by the engineers and managers, the housekeeping measures and improved maintenance and operational practices must be carried out by technicians and support staff. Suitable training and energy awareness programmes and energy management at the mine are to be organised. The application of renewable energy, devices, and its importance in our life has also been explained by the researchers.

The work on benchmarking of energy conservation was carried out by Tripathi and Pandey (2006), in the open-cast coal mines of Northern Coal Fields Limited, a subsidiary of Coal India Limited (a Government of India undertaking), engaged in the production of coal, incurring expenses of nearly Rs. 610 crore per annum towards the cost of electricity and HSD, which will continue to rise with the current trend of increasing cost. Conservation of energy is important to face the emerging challenges and to meet the demand of power generation in the global scenario. Benchmarking of energy consumption of large energy-consuming areas, and fixation of equipment-wise energy consumption norms, will be the powerful tool for performance assessment and logical evolution of avenues for improvement in the coal sector. Tripathi and Pandey (2006) examined the energy-consumption pattern of open-cast coal mines of NCL with a view to ascertain the vast scope of energy conservation and savings potentials in terms of both fixed as well as variable energy consumption. The authors suggested various energy-conservation measures and schemes to conserve both electrical and diesel energy, so that India's coal industry can be competitive in the 21st century.

Northern Coalfields Ltd. (NCL), Singrauli, produces only power-grade coal through eight highly mechanised open-cast mines. It distributes power to its eight open-cast mines and three non-productive units, spread over the vast areas of MP and UP. NCL incurred expenses of nearly Rs. 585 crore per annum towards the cost of electricity and POL, which would continue to rise with the usual trend of increasing supply cost. The energy expenditure of NCL can be brought down @ 5 per cent per annum, both in electrical and diesel energy, by proper implementation of loss-reduction measures in the mines and other units of NCL. Tripathi and Pandey (2006) suggested various energy-loss reduction techniques in the power distribution system, and for exploring the possibility and benefits of adopting energy-efficient technology in coal mining companies. Measures for the improvement of energy-efficiency in each process, plant, and equipment and for identifying the focal area of energy loss and wastage at NCL Singrauli are suggested. The approach adopted in this paper would help in:

1. Maintaining a balance between the energy demand and supply.
2. Saving both the energy and the money for the mines, industries, house-building, and commercial sectors.
3. Providing guidance for intensive media campaign to educate the public, employees, and workers in the mining industry and other organizations, especially to housewives and illiterate people for judicious and economic use of energy.

The implementation of the Total Effective Energy Management (TEEM) Programme in the coal industry by overcoming the stiff opposition to change in the organization will be the key to succeed in the 21st century. India must read the change, lead the change and ride the change, and should be ready to face the challenges. The present paper emphasises on the importance of energy-saving and loss-reduction. Indian oil and gas reserves would last only for about 25 years and the coal deposits for another 70-80 years. It may be noted that *Techno-Managerial-Literacy* is now more important than mere literacy.

OBJECTIVES AND HYPOTHESES OF RESEARCH

The objectives of the present research work are:

1. To assess and classify companies in the Singrauli area on energy-efficiency grading.
2. To identify the significant differences among the companies on energy management criteria.
3. To ascertain the awareness about energy management policy in different companies.
4. To ascertain the cost-saving and the effect of differences in energy-saving devices adopted by workers in different companies.
5. To evaluate the methods of imparting training in energy conservation to the staff, and promotion and reward criteria for energy management in different companies.

6. To assess the extent of use of non-conventional energy sources in different companies.

In consonance with the above objectives, the following hypotheses were formulated:

1. H_0: There is no significant difference in the awareness of energy management policy among different companies.
2. H_0: There is no significant difference in the profitability due to energy management methods adopted by different companies.
3. H_0: There is no significant difference in imparting training in energy conservation to staff among different companies.
4. H_0: There is no significant difference in the promotion and reward criteria in energy management among different companies.
5. H_0: There is no significant difference in energy-saving methods adopted by workers among different companies.
6. H_0: There is no significant difference in the usage of non-conventional energy sources among different companies.

RESEARCH METHODOLOGY

This study seeks to analyse the managerial decision-making methods in energy management in companies of Singrauli area of Madhya Pradesh in India. Six companies operating in the area were selected for the study:

1. Northern Coalfields Ltd. (NCL - a subsidiary of Coal India ltd.)
2. National Thermal Power Corporation (NTPC)
3. Renusagar Power Company (RPC-Aditya Birla Group)
4. IDL Industries Ltd. (IDL- Hinduja Group)
5. Rewa Gases Pvt. Ltd., Waidhan [RGPL]
6. Vindhyachal Air Products Pvt. Ltd. [VAPL]

Source of Data: The data needed for this exploratory study was collected from secondary as well as primary sources. The study involves an objective and analytical review of books on the subject from libraries, reference books by Indian and foreign authors, and articles from journals. The data was also collected from companies in the Singrauli area. To obtain the opinion of other components, like BEE and TERI, primary and secondary data were collected in the light of the present requirement of the Indian industry. Views, opinions and experiences of managers, executives and other employees of the selected companies were incorporated to get a better picture of the impact of energy management strategy. Moreover, the annual reports of the companies, which adopted these strategic options, were also scanned. The primary data was collected with the help of a structured questionnaire and through a structured interview. While, the responses from employees and executives were elicited through the questionnaire, structured interviews of the managers' ware conducted. Monthly energy-consumption data, such as the maximum demand, units consumed, power factor, load factor, auxiliary consumption, net energy expenditure, production and energy cost as a percentage of the production cost were collected. The data was collected for a period of four years. The year 2003 was taken as the reference year.

Methods of Data Collection

A. Secondary Sources:

1. Electricity bills of the companies for the past 4 years (issued by the electricity board).
2. Diesel and other fuel bills of the companies for the same period.

B. Primary Sources:

1. Measurements of the energy input and output at various units of industry (in KWH, KVARh) and maximum demand (in KVA).

2. Measurements of the illumination level at various units of the company (in lumens)
3. Questionnaire for workers
4. Questionnaire for opinion leaders (executives)

The questionnaire for workers contained twelve question in the local language (Hindi) to assess the workers' awareness on energy saving and energy management.

The questionnaire meant for opinion leaders contained 100 "yes/no" questions, which covered various aspects of energy management in the company, such as the management commitment, strategic planning, monitoring, measurement and continual improvement resource management, process management, reduction in specific energy consumption, resource optimisation, waste minimisation, reduction in pollution, greening supply chain, and use of non-conventional sources of energy.

Sampling

Two-stage sampling was used in the sample design. In the first stage, of the 20 companies in Singrauli area, 6 were chosen, giving representation to the entire industry by application of quota sampling. NCL, the only player in the coal industry in this area, was taken for study. Only the six power generation companies in the area, one from the public sector (NTPC) and one from the private sector (RPC) were selected. Out of the three gas companies, two were selected, one from AKVN area (RGPL) and one from outside the AKVN area (VAPL). One company of explosives industry (IDL) was chosen out of six companies. Of the six selected companies, three were major ones (NTPC, NCL, RPC) and the other three were minor (IDL, RGPL, VAPL). Thus, all types of companies in the Singrauli area were represented.

In the second stage, the respondents were chosen from amongst the senior managers and workers of the six selected companies. The sample size was selected so as to cover 25 per cent of the managers from the major companies, and 100 per cent of the managers from the minor ones, taking the total population of each type into consideration. Thus, the total sample was about one-third for the opinion leaders. The sample amounted 2 per cent to 3 per cent for the workers in the major companies and 100 per cent in minor ones, the overall sampling being 2.5 per cent in the case of workers.

The distribution of questionnaire and the profile of the sample are shown in Table 1.

Tools for Data Analysis

On the basis of various parameters and attributes, the "Energy Efficient Scale" (Energy SMART Standard) for industry has been framed. The companies under study were marked on a 1000 point scale to determine their energy 'smartness'. The results were tested through statistical tools,

Table 1

Profile of the Sample

S.No.	*Name of Industry*	*Questionaire for Opinion Leader*			*Questionaire for Workers*		
		Circulated	*Population*	*%*	*Circulated*	*population*	*%*
1	Northern Coalfields Ltd.	40	150	25	320	16000	2
2	National Thermal Power Corporation	50	200	25	50	1800	2.8
3	Renusagar Power Company	15	50	25	20	650	3
4	IDL Industries Ltd.	6	6	100	20	20	100
5	Rewa Gases Pvt. Ltd.	3	3	100	30	30	100
6	Vindhyachal Air Products Pvt. Ltd.	3	3	100	20	30	100
	Total	150	412	36.4	460	18530	2.5

Table 2

Assessment of Industries and Awarding of Points on Energy Efficient Scale

Quest No.	*Criteria*	*Sub-Criteria*	*Total Points*	*NCL*	*NTPC*	*RENU SAGAR*	*IDL*	*RGPL*	*VAPL*
1	Management Commitment	Energy Management Policy	20	0	20	20	0	20	0
		E M P includes commitment	30	0	30	30	0	12	0
		Management communicates to the organisations	30	0	30	30	0	0	0
		Management determines Energy SMART requirements	20	0	20	20	0	0	0
		TOTAL	100	0	100	100	0	32	0
2	Strategic Planning Energy SMART	Energy SMART Objectives and Targets	30	15	30	30	10	15	15
		System Planning	10	0	10	10	10	0	10
		Internal Communication	10	10	10	10	0	5	10
		TOTAL	50	25	50	50	20	20	35
3	Monitoring, Measurement and Continual Improvement		100	90	100	100	30	10	20
4	Resource Management	Organisational setup for Energy Conservation	10	0	10	10	0	0	0
		Provision of Resources	40	40	40	40	20	25	25
		TOTAL	50	40	50	50	20	25	45
5	Process Management	HR Process	25	0	20	25	0	15	15
		Engineering Process	25	11	21	25	23	9	11
		Purchasing Process	25	0	5	0	0	0	0
		Production Process	50	34	50	50	26	14	34
		Other Organisation Processes	25	0	25	25	0	0	0
		TOTAL	150	45	121	125	49	38	60
R1	Reduction In Specific Energy Consumption		150	125	150	150	25	150	100
R2	Resource Optimisation		100	64	68	84	48	36	68
R3	Waste Minimisation		100	14	58	70	58	16	30
R4	Reduction In Pollution		50	24	20	26	26	0	0
R5	Greening Supply-Chain		50	0	0	0	0	0	0
R6	Use of Non-Conventional Source of Energy		50	25	50	50	0	0	0
	Grand Total		1000	452	767	805	246	342	338

like ANNOVA, regression analysis, and chi-square test and by VISUALSTAT software to assess the impact of energy management and managerial decision making in the company.

Energy SMART Standard

The Energy SMART Standard (specifications and guidelines for assessment) was developed in response to the urgent national requirement for conservation of energy, and its effective management by the Energy Conservation Mission (ECM), constituted by The Institution of Engineers (India), at AP State Centre, Hyderabad (India) on 16th December 2003. This was modified and used for the present study. The set of guidelines is given in the Appendix.

The standard specifies a model for evaluating energy smartness of organisation as per energy SMART criteria. The model derives inspiration from various organisational effectiveness-evaluation models, and approaches used throughout the world, such as, EFQM (European Foundation for Quality Management) Model, Malcolm Baldride Award (USA)) Criteria for Organisational Excellence, and the Tata Business Excellence Model (India).

The Energy SMART Model and evaluation is based on 12 criteria. Six of these are enablers and the remaining six are results. The model also recognises Energy Smart Results-reduction in specific energy consumption, resource optimisation, waste minimisation, reduction in pollution, green supply chain, and the use of non-conventional sources of energy, based on the management commitment delivered through strategic planning, process management, monitoring, measurement, and the continual improvement.

The model prescribed in this standard is generic and can be used for all types of organisations. The total points are divided into two (50 per cent for enablers and 50 per cent for results).

The first part of this standard gives the model and criteria while the second part gives the detailed criteria for awarding of points (out of 1000).

The model and assessment criteria can be used for (1) Self assessment, (2) Benchmarking with other organisations, (3) Identification of the areas for improvement, (4) Recognition and awards, and (5) Certification.

ANALYSIS AND RESULTS

Tables of Results

The assessment of companies and points obtained on Energy Efficient Scale are given in Table 2 and its summary appears in Table 3.

Table 3
Summery of Results

Energy Efficient Grading of Companies in Singrauli Area			
Rank	*Company*	*% Points Obtained*	*Grade*
1	Renusagar	80.5	A
2	NTPC	76.7	A
3	NCL	45.2	B
4	RGPL	34.2	C
5	VAPL	33.8	C
6	IDL	24.6	D

Table 4
Respondents' Details

S.No.	*Name of Company*	*Questionnaire for opinion leader*		*Questionnaire for workers*	
		Distributed	*Responded*	*Distributed*	*Responded*
1	Northern Coalfields Ltd.	40	28	320	87
2	National Thermal Power Corporation	50	31	50	21
3	Renusagar Power Company	15	16	20	16
4	IDL Industries Ltd.	6	5	20	19
5	Rewa Gases Pvt. Ltd.,	3	2	30	18
6	Vindhyachal Air products Pvt. Ltd	3	3	20	19
	Total	150	85	460	180

Now, we test the *six* hypotheses on energy management in companies of Singrauli area framed above, from the data gathered through the questionnaire. The profile of the sample is shown in Table 4.

Awareness of Energy Management Policy

Hypothesis H_0: There is no significant difference in the awareness of energy management policy among different companies.

From the data analysis, we find:

$$\chi^2 = \frac{\sum(f_0 - fe)^2}{fe} = 48.55$$

f_0 = observed frequency of the sample

f_e = expected frequency of the sample

Co-efficient of Association = 0.52

Degree of freedom υ = (r-1) (c-1) = (6-1) (2-1) = 5*1=5

For α = 0.05 and = 5, χ^2 (table value) = 11.1

At 5 per cent significant level, the calculated value of χ^2 is greater than the table value. Hence, the hypothesis is rejected.

It can be concluded that there is a significant difference in the awareness of energy management policy among different companies. It is because in NTPC, RPC, and RGPL, the top management has declared energy management policy for the company, whereas in NCL, IDL, and VAPL, no such action has been taken. It is also observed that there is a good association between the row variable and the column variable at the 5 per cent level.

Profitability due to Energy Management Methodology Adopted

Hypothesis H_0: There is no significant difference in the opinion of profitability due to the energy management methodology adopted among different companies.

The relevant computations are given below.

$$\chi^2 = \frac{\sum(f_0 - fe)^2}{fe} = 3.18$$

Co-efficient of Association = 0.13

Degree of freedom υ = (r-1) (c-1) = (6-1) (2-1) = 5*1=5

For α = 0.05 and υ = 5, χ^2 (table value) = 11.1

At the 5 per cent level of significance, the calculated value of χ^2 is less than the table value. Hence, the hypothesis is accepted.

We conclude that there is no significant difference in the opinion of profitability due to the energy management methodology adopted among different companies. It is because in all companies the maximum number of managers and workers has the opinion that by adopting energy management policy the profitability of the company will increase. It is also observed that there is a fair association between the row variable and the column variable at the 5 per cent level.

Training in Energy Conservation

Hypothesis H_0: There is no significant difference in imparting training in energy conservation to staff among different companies.

$$\chi^2 = \frac{\sum(f_0 - fe)^2}{fe} = 37.36$$

Co-efficient of association = 0.46

Degree of freedom υ = (r-1) (c-1) = (6-1) (2-1) = 5*1=5

For α = 0.05 and υ = 5, χ^2 (table value) = 11.1

At 5 per cent significant level, the calculated value of χ^2 is greater than the table value. Hence the hypothesis is rejected.

The conclusion rejects the null hypothesis, because there is a significant difference in imparting training in energy conservation to staff among different companies. It is because the two companies (NTPC and RPC) conducted the energy conservation training programmes for their employees while the other four companies (NCL, IDL, VAPL, and RGPL) did not.

It is also observed that there is a fair association between the row variable and the column variable, at the 5 per cent level.

Promotion/Reward Criteria in Energy Management

Hypothesis H_0: There is no significant difference in the promotion and reward criteria in energy management among the different companies.

The goodness of fit for promotion/reward criteria in energy management is computed as below.

$$\chi^2 = \frac{\sum(f_0 - fe)^2}{fe} = 64.89$$

Co-efficient of association = 0.60

Degree of freedom υ = (r-1) (c-1) = (6-1) (2-1) = 5*1=5

For α = 0.05 and $\upsilon = 5$, χ^2 (table value) = 11.1

At the 5 per cent level of significance, the calculated value of χ^2 is greater than the table value. Hence, the hypothesis is rejected.

Thus, there is a significant difference in the promotion and reward criteria in energy management among the different companies. It is because in NTPC, RPC, and RGPL, an appreciation is given to employees who adopt the methods of consuming less energy in their work. Other companies (NCL, IDL and VAPL) do not have such a practice.

It is also observed that there is a good association between the row variable and the column variable at the 5 per cent level.

Energy Saving Methodology Adopted in Works

Hypothesis H_0: There is no significant difference in energy saving methodology adopted by workers among different companies.

The value of χ^2 for energy saving methodology adopted in work is calculated as follows:

$$\chi^2 = \frac{\sum(f_0 - fe)^2}{fe} = 3.18$$

Co-efficient of association = 0.10

Degree of freedom υ = (r-1) (c-1) = (6-1) (2-1) = 5*1=5

For α = 0.05 and $\upsilon = 5$, χ^2 (table value) = 11.1

At the 5 per cent level of significance, the calculated value of χ^2 is less than the table value. Hence, the hypothesis is accepted.

Thus, there is no significant difference in the energy saving methodology adopted by workers among the different companies. It is because about 50 per cent employees in all the companies are unaware of such energy saving methodology. It also indicates that although NTPC and RPC conduct energy conservation training programmes for their employees, it reaches only upto 50 per cent of workers. It is also observed that there is a fair association between the row variable and the column variable at the 5 per cent level.

Use of Non-Conventional Energy Sources

Hypothesis H_0: There is no significant difference in the use of non-conventional energy sources among the different companies.

The relevant computations are:

$$\chi^2 = \frac{\sum(f_0 - fe)^2}{fe} = 52.86$$

Co-efficient of association = 0.47

Degree of freedom $\upsilon = (r-1)(c-1) = (6-1)(2-1) = 5*1 = 5$

For $\alpha = 0.05$ and $\upsilon = 5$, χ^2 (table value) = 11.1

At the 5 per cent level of significance, the calculated value of χ^2 is greater than the table value. Hence, the hypothesis is rejected.

Thus, there is a significant difference in the use of non-conventional energy sources among different companies. It is because about 50 per cent of the employees in NTPC and RPC either knew or observed a little use of non-conventional energy sources in the company. The employees of the other companies (NCL, RGPL, IDL and VAPL) were totally unaware of any such non-conventional energy sources. It is also observed that there is a fair association between the row variable and the column variable at the 5 per cent level.

Implications of Findings

The results indicate that, except for NTPC and Renusagar, other companies do not have energy management cell, headed by a qualified energy manager. Smaller companies, like IDL, VAPL, and RGPL do not conduct energy audits of their company which is mandatory under the Energy Conservation Act 2001. There was no energy management policy in highly energy-intensive industries (NCL, IDL, and VAPL). Other companies like (NTPC, Renusagar, and RGPL) had an energy management policy. No industry was following the 'greening supply-chain' criteria. Companies do not know whether the suppliers have energy smart criteria or not. No company conducted or demanded energy SMART assessment of suppliers. Only NTPC and Renusagar, having all processes in the organization, consider capacity utilisation, energy conservation, waste reduction and continuous improvement of efficiency. There is energy smart system planning in all companies, except, NCL and RGPL. Maximum numbers of labourers and workers are unaware of any energy policy of companies. In NCL and IDL, there is no reward, recognition, career advancement, nor motivation method employed to drive employees towards energy smartness. Except NTPC and Renusagar, no company provides competency development training to their employees in energy management. In IDL, much wastage of energy was observed at all levels. All motors were running at under-loading and over-heating condition. No fine-tuning and capacity-utilisation was found. Free electricity provided to all employees was the main reason for the wastage and heavy consumption in NCL townships. Some townships had the electricity consumption at par with mining projects. Also, there is no metering or monitoring of electricity in individual residential units. This results in high energy cost in the total expenditure of companies.

Thus, there is a significant difference in the awareness of energy management policy among different companies. It is because in NTPC, RPC and RGPL the top management declared energy management policy for the companies, whereas in NCL, IDL, and VAPL, no such action was taken.

There is no significant difference in the opinion of profitability due to energy management methodology adopted among different companies. It is because in all the companies, the maximum number of managers and workers felt that by adopting energy management policy the profitability of company would increase.

There is a significant difference in imparting training in energy conservation to staff among the different companies. It is because two companies (NTPC and RPC) conducted energy conservation training programmes for their employees whereas the other four companies (NCL, IDL, VAPL, RGPL) did not.

There is a significant difference in promotion and reward criteria in energy management among the selected companies. It is because in NTPC, RPC, and RGPL, employees are appreciated for adopting energy-saving devices. Other companies (NCL, IDL and VAPL) did not have such practice.

There is no significant difference in the adoption of energy-saving methods by workers among the sample companies. It is because there are about 50 per cent employees in these companies who were unaware of such energy-saving devices. It also indicates that, although NTPC and RPC conducts energy-conservation training programmes for their employees, not more than 50 per cent of the workers availed themselves of such facilities.

There is no significant difference in use of non-conventional energy sources among the companies. It is because about 50 per cent employees in NTPC and RPC knew a little use of non-conventional energy sources in the company. The employees of other companies were totally unaware of such sources of non-conventional energy.

CONCLUSION

A framework for measuring energy efficiency in companies using energy smart standard has been developed. It is found that there is no awareness of energy conservation or energy management in many companies. Since many companies did not have any energy management policy, no promotion or reward criteria in energy management were found in companies. Most of the companies did not conduct energy conservation training programmes for their employees. Companies have not conducted any energy audit which is mandatory under Energy Conservation Act, 2001. Saving energy or improving efficiency is a multi-disciplinary work and requires a co-ordinated action form all functions. This will lead to better energy security in the country and Indian companies will meet the global business challenges by reducing their production cost.

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APPENDIX

Guidelines for Assessment and Awarding Points (Out of 1000 Points)

Enablers (500 Points)

1. Management Commitment (100 Points)

a. Energy Management Policy (20 Points)

1. Organisations top management has declared Energy Management Policy

b. Energy Management Policy includes commitment to (30 Points)

1. Promote energy savings and conservation of resources reduction in specific energy consumption,
2. Minimise waste generation and promote reuse recycling and disposal in eco-friendly manner in all segments of operation,
3. Comply with energy legislation/ regulation/ guidelines,
4. Reduce cost by adopting effective Energy Management System,
5. Use renewable energy sources.

c. Management communicates to the organisations: Energy Management Policy and Energy SMART Criteria (30 Points)

1. Effective communication Energy Policy and Energy SMART System criteria, to different levels in the organisation.
2. Appropriate knowledge and visible commitment at different management levels for complying with energy policy and Energy SMART System

d. Management determines an Energy SMART requirement, applicable to the organisation and ensures incorporation in its objectives and targets. (20 Points)

2. Strategic Planning (50 Points)

a. Energy SMART Objectives and Targets

1. The energy SMART objectives and targets are determined and established at relevant functions and levels of the organisation
2. The objectives are consistent with Energy Policy and Energy SMART criteria
3. The objectives are specific, measurable, achievable, relevant, and time bound (S.M.A.R.T.)
4. The energy objectives are derived on the basis of benchmarks with organisations of similar nature.
5. The objectives and targets pursue improvement goals
6. The objectives and targets are reviewed by top management

b. Energy SMART System Planning

Effective planning of the Energy SMART System is carried out in order to meet the requirement of objectives.

c. Internal Communication

1. Communication processes are established to communicate the energy SMART effectiveness
2. Communication process is effective

3. Monitoring, Measurement and Continual Improvement (100 Points)

Evaluation will be based on the following:

1. Collecting data and information as per the Energy SMART Criteria
2. Collecting competitive benchmarks on other Energy SMART criteria to set targets
3. Analysing information and data on energy management from all parts of organisation, customers, and suppliers

4. Using information and data for setting priorities
5. Monitoring and measuring critical operating parameters and activities that can have significant impact on energy management
6. Evaluating compliance with relevant legal requirements related to energy management and conservation
7. Taking corrective and preventive action to eliminate the cause of actual and potential non-compliance
8. Audit of energy management system.
9. Improving the energy performance continually through the use of energy policy, energy objectives, audit results, analysis of data, corrective and preventive actions and management review

4. Resource Management (50 Points)

Evaluation will be based on the following:

a. Organisational set-up for energy conservation (10 Points)
   1. Separate energy cell created in the organisation
   2. Energy cell led by a trained senior executive reporting to the top management

b. Provision of resources by the management to facilitate planned improvement and achievement of objectives and targets (40 Points)

   The management should provide the following:
   1. Resources for implementing Energy Management System and continually improving its effectiveness
   2. Infrastructure for implementing the Energy SMART System.
   3. Energy-efficient buildings, work plan and associated utilities.
   4. Process equipment (both hardware and software) and plants and machinery.
   5. Supporting services(such as transport or communications)
   6. Calibrated measuring instruments.

5. Process Management (150 Points)

Evaluation will be based on the following:

a. HR Process (25 Points)
   1. How people are rewarded/recognised in order to sustain their involvement in Energy SMART criteria in the organisation.
   2. How career advancement of people is integrated with their involvement in the Energy SMART criteria.
   3. Competency of the people development/ training (per cent of employees trained/no. of training hours).
   4. Motivation method employed in organisation to drive people towards energy smartness.

b. Engineering Process (25 Points)

   Evaluation will be based on proposition of products with specific environmental features to total production output in per cent. The following product aspects may be considered:
   1. Recycling.
   2. Environmentally-safer disposal.
   3. Use of renewable raw materials.
   4. Efficient manufacturing.
   5. Low-emission production and utilisation.
   6. Longevity.
   7. Usable packing.
   8. Good proportion of products from ecologically safe raw material.
   9. Good proportion of environmentally-approved products.

c. Purchasing Process (25 Points)

   Evaluation is based on the following:
   1. Priority given to supplier following the Energy SMART criteria.
   2. Training to suppliers on the Energy SMART criteria and system.
   3. Conducting assessment of suppliers as per Energy SMART criteria.
   4. Greening supply chain, life cycle cost, and value analysis as part of purchase policy.
   5. Including all the above in a measurable objective.

d. Production Process (50 Points)

   Evaluation based on production system includes
   1. Reduction of specific energy consumption.
   2. Reduction of water consumption.
   3. Waste reduction.
   4. Cycle-time reduction.
   5. Reduction in non-value-added processes.
   6. Reduction of occupational accidents.
   7. Increase in waste recycling rates.
   8. Reduction in cases of occupational illness.

9. Capacity utilisation.
10. Application of modern techniques (like lean production)
11. Including all the above in goals and targets.

(ii)Other Organisation Processes (25 Points)

All processes in organisations (Admn./Personnel inclusive) consider capacity utilisation, energy conservation, waste reduction, continuous improvement of (e.g. reduction of travel time, reduction in paper consumption).

Results (500 Points)

1. Reduction in specific energy consumption (150 Points)

Evaluation is based on the following:

a) Specific energy consumption vs benchmark in similar organisations.
b) Reduction in total electricity consumption per unit of production in one year.
c) Reduction in electricity consumption per employee (e.g. in offices).
d) Reduction in coal/oil/gas consumption per unit.
e) Reduction in special energy consumption as per objectives and targets set.
f) Reduction in proportion of energy costs to manufacturing costs.

2. Resource Optimisation (100 Points)

Evaluation will be based on the following:

a) Efficient use of raw materials, water, energy, etc.
b) Reduction in production costs by reducing material consumption.
c) Reduction of environmental hazardous input material consumption.
d) Reduction of environmentally harm input material (solvents, dyes, etc.)
e) Replacements with environmentally safer alternatives (e.g. renewable raw materials, reusable packing, recyclable raw material, solvent free paints and vanishes).
f) Incorporation of eco-friendly, degradability, health and safety aspects in consideration in input material.

3. Waste Minimisation (100 Points)

Evaluation will be based on the following:

a) Reduction in total amount of waste from production processes.
b) Reduction of waste from other processes
c) Reduction in proportion of waste for disposal to waste for recovery
d) Reduction in specific waste or waste per unit of product.
e) Paper waste per employee.
f) Reduction of waste transportation cost.
g) Reduction of hazardous waste in proportion to total waste.

4. Reduction in Pollution (50 Points)

Evaluation will be based on the following:

a) Reduction in air pollution due to toxic air emission.
b) Reduction in process emissions with odour causing gases like Ammonia.
c) Reduction in hazardous waste.
d) Reduction in emission of green house gases.
e) Reduction in polluted water (water polluted in production process, sanitation waste)
f) Degree of pollutant concentration in waste water.
g) Improvement in environmentally safer disposal.
h) Reduction of pollution in transportation.

5. Greening the Supply Chain (50 Points)

Evaluation will be based on the following:

a) No of suppliers that have Energy SMART System criteria or part of it.
b) Energy SMART assessment of supplier conducted (per cent)
c) Proportion of purchased goods from suppliers implementing Energy SMART System criteria.

6. Use of Non-Conventional Source of Energy (50 Points)

Evaluation will be based on the following:

1. Promoting clean and green energy in the organisation in all areas.
2. Making energy efficient buildings to conserve energy
3. Making investment in harnessing various renewable energy sources
4. Undertaking awareness campaign to all employees on NCSE/RE.

ORGANISATIONAL CITIZENSHIP BEHAVIOUR
A Study of Manufacturing and Service Organisations

Garima Mathur* and Silky Vigg**

Abstract

One of the most notable consequences of commitment to the organisation is the performance of employees in their work environment. With the increasing globalisation of economy, it is being realised that employee behaviour, which is beyond the traditional measures of job performance, like Organisational Citizenship Behaviour (OCB), hold promise for long-term organisational success. Organisational citizenship behaviour of employees goes beyond what is formally prescribed by an organisation. A few studies have examined different types of helping behaviour, like altruism, general compliance, sportsmanship and civic virtues, within the organisation. This study seeks to identify such "extra-role" behaviour for which the employees are not directly rewarded, but the management considers them as part of their job. The study also attempts to find out the differences in "extra-role" behaviour among employees of manufacturing and service organisations.

Key Words: ***Organisational citizenship behaviour, Manufacturing organisations, Service organisations, Altruism, Conscientiousness.***

INTRODUCTION

Organisational citizenship behaviour (OCB) is an act that goes beyond what is prescribed in the formal rules and what is expected from the employees in their normal working. David Turnipseed (1996) observes that a recent focus of organisation behaviour and management theory has been on desirable, yet informal organisation behaviour. He terms this behaviour as organisational citizenship behaviour . According to him, OCB includes pro-social behaviour, including helping others, innovating, volunteering, and the lack of undesirable behaviour. Turnipseed seeks to advance the theory of organisational citizenship by examining the relationship between organisation citizenship and the environment in which that citizenship behaviour is manifested. Over the last few years, researchers have recognised the importance of distinguishing between two types of performance: "in-role" performance and "extra-role" performance. While the in-role performance represents the results connected with the work output,

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including sales volume and commission earned, the extra-role performance is fundamentally related to the aspects of individual behaviour (MacKenzie, *et al.*, 1998). Due to relevance in literature, OCB is emphasised in this research. In the first place, research has demonstrated that on evaluating their employees, managers keep both type of performance in mind, and these greatly influence decisions regarding promotion, rewards and compensation (MacKenzie, *et al.*, 1991). Similarly, Podsakoff, *et al.*, (2000) hold that management considers the "extra-role" performance as part of the individual's job. In addition, both types of performance have an important influence on the overall financial performance of an organisation (MacKenzie, *et al.*, 1998). Finally, such distinct types of performance have also different antecedents and consequences (Organ, 1990). Therefore, empirical evidence suggests that the "in role" performance is an antecedent to job satisfaction, while the "extra role" performance is seen as a consequence (Organ 1988, 1990).

The causal relationship is based on the fact that those employees satisfied with their job has a feeling of gratitude towards their organisations and a desire to reciprocate, which manifests itself in their behaviour. While, the "in role" behaviour should be considered as an antecedent to organisational commitment, the "extra-role" behaviour is perceived as its consequence. This relationship has been widely analysed among the sales staff. Thus, the individuals who are more committed to the firm want to give more of them with the intention of contributing to the overall well-being of the organisation. (Cardona, *et al.*, 1999; MacKenzie, *et al.*, 1998; Munene, 1995; Organ and Ryan, 1995). However, other authors, including Graham (1991), have suggested that the OCB constitutes a construct that should be isolated from work performance and the global concept includes all the relevant positive behaviour of the individuals in an organisation. Organ (1988) defines OCB as the behaviour among employees of an organisation who seek to promote the effective functioning of an organisation directly independent of their personal productivity goals. Netemeyer, *et al.* (1997) also support this view. According to these authors, OCB is the type of behaviour that goes beyond that which is formally prescribed by the organisation.

Various aspects of services require non-mandated employee behaviour that can be critical to customer perception of service. While some type of behaviour can be explicitly defined, others are more abstract and are dependent on employee's attitude and motivation (Bienstock, *et al.*, 2003). Also, OCB is a type of discretional behaviour, which is not directly rewarded or recognised in the formal structure of rewards. However, OCB is especially important for organisationsal effectiveness and success. In short, the review of literature indicates that researchers have primarily established motivational bases causing OCB, employees' attitude towards their job and personality disposition (Bolino, 1990).

Ackfeldt and Coote (2005) investigated the potential antecedents of OCB in a retail setting. Several characteristics of retail jobs, as compared with other types of organisational behaviour, suggest the need to examine the antecedents of OCBs. Job attitudes (job satisfaction and organisational commitment) are proposed as direct predictors of OCBs. Leadership support, professional development, and empowerment are posited as indirect predictors of OCB and direct predictors of job attitudes. The relationships between leadership support, professional development and empowerment, and OCB and job attitude differ systematically.

According to Podsakoff, *et al.* (2000), there are various forms of OCB. The initial proposal of Netemeyer, *et al.* (1997) considers four major dimensions, namely, sportsmanship, civic virtue, conscientiousness and altruism. Finally, altruism reflects helpful behaviour towards others in carrying out their tasks. Occasionally, altruism and conscientiousness are grouped together in a dimension called helping behaviour (MacKenzie *et al.*, 1998). OCB promotes teamwork, ease communication between employees and management, improve the work environment, and achieves high rate of employee retention. As a consequence, employees who develop this type of behaviour, usually help other employees to deliver service quality, that is, they are good candidates for encouraging and carrying out quality initiative in the organisation (Hui, *et al.*, 2001).

Altruism was defined as behaviour that is intended to benefit another person without any expectation of personal gain (Dovidio, 1984) and in a self-sacrificial way promotes the welfare of others without concern for one's own self-interest (Hoffman, 1981, Krebs, 1975). Collectivism was defined as the subordination of personal goals to group goals and behaviours of solidarity and concern for others (Hui, 1988; Triands, Brislin and Hui, 1988).

REVIEW OF LITERATURE

Recent research studies in the field of relationship marketing have focused on the effect that employee's skill and behaviour have on customer loyalty (Reichheld, 1996; Reyonlds and Beatty, 1999).The results of one such study has been the development of the concept of OCB as a means of analysing the effect of such behaviour on corporate performance (Podsakoff and Mackenzie, 1997).

Several studies have attempted to determine the effect that certain organisational variables have on customer responses (Babin and Boles, 1998; Brown and Peterson, 1994; Weatherrly and Tansik, 1993). Nevertheless, their research has focused on exploring the influence that "in role" behaviour of employees has on customer perceptions of the quality of service received. They focused on the complex relationship that exists between the extra-role behaviour and the financial performance of the organisation.

Murphy, Athanasou, and King (2002) examined the role of OCB as a component of job performance. Job satisfaction was correlated significantly with organisational citizenship and participation behaviour. A substantial body of research has examined the antecedents of OCB or helping behaviour within one's career. Likewise, a few studies have examined the relationship between altruism and volunteerism. Firstly, an awareness of similarities and differences among the different types of helping behaviour and their association with antecedents, such as altruism, may serve as a basis for stimulating helping behaviour. Secondly, limiting analyses of helping behaviour to those directed toward others within an organisation (*i.e.*, OCB) implies that other helping behaviour is of minor importance (Gallagher, 1994 Gerstel and Gallagher, 1993). In fact, from a societal perspective, helping others outside one's organisation may be just as important as helping others within one's organisation.

Previous study investigated perceptions among different subject matter expert groups about the representation and meaning of OCB scale items relative to items assessing altruism, collectivism, and organisational commitment. Organisational citizenship behaviour researchers, human resource management/organisational behaviour academics, managers, and union members evaluated the extent to which different items defined each of these four constructs. The results showed that only OCB researchers could distinguish OCB items from the other three content domains. Managers were only able to distinguish OCB items from altruism. Union members perceived the OCB scale items to be as indicative of altruism, collectivism, and organisational commitment as they are of OCB. Human resources management and organisational behaviour academics perceived OCB items to be as indicative of collectivism and organisational commitment as they are of OCB. Thus, it appears that items that purportedly measure OCB are not perceived as falling in a unique content domain.

During the past decade, OCB on the part of employees has received considerable attention in the human resource management and organisational behaviour literature (e.g., Bason, 1983; Baston and Coke, 1981, Brief and Motowidlo, 1986; Graham, 1986, Karambayya, 1986, 1988; Organ, 1988, 1990; Organ and Konovsky, 1989; Puffer, 1987). Yet metaphorically, the argument can be made that this construct is "old wine in a new bottle" in that it is indistinguishable from such accepted scientific constructs as altruism, collectivism, and organisational commitment which, unlike OCB, have been subjected to rigorous systematic research. There is evidence to suggest that the scholars who studied OCB cannot agree on its definition. For example, Organ (1988) defined OCB as spontaneous, modest, mundane employee behaviour that is not formally recognised in organisation's reward system, but nevertheless advances the effective functioning of the organisation. Graham (1986) defined OCB as a behaviour that is supportive of collective rather than individual interests. She differentiated OCB from Brief and Motowidlo's (1986) description of prosocial behaviour by describing the former as behaviour to help the organisation and the latter to help the individual; that is, altruism. Williams and Anderson (1991) distinguished between OCB that benefits the organisation and OCB that benefits a specific individual.

OCB is currently in danger of degenerating into content constructs to the extent that it defines everything and anything and, hence, cannot advance our understanding of employee behaviour. Graham (1991) defined OCB as "a global measure of individual behaviour at work that includes traditional measures of job performance, the extra-role/ organisationally functional behaviour, envisioned by the original OCB researchers, and also forms part of political behaviour that are accounted for nowhere else".

Van Dyne, *et al.*, (1995) argued for construct clarification of OCB through modifications of existing definitions. They concluded that OCB: (a) is restricted to present rather than former employees, (b) it goes beyond a person's official job duties, and (c) is intended to be positive, in that it is based on helping, sharing, and cooperating. In addition, an external observer must see the perceived outcome of the behaviour as positive, and the target of the recipient of the behaviour must be inside the organisation. Thus, the concept of OCB is derived from the assumption that the intended beneficiary of the aggregate of all the small acts of citizenship is the organisation.

There have been very few empirical tests of the validity of OCB. Van Dyne, *et al.* (1995) concluded with a plea for empirical evidence on the construct validity of this concept.

The need to address the content domain of constructs in organisational behaviour research was articulated cogently by Schwab (1980). He argued that advances in our understanding of organisational behaviour had been skewed because of the proliferation of measures that may be assessing the same construct. There has been construct confusion with regard to job satisfaction and organisational climate (Guion, 1973; Schneider and Snyder, 1975) organisational climate and organisational culture (Schneider, 1985) and, most recently, self-efficacy versus expectancy and self esteem (Gist and Mitchell, 1992).

Ghiselli, *et al.* (1981) stated that the content validation consisted of subjective judgments by experts regarding the representation of items on a scale or test with the universe of items relevant to the construct of interest. This means that each item that purportedly defines a construct "must be judged for its presumed relevance to the property being measured" (Kerlinger, 1986). The purpose of this study was to determine whether various SMEs in the field of organisational behaviour judged the content domain of OCB to be different from those of altruism, collectivism, and organisational commitment. The SMEs included two groups of academics, namely, OCB researchers and human resource management and organisational behaviour academics; and two groups of practitioners, namely, managers and union members.

A review of literature identifies two main approaches in defining the concept of OCB. Organ (1988) considered this type of behaviour to be an "extra-role" behaviour – individual contributions in the workplace that go beyond the specified role requirements and are not directly or explicitly recognised by the formal reward system. Another stream of research suggests that OCB must be considered separately from work performance, thus obviating the problem of distinguishing between "roles" and "extra-role" performances (Graham, 1991). In his view, OCB must be conceived as a global concept that includes all relevant positive behaviour of individuals within an organisation. It can be difficult for a firm to distinguish between "in-role" performance and "extra-role" performance, owing to several factors. First, managerial and employee perceptions of the employees' performance and responsibilities do not necessarily correspond. Second, employees' perception of their responsibilities and performance is influenced by their satisfaction in the workplace (Morrison, 1996). Organ (1988) defined OCB as a type of behaviour of an organisation's employees that is aimed at promoting the effective performance of the organisation, regardless of the individual productivity objectives of each employee.

OBJECTIVES AND SIGNIFICANCE OF THE STUDY

The present study has three objectives:

1. To develop a measure to evaluate the organisational citizenship behaviour;
2. To identify the factors determining the organisational citizenship behaviour, and
3. To compare the organisational citizenship behaviour of manufacturing and service organisations.

This study is intended to make a significant contribution for understanding the OCB among service and manufacturing organisations. It will help in analysing the soft skills needed by service-sector employees taken into consideration while dealing with the customers. The results of the study will be useful to those organisations which seek to conduct research for understanding the OCB of their employees. It will also enable them to understand the manufacturing and service sectors insofar as the behaviour of their employees is concerned.

RESEARCH METHODOLOGY

Sample: The study was conducted in selected manufacturing and service organisations, namely, Aviva Life Insurance, Career Launchers, Airtel, SRF and Godrej Soaps Ltd., all located in the central India. For this purpose 160 employees, 80 each of manufacturing and service organisations (middle and top-level employees of different departments) were contacted personally and requested to fill up a questionnaire, comprising the various measures of OCB. The self-developed questionnaire, consisting of 30 items, on a 7-point Likert's scale, where 1 indicated 'Strongly Disagree' and 7 indicated 'Strongly Agree', was used. Non-probability (convenient) sampling technique was used to collect the data.

Tools for Data Analysis: The Item-to-total correlation was applied to check the consistency of various items used in the questionnaire. For testing the reliability, the Cronbach Alpha method was applied to the items. The underlying factors were identified through Factor Analysis. The Z-test was used to compare the OCB of manufacturing and service organisations.

Hypotheses

The major hypothesis for the study is:

H_0 = There is no significant difference between the OCB of a manufacturing organisation and a service organisation.

Manufacturing and service organisation were again compared on the basis of the presence of different factors. Z-test was applied to compare these factors and the following null hypotheses were formulated:

Ho_1= There is no significant difference in the employee courtesy in manufacturing and service organisations.

Ho_2 = There is no significant difference in the employee altruism in manufacturing and service organisations.

Ho_3 = There is no significant difference in the employee sportsmanship in manufacturing and service organisations.

Table 1

Item-to-Total Correlation

S. No.	Items	Table Value	Consistency	Accepted/Dropped
1.	'Helping a colleague, when he is in trouble.'	0.63995	Consistent	Accepted
2.	'Always ready to help.'	0.558315	Consistent	Accepted
3.	'Going to help others'	0.557344	Consistent	Accepted
4.	'Helping others even when busy'	0.572	Consistent	Accepted
5.	'Cooperative towards new entrants.'	0.619916	Consistent	Accepted
6.	'Utilise spare time by increasing knowledge'	0.312976	Consistent	Accepted
7.	'Working above expectations'	0.618578	Consistent	Accepted
8.	'Consistent result towards organisation'	0.548133	Consistent	Accepted
9.	'Attending non-compulsory meetings after work'	0.54157	Consistent	Accepted
10.	'Friendly and lively attitude towards employee'	0.691377	Consistent	Accepted
11.	'Acting proactively'	0.667083	Consistent	Accepted
12.	'Updated with employees Performance'	0.535505	Consistent	Accepted
13.	'Follow organisational working procedure'	0.387878	Consistent	Accepted
14.	'Helping colleagues'	0.466806	Consistent	Accepted
15.	'Appreciate constructive ideas of Subordinate'	0.694273	Consistent	Accepted
16.	'Encourage peers to follow org.policies'	0.692716	Consistent	Accepte
17.	'Remain committed towards organisation'	0.756149	Consistent	Accepted
18.	'Sense of belongingness'	0.541289	Consistent	Accepted
19.	'Loyal towards my organisation'	0.601119	Consistent	Accepted
20.	'Responsible attitude'	0.208954	Consistent	Accepted
21.	'Adhere to organisational rules and regulations'	0.565739	Consistent	Accepted
22.	'Proper utilisation of organisation resources'	0.553124	Consistent	Accepted
23.	'Keep organisations clean'	0.452446	Consistent	Accepted
24.	'Understanding others problems'	0.674183	Consistent	Accepted
25.	'Release employees stress'	0.602149	Consistent	Accepted
26.	'Active participation in extra-curricular activities'	0.675454	Consistent	Accepted
27.	'Keeping personal and professional differences,	0.521418	Consistent	Accepted
28.	'Committed towards organisation'	0.043041	Inconsistent	Dropped
29.	'Team work'	0.44198	Consistent	Accepted
30.	'Loyalty towards organisation'	0.318182	Consistent	Accepted

(Note: The table value is more than the standard value of 0.217)

Ho_4 = There is no significant difference in the employee conscientiousness in manufacturing and service organisations.

Ho_5 = There is no significant difference in the employee loyalty and sense of belongingness in manufacturing and service organisations.

Ho_6 = There is no significant difference in the employee civic virtue in manufacturing and service organisations.

Ho_7 = There is no significant difference in the employee responsibility in manufacturing and service organisations.

Ho_8 = There is no significant difference in the employee commitment in manufacturing and service organisations.

STATISTICAL TREATMENT OF DATA

Consistency: To check the consistency, the Item-to-total correlation was calculated in respect of each item of the questionnaire. Correlation of every item with all the items was measured and the computed value was compared with the standard value of 0.217. Where the computed value was found to be less than the standard value, that item was dropped and termed as 'inconsistent'. Only one item was thus dropped, namely, 'committed towards organisations'. The results are shown in Table 1.

Reliability: The reliability was calculated through the Cronbach Alpha method. The reliability was found to be 0.921. (See Table 2).The reliability of more than 0.7 was considered good. This noted that the items of the questionnaire show quite high reliability value.

Factor Analysis: The factors were calculated with the help of total variance explained. The final eight factors, were calculated from the rotation sum of squared value loading which was the outcome of the SPSS software. These factors are briefly introduced below:

1. **Courtesy:** Courtesy includes informing others to prevent the occurrence of work-related problems, (Organ, 1988).
2. **Altruism:** It reflects one's helpful behaviour towards others in carrying out their tasks. Netemeyer, *et al.* (1997) and Organ (1988) defined altruism, as discretionary behaviour that has the effect of helping a fellow employee within the organisationally-relevant task (Dovidio, 1984).
3. **Sportsmanship:** Sportsmanship is defined as the goodwill the employee displays in tolerating the circumstances that are less than ideal without making "a mountain out of a molehill" (Netemeyer, *et al.*, 1997).
4. **Conscientiousness:** Conscientiousness refers to the behaviour that goes beyond the job requirement, such as working more than the established time for the good of the company (Netemeyer, *et al.*, 1997).
5. **Loyalty:** It includes the employee's loyalty and sense of belongingness towards the organisation.
6. **Civic Virtue:** Civic virtue manifests itself in the concern of the employee in participating in the life of the organisation, like attending functions that are not specifically required (Netemeyer, *et al.*, 1997).
7. **Extra-role Behaviour:** Extra-role behaviour is the individual behaviour that extends beyond the standard behaviour normally expected by the employer. (Meyer and Herscovitch, 2001)
8. **Commitment:** Organisational commitment refers to the belief in the acceptance of an organisation's goals and values and willingness to exert effort and remain a member of the organisation (Mowday, Porter,and Steers, 1979). Morrison (1994)

Table 2

Reliability Statistics

Cronbach's Alpha	No. of Items
0.921	29

found positive relationships between affective commitment and several dimensions of OCB.

The results are shown in Table 3.

Z-test: For comparing the OCB of manufacturing and service organisations, Z-test was applied. The computations are presented in Table 4.

Table 3

Factor Analysis

Factor Name	Eigen Value	Reliability	Variable Convergence	Loadings
Courtesy	9.731	0.660	1. 'Helping colleague, when he is in trouble.'	0.791
			2. 'Always ready to help.'	0.782
			3. 'Going to help others.'	0.703
			5. 'Cooperative towards new entrants. '	0.703
			4. 'Helping others even when busy.'	0.632
Altruism	2.763	0.568	23. 'Keep organisation clean.'	0.813
			22. 'Proper utilization of organisation resources.'	0.789
			9. 'Attending non-compulsory meetings after Work.'	0.675
			21. 'Adhere to organisational rules and regulations.'	0.589
			24. 'Understanding others problems.'	0.585
			25. 'Release employees stress.'	0.563
Sportsmanship	2.388	0.545	8. 'Consistent result towards organisation.'	0.734
			20. 'Responsible attitude.'	0.667
			10. 'Friendly and lively attitude towards employee.'	0.653
			12. 'Updated with employees performance.'	0.602
			6. 'Utilise spare time by increasing knowledge.'	0.587
			13. 'Follow org. working procedure.'	0.568
Conscience ness	1.566	0.794	15. 'Appreciate constructive ideas of subordinate'	0.762
			14. 'Helping colleagues.'	0.751
			11. 'Acting proactively.'	0.625
Loyalty	1.509	0.745	19. 'Loyal towards my organization.'	0.758
			18. 'Sense of belongingness.'	0.645
			7. 'Working above expectations.'	0.622
Civic Virtue	1.194	0.656	29. 'Team work.'	0.843
			16. 'Encourage peers to follow organisational policies.'	0.449
			17. 'Remain committed towards organisation.'	0.425
Extra-role Behaviour	1.067	0.788	27. 'Keeping personal and professional differences.'	0.820
			26. 'Active participation in extra-curricular activities.'	0.466
Commitment	1.015	–	28. 'Committed towards the organisation.'	0.846

Table 4

Values of Mean and Standard Deviation of Samples of Manufacturing and Service Organisations.

Type	Mean	Standard deviation (S.D)	Sample Size	Square of S.D
Service	5.786	0.659	80	0.44
Manufacturing	5.376	0.604	80	0.37

Table 5

Comparison of Organisational Citizenship Behaviour of Manufacturing and Service Organisations.

Factors/statements	Hypothesis	Assumptions	S.E	Z-value (Standard value=1.96)	Result
Overall OCB of manufacturing and service organisations.	No difference between OCB of manufacturing and service organisations	H_0 $X1=X_2$ H_1 $X_1 \# X_2$ X_1 = service X2=manufacturing	0.0998	4.1079>1.96	Significant difference between OCB of manufacturing and service organisations.

Calculation of Standard Error: Standard error was calculated by putting values of the mean and the standard deviation in the formula and, then, Z-test was applied to find out the significant difference between the OCB of middle-level managers of both the manufacturing and service organisations. The results are shown in Table 5.

RESULTS AND DISCUSSION

The Z-value (4.1079), as shown in Table 5, is more than the standard value (1.96), at 5 per cent level of significance. Therefore, the null hypothesis is rejected (which states that there is no significant difference between the organisational citizenship behaviour of manufacturing and service organisations). In general, it can be observed that the employees of a service organisation are better in courtesy, helping others, or in some extra-role behaviour which is visible in the results also. As we compare the mean values, we find that the employees of service companies are better in respect of their OCB than their counterparts in the manufacturing organisations (Table 4).

Comparison of the Factors: Further, the Z-test was applied to evaluate the significant difference among the factors, explored during the factor analysis, of manufacturing and service organisations. The computations are shown in Table 6.

As shown in Table 6, the Z-value in Ho_1, Ho_3, Ho_4, Ho_5, Ho_6, Ho_7 and Ho_8, was more than the

Table 6

Comparison of Factors Constituting Organisational Citizenship Behaviour of Manufacturing and Service Organisations.

S. No.	Factors	Assumptions	Standard Error	Mean	Z-Value	Difference
1.	Courtesy	$H0_1$ $X1=X_2$ X_1 = service X2=manufacturing	0.135455	X1=5.965 X2=5.4825	3.5620>1.96	Significant
2.	Altruism	$H0_2$ $X1=X_2$	0.12899	X1=5.64375 X2=5.46875	1.35673<1.96	Insignificant
3.	Sportsmanship	$H0_3$ $X1=X_2$	0.11315	X1=5.835417 X2=5.58125	2.246275>1.96	Significant
4.	Conscientiousness	$H0_4$ $X1=X_2$	0.144962	X1=5.766667 X2=5.254167	3.535409>1.96	Significant
5.	Proactive	$H0_5$ $X1=X_2$	0.118739	X1=5.920833 X2=5.620833	2.52655>1.96	Significant
6.	Civic virtue	$H0_6$ $X1=X_2$	0.148809	X1=5.558333 X2=5.170833	2.604016>1.96	Significant
7.	Responsibility	$H0_7$ $X1=X_2$	0.1600334	X1=5.73125 X2=4.9125	5.11612>1.96	Significant
8.	Commitment	$H0_8$ $X1=X_2$	0.160885	X1=5.9125 X2=5.4	3.185505>1.96	Significant

standard value of ± 1.96, at 5 per cent level of significance, Hence, the null hypotheses were rejected, i.e., there seems to be a significant difference in the factors of employee courtesy, sportsmanship, conscientiousness, loyalty, civic virtue, extra-role behaviour and commitment, between manufacturing and service organisations. By comparing the mean values of manufacturing and service organisations, in terms of courtesy, sportsmanship, conscientiousness, loyalty, civic virtue, responsibility and commitment, it appears that the employees of service organisations show higher concern towards their organisation in comparison to the employees of manufacturing organisations. The Z value in H_{O2} was less than the standard value, so the alternate hypothesis was not accepted. Therefore, it is found that altruism is the only factor, which does not show any difference between both types of organisations, which suggest that the employees of both the types of organisations are keen to help each other without expecting any personal gain.

CONCLUSION

The study has revealed that irrespective of the type of organisation-manufacturing or service–employees tend to differ on various factors of OCB, viz., courtesy, sportsmanship, conscientiousness, loyalty, civic virtue, extra-role behaviour, and commitment . It has also been found that the OCB in service industry is significantly higher in comparison to the manufacturing-sector employees. The finding can be credited to the nature of the industry as in service sector the employees are supposed to be better in soft skills. Only one factor, namely, altruism, has shown no difference between the two types of organisations.

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Life is like a game of chess, in which there are an infinite number of complex moves possible. The choice is open, but the move contains within itself all future moves. One is free to choose, but what follows is the result of one's choice. From the consequences of one's action there is never any escape.

Shelley Smith, The Ballad of the Running Man

★★★★★

Work expands so as to fill the time available for its completion, and subordinates multiply at a fixed rate, regardless of theamount of work produced.

Cyril Northcote Parkinso
Parkinson's Law – The Pursuit of Progress

★★★★★

QUALITY OF MEDICAL SERVICES
A Study of Selected Hospitals

Mushtaq A. Bhat* and **Mohd. Yaseen Malik****

Abstract

In today's competitive milieu, delivering quality service and providing customer satisfaction are necessary for survival and growth. A patient's decision to patronise a healthcare organisation, and not the other, is based mainly on the quality of service offered to him. He considers relative efficiency while choosing a particular hospital. Customer-based determinants and his perception of service quality, therefore, play an important role in the choice of a hospital. This paper seeks to determine the expectations and perceptions of patients of four hospitals in the state of Jammu and Kashmir State and the Union Territory of Chandigarh through the use of a self-developed and statistically-tested research instrument. The study based on a sample of 520 patients has revealed that there is an overall service quality gap between patients' expectations and perceptions. In order to improve the quality of medical services in the hospitals, certain measures have been suggested.

Key Words: *Service quality, Patients, Quality of medical service, Dimensions of medical service, Government and private hospitals.*

INTRODUCTION AND REVIEW OF LITERATURE

IN the healthcare industry, hospitals provide the same types of services, but they do not provide the same quality of service (Youssef, *et al.*, 1996). This differentiates them from one another. The test of efficiency for any healthcare organisations is, therefore, the patient satisfaction (Goel and Kumar, 1989). Healthcare institutions must strive for maximum patient satisfaction by offering patient-oriented services in order to be successful in the marketplace (Prakash, 1989). Though the patient is the most important dimension on which the success of any healthcare institution depends, but factors like medical and therapeutical treatment, greater and refined medical and surgical knowledge, and effective facilities and equipments, which are the core stones for any healthcare organisation's effective performance, cannot be ignored (Srivastava, 1973).

A consumer is satisfied if the service quality conforms to his needs and requirements (Lytle and Mokwa, 1992, and Parasuraman, *et al.*, 1988). The greater the service conformance to the requirements of the consumers, the better is the service quality and consequently the greater will be the consumer satisfaction (Parasuraman, *et al.*,

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1988). Bolton and Drew (1987), and Ostwald, *et al.* (1998), while supporting this contention, observed that consumer satisfaction was strongly related to quality, and the service quality was a pre-requisite of consumer satisfaction. Besides, satisfying the consumer needs was considered as a means to an end, like competitive advantage, customer loyalty, employee loyalty, and long-term growth and survival, in both commercial and non-commercial concerns (Bhat and Joo, 2005; Bhat and Rainayee, 2007; Krishna and Mummalaneni, 1993) and is an end in itself in social concerns.

The PIMS (Profit Impact of Marketing Strategy) study reveals that in the long run, the most important single factor affecting a business firm's performance is the quality of its products and services, relative to those of its competitors (Buzzell and Gale, 1987). Heskett, *et al.* (1990) observed that across a wide range of businesses, the pattern is the same: the longer a company keeps a customer, the more money it stands to make. The cost of poor quality, on the other hand, relates to the lack of responsiveness to the customer, dissatisfied customers, complaints and adverse word-of-mouth communications and dissatisfied employees (Crosby, 1979; Goodman, *et al.*, 1986).

Furthermore, consumers today are increasingly becoming aware of alternatives on offer and the rising standards of service have increased their expectations. They are also becoming increasingly critical of the quality of services they experience. Service quality can, therefore, be used as a strategic differentiation tool to build a distinctive advantage which competitors would find difficult to match. To achieve the service excellence, hospitals must strive for 'zero defections', retaining every customer that the company can profitably serve (Reichheld and Sasser, 1990). 'Zero defections' require continuous efforts to improve the quality of the service-delivery system.

However, quality cannot be improved unless it is measured. Hence, service quality trends, today, play an important role in service organisations, because excellent service quality is not an optional competitive strategy which may or may not be adopted to differentiate one service organisation from another, but it becomes essential to corporate profitability and survival.

Conceptualisation of Service Quality

Despite the immense importance of service quality in strategic planning and for corporate success, there is no clear-cut definition of quality or its dimensions for setting quality standards and measuring subsequent quality delivered and received. Service quality, unlike product quality, is more abstract and elusive, because of features unique to services: intangibility, inseparability, heterogeneity and perishability (Bitran and Lojo, 1993; Parasuraman, *et al.*, 1985; Parasuraman, *et al.*, 1993; and Zeithaml, *et al.*, 1996) and is, therefore, difficult to measure.

The most common definition of quality is the traditional notion that views quality as the customer's perception of service excellence. That is to say, quality is defined by the customer's impression of the service provided (Berry, *et al.*, 1988; and Parasuraman, *et al.*, 1985). The assumption behind this definition is that customers form the perception of service quality on the basis of service performance and their experience of the same. It is, therefore, the customer's perception that categorises service quality. For example, service quality is considered as "a measure of how well the service delivered matches customer's expectations" (Lewis and Booms, 1983), or "providing the customer with what he wants, when he wants it, and at acceptable cost, within the operating constraints of the business" (Lewis, 1991), "providing a better service than the customer expects" (Lewis, 1988).

Quite often, the term 'quality' itself is used as a variable, such as conformance to specifications the degree to which customer specifications are satisfied, a fair exchange of price and value, fitness for use, freedom from variation, and doing it right the first time (Garvin, 1988; Kotler and Keller, 2007; Woodruffe, 1998). In line with this thinking, Gronroos (1982) developed a model in which he contended that consumers compare the service they expect with perceptions of the service they receive in evaluating service quality. Also, Smith (1987) claimed that satisfaction with service is related to confirmation or disconfirmation of expectation. They based their research on the disconfirmation paradigm, which maintains that satisfaction is related to size and direction of the disconfirmation experience where disconfirmation is related to a person's initial expectations.

In short, perceived service quality involves the subjective response of people and is, therefore, highly relativist. It is a form of attitude, related, but not equivalent, to satisfaction, and results from a comparison of expectations with perception of performance (Parasuraman, *et al.*, 1988). Perceived quality is an important measure in influencing the consumer's value perception and in affecting the intention to purchase products or services (Bolton and Drew, 1988; Zeithaml, 1998).

OBJECTIVES OF THE STUDY

The main aim of this paper is to demonstrate the use of some basic techniques for measuring and analysing service quality data obtained through the use of a self-developed research instrument. The outcome of the measurement process shall provide the management with actionable and diagnostic information to improve hospital services in those areas that have the major impact on customer perceptions of service quality. This evaluation is essential in today's competitive, cost-conscious healthcare market. The present paper, therefore, attempts to achieve the following objectives: -

1. To evaluate the quality of medical services in hospitals, under reference; and
2. To suggest appropriate measures for improving the medical services in hospitals, with a view to making the services more effective and efficient.

RESEARCH METHODOLOGY

Sample Profile

The study seeks to analyse the quality of medical service in hospitals in the state of Jammu and Kashmir and the Union Territory of Chandigarh. However, the study was confined to urban areas, keeping in view the concentration of hospitals, which is relatively high, in these areas. The study was further limited to four hospitals, namely, Shri Maharaja Hari Singh Hospital (SMHSH) in Srinagar, Shri Maharaja Gulab Singh Hospital (SMGSH) in Jammu, Shri Achariya Chandra Medical College and Hospital (SACMH) in Jammu, and FORTIS Hospital in Chandigarh. These hospitals have been purposely selected for the study since they are the largest teaching hospitals in the respective States. Moreover, in terms of Employees and bed strength, these hospitals stand at the top.

The sample consisted of 520 respondents, which include 280 from public-sector hospitals (54 per cent) and 240 from private hospitals (46 per cent). In order to seek a balanced opinion regarding quality of medical services, respondents bearing varied demographic characteristics, such as age, income, education, gender, and profession, were selected from different in-patient and from different out-patient departments. Stratified random sampling for both in-patients and out-patients was adopted. Before approaching a respondent, the importance of medical service for both the receiver and the service-provider were to be discussed.

A sizeable number of the respondents (39 per cent) belonged to the age-group of 35 to 50 years, followed by the age group of 20 to 35 (35 per cent), the remaining (26 per cent) being in the age group of above 50 years. Male respondents were 63 per cent. Those who had obtained secondary-level education were largest in number (42 per cent), followed by the graduates

(39 per cent) and the post-graduates (19 per cent). As many as 40 per cent of the respondents belonged to the income-group of Rs. 10,000 to Rs. 20,000, per month, followed by the income-group of upto Rs.10,000 (38 per cent) and Rs. 20,000 to Rs. 30,000 (13 per cent) and the remaining (9 per cent) belonged to higher income-group of above Rs. 30,000, per month. A majority of the respondents (63 per cent) belonged to the service class, followed by business people. An equal number (50 per cent) of respondents were taken from amongst the in-patients and out-patients.

Data Collection and Generation of Scale Items

The study is based on the primary data collected from the patients (both in-patients and out-patients), through a structured questionnaire, designed and developed in consultation with the panel of patients, medical experts/administrators, and academicians, after reviewing the relevant literature. Initially, the questionnaire consisted of 60 statements. After conducting a pilot survey, four statements were dropped as the patients were not able to understand them. Respondents were asked to indicate their opinion on a five-point (Likert's scale), 'strongly disagree/agree' type scale, where one stood for 'strongly disagree' and five; 'strongly, agree'. The data collected was reduced and purified with the help of the Cronbach Alpha test.

Reliability and Validity of the Research Instrument

A composite score for the questionnaire was obtained by summing the scores of individual statements. The reliability test was run to determine how strongly the attributes were related to each other and to the composite score.

The internal consistency reliability test-is deemed to be acceptable for basic research when the reliability co-efficient exceeds Nunnally's reliability criterion of 0.70 level (Nunnally, 1978). The present scale indicated the score of 0.96, which is an acceptable reliability co-efficient. The Cronbach's Alpha test was also performed on each factor/dimension. All the six factors/dimensions scored more than the suggested cut-off value of 0.70, revealing an acceptable level of reliability (Table 1). The dimensions finally selected have been given exploratory headings. Thus, out of 56 statements, 48 got grouped under six factors, viz., Nursing Care, Cleanliness and Comfort, Physician's Care, Treatment Results, Patient's Registration and Admission, and Food Services.

RESULTS AND DISCUSSION

In order to measure the quality of medical services, the mean scores for expected and perceived services were calculated separately for

Table 1

Mean Scores, Standard Deviation, Values of Cronbach Alpha, Reliability Co-efficient and Variance Explained for Medical Service Dimensions

S.No.	*Dimension of Medical Service*	*Mean Scores Deviation*	*Standard Reliability Coefficients*	*Alpha Explained (%)*	*Variance*
1.	Nursing Care	4.36	0.88	0.96	14.57
2	Cleanliness and Comfort	4.03	0.90	0.95	13.44
3	Physician's Care	4.11	0.71	0.92	13.23
4	Treatment Results	3.96	0.76	0.92	11.19
5	Registration and Admission	3.74	0.83	0.93	9.40
6	Food Services	4.19	0.78	0.91	9.29
	Total	4.06	0.81	0.96	71.13

each of the four hospitals. The service quality scores for the hospitals were obtained by subtracting the perceived mean scores from the expected mean scores:

[(Service Quality) = (Performance) - (Expectations)]

This equation (SQ = P-E) provides research support for measuring the service quality of any organisation. The research findings of Gronroos (1982), Lehtinen and Lehtinen (1991), Zeithaml, *et al.* (1991), Berry and Parasuraman (1997), Brown and Swartz (1989), Saleh and Ryan (1991), Sasser, *et al.* (1978), and the extensive focus group interviews conducted by Parasuraman, *et al.* (1985) unambiguously support the notion that service quality, as perceived by consumers, stems from a comparison, of what they feel, a service firm should offer (i.e., from their expectations) with their perceptions of what they actually offer. The service quality, therefore, is the difference between consumer expectations of 'what they want' and their perception of 'what they get'. Moreover, the information generated in this way has more diagnostic value. Based on this conceptualisation and operationalisation, service quality, in the sample organisations, has been measured with the help of a self-developed and statistically-valid research instrument, instead of the service quality research instrument developed by Parasuraman, *et al.* (1985), widely known as the SERVQUAL.

Over-all Quality of Medical Services

For measuring the over-all quality of medical service in hospitals, under the study, mean scores averaged on all dimensions, were computed separately. These are presented in Table 2.

It is evident from the table, that FORTIS figures highest on the service quality scores, and is followed by SACMH, while SMHSH stands low on the service quality scores, followed by SMGSH, which ranked 3rd on the said scores. The table also highlights greater variation across all dimensions of service quality in the sample organisations. For example, FORTIS figures positive on all dimensions and exceeds the patients' expectations. In particular, it figures high on registration and admission (0.33), followed by cleanliness and comfort (0.27). In contrast, SMHSH appears to be low on all dimensions of service quality, in particular, on nursing care (-0.59), followed by treatment results (-0.40). SMGSH and SACMH exceed patient expectations on registration and admission, followed by cleanliness and comfort, but fall short of the expectations of their patients on other dimensions of medical service quality. Both the hospitals have scored very low on the nursing care and the treatment results.

Table 2

Service Quality Scores of Hospitals Averaged on all Dimensions

	Service Quality Dimensions	*Hospitals*			
		SMHSH	*SMGSH*	*SACMH*	*FORTIS*
1.	Nursing Care	-0.59	-0.60	-0.32	0.04
2.	Cleanliness and Comfort	-0.10	0.24	0.13	0.27
3.	Physician's Care	-0.27	-0.10	-0.25	0.03
4.	Treatment Results	-0.40	-0.37	-0.29	0.04
5.	Registration and Admission	-0.32	0.06	0.28	0.33
6.	Food Service	-0.21	-0.07	-0.16	0.11
	Total	-1.90	-0.84	-0.61	0.82
	Rank	4	3	2	1

Dimensions of Quality of Medical Service

Nursing Care

The service quality scores, with respect to the nursing care in the four hospitals, are given in Table 3. Private hospitals, FORTIS and SACMH, figure relatively high on nursing care, while public hospitals (SMHSH and SMGSH), figure low on the same. The element-wise analysis of nursing care reveals that FORTIS meets the expectations of its patients as far as the sympathy and politeness, and support and help of nurses are concerned, as it is evident from the high positive scores (0.07 and 0.08, respectively). High negative service quality scores of SMHS on the quick response from nurses (-0.82) and interaction with patients (-0.76) reveals low service quality standards of the said dimension.

The data reveals poor service quality scores on promptness of nurses (-0.73) and interaction with the patients (-0.72) of SMGSH hospital. Government hospitals (SMHSH and SMGSH) figure very low on nursing care as compared to the private hospitals (FORTIS and SACMH). The positive service quality scores on all elements of nursing care of FORTIS shows that it is much better than the rest of the hospitals (SACMH, SMGSH and SMHSH) in so far as the nursing care dimension is concerned. All the three hospitals show negative service quality scores on all the elements of nursing care, which suggest that these hospitals, do not meet the expectations of their patients in this particular dimension.

Cleanliness and Comfort

The service quality scores of the four hospitals in respect of cleanliness and comfort are given in Table 4. It reveals that FORTIS, followed by SMGSH (2.20, 1.94, respectively), is comparatively very high on cleanliness and comfort whereas SMHSH is low on the said dimension (-0.82). SMHSH is the only hospital having negative scores. The minor variation in service quality scores of SMGSH and FORTIS reveals that these hospitals did well on all the elements of cleanliness and comfort, whereas the negative service quality scores of SMHSH suggest that this hospital was very poor on all elements of the said dimension, except the ventilation of wards, where the hospital meets the expectations of its patients. As far as SACMH is concerned, it is also doing well in meeting its patients' expectations, except, the cleanliness of bathrooms

Table 3

Service Quality Scores of Hospitals on Nursing Care

	Elements of Service Quality (Nursing Care)	*Hospitals*			
		SMHSH	*SMGSH*	*SACMH*	*FORTIS*
1.	Sympathy and politeness of nurses	-0.45	-0.53	-0.36	0.07
2.	Promptness of nurses	-0.67	-0.73	-0.55	0.08
3.	Intelligence of nurses	-0.65	-0.65	-0.39	0.02
4.	Interaction with patients	-0.76	-0.72	-0.38	0.04
5.	Supportive and helpful nurses	-0.58	-0.55	-0.47	0.03
6.	Quick response from nurses	-0.82	-0.57	-0.06	0.04
7.	Confident and trustworthy nurses	-0.46	-0.60	-0.48	0.06
8.	Nurses' courtesy and respect towards the patients	-0.41	-0.62	-0.09	0.03
9.	Nurses' response to queries from the patients	-0.64	-0.50	-0.12	0.03
	Nursing Care	-5.44	-5.47	-2.90	0.40
	Rank	3	4	2	1

Table 4

Service Quality Scores of Hospitals on Cleanliness and Comfort

	Elements of Service Quality (Cleanliness and Comfort)	*Hospitals*			
		SMHSH	*SMGSH*	*SACMH*	*FORTIS*
1.	Neat and clean corridors	-0.04	0.06	0.36	0.30
2.	Clean and functional bathrooms and toilets	-0.18	0.18	-0.13	0.32
3.	Neat and clean waiting rooms	-0.10	0.20	0.40	0.24
4.	Fresh and clean garments and curtains	-0.16	0.66	-0.04	0.28
5.	Clean drinking water area	-0.16	0.13	0.03	0.29
6.	Ventilation of wards	0.00	0.18	0.10	0.20
7.	Regular changing of bedding	-0.10	0.09	0.07	0.30
8.	Floors are regularly cleaned	-0.08	0.44	0.25	0.27
	Cleanliness and Comfort	-0.82	1.94	1.04	2.20
	Rank	4	2	3	1

and toilets and fresh and clean garments. The table reveals that SMGSH, which is a public hospital figures high on cleanliness and comfort. Surprisingly, the service quality scores on cleanliness and comfort of SMGSH are exceptionally high (1.94), in comparison to the other public hospital (SMHSH) under study.

Physician's Care

The scores of the service quality of the four hospitals in respect of physician's care are presented in Table 5.

As shown in the table, the quality of physician's care at FORTIS is reasonably high (0.34). It is followed by SMGSH (-0.92), where the quality on the said dimension at SMHS is the lowest (-2.50), followed by SACM (-2.22). The data also suggest that the service quality scores of SMHS on the doctors being supportive and helpful is poor (-0.59) and that the doctors do not instil confidence in their patients (-0.47). However, FORTIS scores exceptionally high on all elements of physician's care, except the promptness of the doctors (-0.01). The three

Table 5

Service Quality Scores of Hospitals on Physician's Care

	Elements of Service Quality *(Physician's care)*	*Hospitals*			
		SMHSH	*SMGSH*	*SACMH*	*FORTIS*
1.	Sympathy and politeness of doctors	-0.32	0.07	-0.02	0.08
2.	Promptness of doctors	-0.26	-0.24	-0.11	-0.01
3.	Intelligence of doctors	-0.0 8	-0.09	-0.37	0.07
4.	Supportive and helpful attitude of doctors	-0.59	-0.20	-0.28	0.02
5.	Doctors instilling confidence in patients	-0.47	-0.16	-0.28	0.04
6.	Doctors explaining reasons for tests	-0.25	-0.10	-0.23	0.06
7.	Doctors spending enough time on patients' treatment and care	-0.23	-0.11	-0.31	0.03
8.	Doctors answering all to queries from patients	-0.14	-0.01	-0.34	0.04
9.	Confidence and trustworthiness of doctors	-0.16	-0.08	-0.28	0.01
	Physician's care	-2.50	-0.92	-2.22	0.34
	Rank	4	2	3	1

Table 6

Service Quality Scores of Hospitals on Treatment Results

	Elements of Service Quality (Treatment Results)	Hospitals			
		SMHSH	SMGSH	SACMH	FORTIS
1.	Improvement in conditions after consulting the doctor	-0.17	-0.33	-0.46	0.08
2.	Availability of medicines	-0.37	-0.46	-0.63	0.03
3.	Adequate medical test facilities	-0.30	-0.15	-0.19	0.02
4.	Quickly available test results	-0.35	-0.50	-0.27	0.02
5.	Blood bank services	-0.65	-0.52	-0.08	0.03
6.	Procedure of treatment	-0.48	-0.31	-0.45	0.03
7.	Method of explaining the results	-0.59	-0.72	-0.39	0.04
8.	Attention from nurses regarding drips & wound dressing	-0.15	-0.44	-0.42	0.05
9.	Supplying information about health progress	-0.54	0.04	0.17	0.08
10.	Politely treated	-0.41	-0.26	-0.23	0.06
	(Treatment Results)	-4.01	-3.65	-2.95	0.44
	Rank	4	3	2	1

hospitals, other than FORTIS, fall much below the expectations of their patients. The service quality scores on the said dimension range from -0.01 to -0.59.

Treatment Results

The scores of the quality of the treatment results in the various hospitals are given in Table 6.

As shown in the table, FORTIS, with positive service quality score of 0.44, figures high on the dimensions of treatment and results, while SMHSH, with high negative service quality scores of -4.01, is comparatively low on the said dimension. The element-wise analysis of treatment results reveals that SMHSH scored very low on almost all the elements except attention from nurses regarding drips and wound-dressing (-0.15), whereas SMGSH figures very low on the methods of explaining test result (-0.72). It suggests comparatively poor quality of medical service of SMGSH and SMHSH. In the case of private hospitals, FORTIS scores high on all elements as compared to SACMH, which scores in the negative on all elements, except that of information about health progress being given regularly (0.17). Thus, the service quality of public hospitals is too low as compared to private hospitals.

Table 7

Service Quality Scores of Hospitals on Patient's Registration and Admission

	Elements of Service Quality (Patient's registration and admission)	Hospitals			
		SMHSH	SMGSH	SACMH	FORTIS
1.	Behaviour of gatekeepers	-0.25	-0.08	0.60	0.35
2.	Polite and helpful employees at registration counter	-0.21	0.33	0.57	0.25
3.	Honest attendants	-0.35	0.20	0.24	0.31
4.	Employees providing admission tickets act honestly	-0.24	0.24	0.42	0.44
5.	Overall procedure of registration	-0.44	0.10	0.04	0.34
6.	Waiting time for being attended	-0.44	-0.43	-0.14	0.30
	(Patient's Registration and Admission)	-1.93	0.36	1.73	2.00
	Rank	4	3	2	1

Table 8

Service Quality Scores of Hospitals on Food Services

	Elements of Service Quality	Hospitals			
	(Food Services)	SMHSH	SMGSH	SACMH	FORTIS
1.	.Timely meal delivery	0.33	-0.03	0.05	0.13
2.	Taste of food	-0.48	-0.02	-0.10	0.10
3.	Temperature of food	0.03	0.06	-0.02	0.10
4.	Range and appeal of the menu	-0.46	-0.42	-0.27	0.08
5.	Behaviour of the serving staff	-0.46	-0.05	-0.54	0.20
6.	Overall food service	-0.25	0.01	-0.12	0.07
	Food Services	-1.29	-0.45	-1.00	0.68
	Rank	4	2	3	1

Patients' Registration and Admission

The service quality scores of the hospitals in respect of the registration and admission of patients are shown in Table 7

The table indicates that the service quality scores of FORTIS, (2.00), followed by SACMH, (1.73) figure fairly high on registration and admission, whereas SMHSH (-1.93) figures low on the the said dimension. The SMGSH (0.36) is midway between the two extremes on the said dimension. The element-wise analysis of registration and admission reveals that SACMH and FORTIS figures high on the polite and helpful behaviour of gatekeepers, and the employees at the registration counter. Public hospital SMHSH scores very low on service quality, as far as the overall procedure of registration and waiting time to be attended are concerned. It clearly reveals the deficiency on registration and admission, particularly in the waiting time to be attended by all the hospitals, except FORTIS and SACMH.

Food Services

The scores of the quality of food services in the four hospitals are presented in Table 8.

As shown in the table, the quality scores of food services of FORTIS (0.68) and SMGSH (-0.45) figure moderately high, whereas SMHSH (-1.29) and SACMH (-1.00) score low in this aspect further analysis reveals that FORTIS figures high, as far as the behaviour of serving staff and timely meal delivery are concerned. FORTIS gains positive scores on all elements of food services whereas SMHSH has negative sores on all the elements except the timely meal delivery and warmth of food served. SACMH also has a negative score on all elements of the food services, except the timely meal delivery. This shows that all hospitals are good on timely meal delivery as far as the patient's expectations are concerned. Thus, there is deficiency in food services in three hospitals other than FORTIS which has a positive score on the said dimension.

CONCLUSION

The findings of the present study are important for hospital administrators in India, in general, and to the administrators of sample organisations, in particular with respect to the non-clinical aspects of service quality. The study has demonstrated the areas in which the hospitals fall short of expectations of their patients. These hospitals, in particular, can improve their quality and their quality management can be monitored over time, with resources being shifted to those areas which largely influence the patient perception of medical services.

The study has shown that nursing care and treatment results are the critical dimensions of a hospital service quality. However, it was found that medical services, as perceived by patients, failed to meet their expectations in almost all the six dimensions, except, in the case of FORTIS whose perceived service quality score was reported positive. It has also been found that the quality of medical service of private hospitals is comparatively better than that of government hospitals.

In the light of the above findings, resource-allocation decisions of hospitals should be made in the light of the patients' expectations. We suggest improvements in all service quality dimensions, particularly the nursing care and treatment results, which were rated relatively low by the patients, to improve the overall quality of medical services. Further, hospitals should conduct frequent patient surveys to throw light on the refinement intended to improve the quality of the hospital services.

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★★★★★

The reasonable man adapts himself to the world; the unreasonable one persists in trying to adapt the world to himself.

George Bernard Shaw,
Man and Superman

★★★★★

Full many a gem of purest ray serene,
The dark unfathomed caves of ocean bear,
Full many a flower is born to blush unseen,
And waste its sweetness on the desert air.

Thomas Gray,
Elegy Written in a Country Churchyard

★★★★★

As one explores phenomena or ideas at the frontiers of scientific knowledge it is the unexpected that provides the clues to guide further work.

Lewis Wolpert,
The Unnatural Nature of Science

★★★★★

OUR REFEREES

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Editor

INFLUENCE OF FUND SIZE ON THE PERFORMANCE OF A MUTUAL FUND

Valeed Ahmad Ansari* and Saghir Ahmad Ansari**

Abstract

The relation between the fund size and the mutual fund performance has been an unsettled issue as the empirical studies have reported mixed results. While in some studies, it was found that the size and the performance were positively related, in others, the findings have been the opposite. The present study investigates the relationship between the fund size and its performance in India, using a panel data of 80 mutual funds, comprising diversified, equity–oriented, and tax-planning schemes, over a period of 2002-2006. The study reveals a quadratic relationship between the size and the performance of mutual funds. This implies the presence of economies of scale but beyond a certain point diseconomies set in and diminishing returns accrue. The phenomenon suggests that there is an optimum size of a mutual fund.

Key Words: *Economies of scale, Fund size, Fund performance, Quadratic relationship, Net asset value.*

INTRODUCTION

THE mutual funds industry in India has experienced spectacular growth. The asset under management of mutual funds increased from Rs. 3,07,107 crore to Rs. 4,67,623 crore over the period from August 2006 to August 2007 (Association of Mutual Funds in India, 2006, 2007). The mutual fund industry now controls a sizeable stake of corporate equity and plays a fundamental role in the determination of stock prices. This explosive growth has taken place despite the fact that about 90 per cent of the earning population in India is unaware of mutual funds (Bhardwaj, 2007). This suggests a tremendous potential that is on offer for the mutual funds industry in the country.

The growth in the mutual fund industry in recent years has been a world-wide phenomenon. This has spurred a large number of studies investigating the performance of mutual funds. A large majority of these studies have examined the U.S market. This is not surprising since the market has a well-developed investors financial culture and mutual funds, which form the most important vehicle for investment for household investors. The availability of historical data is another factor that facilitates studies. The studies have examined the fund attributes, such as the

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size of the fund, age, fees, trading activity, past returns, and the tenure of fund managers as potential determinants of funds performance (See, for example, Jensen, 1967; Grinblatt and Titman 1989; Ippolito, 1989; Elton, Das, and Hlavka, 1993; Hendricks, Patel, and Zeckhauser,1993; Brown and Goetzmann, 1995; Malkiel, 1995; Gruber, 1996, Carhart, 1997; Sirri and Tufano, 1998; Zheng, 1999; Chen, Hong, Huang, and Kubik, 2004; Dermine and Roller, 1992 and Dahlquist, *et al*. 2000). Such rigorous and sophisticated studies have not been conducted in the Indian context. However, a few studies which may have a bearing on the subject are Gupta (2002), Chander (2006), Panwar and Madhumathi (2006), and Sehgal and Jhanwar (2007).

The massive inflow of funds in the mutual fund industry has also increased the mean size of the funds. An important question in this regard is: To what extent the performance of a mutual fund is affected by its size? In other words, whether or not, the economy of scale exists in the mutual funds industry? Although a voluminous literature is available on mutual funds, very little is known empirically about the relation between the performance and the size of the fund. If the size has a bearing on the performance, then the investors can achieve superior returns by screening funds on the basis of the size of the fund's net assets. Further, the persistence in mutual fund performance depends on the scale-abilty of the fund investment (Gruber, 1996; Berk and Green, 2002).

To the best of our knowledge, no study has been carried out in India to examine the relationship between the performance of a mutual fund and its size. The present study is a modest attempt to fill this gap.

LITERATURE REVIEW

A firm experiences economy of scale when a large quantity is produced at a lower average cost than at a smaller quantity. The lower cost per unit can result from a variety of sources- including greater specialisation in the use of capital and labour, learning by doing as output grows, and spreading the fixed set-up and operating cost over greater output. Researchers have proposed that total net assets should be viewed as output of the financial service industry, such as mutual funds. (see Khorana and Serves (1999) and Latzko (1999). A firm with large asset base operates more cost efficiently than a firm with smaller asset base if the economy of scale exists.

The effect of size or scale on the mutual fund performance is an open question since there is no consensus on this issue. Several explanations have been offered pertaining to advantages of large fund as compared to small ones. First, large funds have more resources at their disposal for research. Large funds are able to spread fixed overhead expenses over a larger asset base. Managers of large funds are in a vantage position to gain beneficial investment opportunities not available to small market participants (Ciccotello and Grant, 1996).

The large funds can negotiate smaller spreads on account of their large market position and volume (Golsten and Harris, 1988). Furthermore, large funds also benefit from declining brokerage commissions with the size of the transaction (Brennan and Hughes,1991). These institutional and cost advantages together should lead large funds to out-perform smaller funds.

On the other hand, large funds face some problems and management challenges as the scale of investment may adversely affect the fund performance (Gruber, 1996; Berk and Green, 2004). Whereas small funds can concentrate their money and attention on few investment opportunities, when fund becomes large, fund managers must continue to find worthwhile investment opportunities and may make sub-optimal investments. Others argue that large asset-base erodes fund performance because of the trading cost associated stemming from liquidity or price impact (Andre Perold and Solman, 1991; Lowenstein, 1997).

The large funds also experience what is known in the literature as the hierarchy costs

(Aghion and Tirole, 1997; Stein, 2002). Stein (2002) pointed out that in the presence of the hierarchy cost, small organisation would out-perform large ones at tasks that involve the processing of soft information. The soft information can not be directly verified by anyone other than the agent who produces it.

There are two approaches that are employed to empirically measure the effect of size on the mutual fund performance. The first approach investigates the relationship between the cost and the size variables. This is in line with the fundamental definition of economy of scale. The relationship is estimated either using translog or quadratic function. The other approach analyses the relation between size and mutual fund performance either using risk-adjusted or raw returns. Examples of studies of the first genre are: Baumol, Goldfeld, Gordon, and Kohen (1990), Dermine and Roller (1992), Latzko (1999), Collins and Mack (1997), Indro, Jiang, Hu, and Lee (1999), and Ang and Lin (2001).

Baumol, Goldfield, *et al.* (1990) reported the existence of significant economy of scale in the U.S. mutual fund industry. Dermine and Roller (1992) investigated the economy of scope and scale in the French mutual fund industry. By estimating the cost functions, using several functional forms, they found that the economy of scale exists for smaller funds and across all fund categories. Their results indicate that the mutual fund size is an important determinant of the performance of a mutual fund when the fund performance is to be explained cross-sectionally. Collins and Mack (1997) reported that optimal asset size for a multi-product fund family is between \$20 billion and \$ 40 billion.

Latzko (1999) estimated translog cost for a sample of 2610 funds to evaluate the existence and extent of scale economy in administration. If there is an economy of scale in the mutual fund administration, there should be a negative relationship between the expense ratio and fund assets. He reported that the elasticity of fund cost with respect to fund assets is less than one, for all categories of funds. It implies that there the is economy of scale in mutual fund administration.

Indro, Jiang, Hu and Lee (1999) argued that mutual funds must attain a minimum fund size in order to justify their cost of acquiring and trading information. They studied a sample of 683 non-indexed U.S equity funds over the 1993-95 period and reported that 20 percent of the mutual funds were smaller than the break-even cost size. They contended that as funds become larger, marginal returns become lower and, so, funds suffer diseconomies of scale.

Ang and Lin (2001) used a quadratic approach. They observed that mere increase in size may not generate significant economy of scale. They noted that the composition of the product-line significantly affected the relationship between the costs and increased assets. In other words, an economy of scope is also important. They report that the economy of scope are more important than the economy of scale.

Grinblatt and Titman (1989) studied the fund performance over the period 1975-1984 and ranked the funds by their asset size. They further divided them into quintiles. They documented some evidence of superior performance in the smallest quintile. However, after taking into account net expenses, the returns were not significantly different from the return of the funds in large quintiles.

Grinblatt and Titman (1994) studied a sample of 279 mutual funds and 109 passive portfolios and analysed the determinants of mutual fund performance, such as net asset value, load, and portfolio turnover. They reported the absence of any relationship between the size and the mutual fund performance.

Elton, *et al.* (1996) found that the relationship between size and performance was affected by the survivorship bias. According to them this possible bias is ignored and there is no difference in return between large and small funds. However, when the survivorship bias is considered, smaller funds tend to under-perform large funds. The bias is attributed to the fact that the smaller funds encounter a higher probability to disappear.

Otten and Bams (2002) noted positive relation between the risk-adjusted performance and fund size, suggesting the presence of the economy of scale.

Shawaky and Li (2006) provided empirical estimates for the optimal size of small-cap growth and value mutual funds. Their results support the presence of quadratic relationship between the asset size and the fund performance. It implies that the small-cap mutual funds performance may be enhanced or eroded by increasing or decreasing the assets towards the optimum point.

Other studies have found negative relation between the size and the performance. Chen, *et al.*(2004) , using mutual fund data from 1962 to 1999, show that the fund returns decline with the lagged fund size. They report that the effect of fund size on performance is more pronounced for the funds that invest in small-cap stock. According to them, the erosion in performance is attributable to liquidity. They further argue that the organisational diseconomy of scale, along the line predicted by Stein (2002), play an important role.

Dahlquist, *et al.* (2000) studied, over the period 1993-1997, the mutual fund performance in the Swedish market and found that the large equity funds tended to perform worse than the smaller equity funds. The reverse holds for the bond funds, as the large funds perform better than the smaller funds.

Thus, there is no unanimity on the issue of size and mutual fund performance as the empirical evidence is mixed.

OBJECTIVES AND HYPOTHESES

The present study seeks to examine the relationship between the fund performance and the size of the fund, as measured by Net Asset Value (NAV) in India. It also seeks to ascertain the presence, or the absence, of the quadratic relationship in this regard.

The following hypotheses were formulated:

Hypothesis 1: There is no relation between the fund size and its performance.

Hypothesis 2: There exists no quadratic relationship between the fund size and its performance.

RESEARCH METHODOLOGY

The data for the study was compiled from financial newspapers, such as *Business Standard*, and *Business Line* and the website *www.mutualfundsindia.com*. The sample consisted of 80 mutual funds. Out of these, 46 were diversified and 17 each belonged to tax-planning and equity-oriented categoryies. All of these schemes were open- ended. The data collected covered the period Jan 2002 to Dec 2006.

We followed the methodology adopted by Shawaky and Li (2006). They used the Total Net Asset Value as the measure of the size and risk-adjusted measures to gauge the performance. Instead of the risk-adjusted measures, raw returns were used in the present study.

The monthly return for each fund was calculated, using the Net Asset Value (NAV) and these returns were annualised. The data for each fund was aggregated into the panel data. The panel data set contained 400 observations, comprising 230 observations of diversified funds, and 85 each of the equity-oriented and the tax-planning. Thus, the panel data was a balanced one.

To test the hypotheses, the following equations were estimated, using the panel data:

$$R_t = \alpha + \beta_1 NAV_t \quad (1)$$

$$R_t = \alpha + \beta_1 NAV_t + \beta_2 NAV^2 \quad (2)$$

where:

R_t is the performance measure in period t, represented by annualised return. NAV_t represents a fund's Net Asset Value in period t (in Rs. crore). NAV^2 is the square of the net asset value.

Using the least squares method, we estimated the parameters β_1 and β_2. For the empirical validity of the hypotheses of positive relation between the size and the performance and the presence of quadratic relationship, while the coefficient β_1 should be positive, coefficient β_2 should be negative. Equation (1) is estimated separately for each fund type and all the funds together. The equation (2) is estimated to verify whether there exists a quadratic relationship between the fund size and its performance. If the economy of scale exists, then there will be a quadratic relationship. This may suggest the presence of an optimal size of the fund.

RESULTS AND DISCUSSION

Table 1 reports the summary statistics of the funds. All the returns reported are annualised. The mean annualised return of all the funds during the period 2002-2006 was 38.6 per cent annually whereas the mean size of the funds was Rs. 459.65 crore. Fund-wise, the highest mean annualised return was achieved by the tax-planning fund (41.52%). However, the return of diversified funds was almost equal. The equity-oriented funds generated the least mean return of 28.68 per cent. The mean size of the funds was Rs. 459.65 crore.

The estimated regression co-efficients are shown in Table 2. The β_1 co-efficient is positive and highly significant for all funds. This is also true for each category of the funds: diversified, tax-planning and equity-oriented. Fund-wise, β_1 co-efficient is largest for the tax-planning fund. The R^2 value for all the funds is 28.01 percent. This value is highest for tax- planning funds. Thus, the null hypothesis of no relation between performance and size stands rejected.

The regression estimate of Equation (2) brings out the results that they are in conformity with the postulated quadratic relationship between the fund size and the performance. The sign of β_1 is

Table 1

Summary Statistics
Time Series Averages of the Cross-Sectional Attributes 2001-2006

Type of Fund	Mean return (%)	Standard deviation of return	Mean size of Funds (in Rs. crore)	Median size of Funds (in Rs.crore)	Sample size
All funds	38.6	9.65	459.65	211.63	80
Diversified equity	41.2	9.33	630.3	321.52	46
Tax planning	41.52	8.81	197.92.	81.9	17
Equity -oriented	28.68	1.2	259.63	115.76	17

Table 2

Regression Coefficients

Type of Fund	β_1	β_2	R^2 (%)
All funds	0.008(5.5)***		28.01
All funds	0.0164(4.29) ***	-3.67E-06 (- 2.36)**	32..86
			Adjusted R^2 (%) : 31.11
Diversified	0.0067(4.44) ***		31.02
Tax Planning	0.029 (4.9) ***		61.55
Equity- oriented	0.0076 (3.25) ***		41.28

Note: The figures in parentheses show the't' values
*** Significant at 1% level ** Significant at 5 % level

positive and β_1 is negative and these coefficients are highly significant. The R^2 improves, but not dramatically. The improvement in R^2 is not surprising, as it goes up with the addition of variables (Greene, 2003).

CONCLUSIONS

While there is no unanimity among research scholars on the issue of relationship between the size and the performance of a mutual fund, the results of this study suggest that the fund size is positively related to performance. This finding remains invariant across different sampled funds categories (diversified, tax planning and equity oriented). The study has also revealed that there may be an optimal size beyond which the fund may experience diseconomy of scale if they keep expanding. It may be worthwhile to close a fund when it reaches a certain optimal size and diminishing returns to scale start showing up.

However, the conclusions of the study should be interpreted with a caution, since we did not investigate the effect of other determinants of the mutual fund performance, such as style, age, and management structure and tenure. These attributes may overshadow the relationship between the size and the fund performance. The study employed raw returns as the performance measure; risk-adjusted measures may also have an influence on the relationship. Further, it is conjectured that the lagged relation between the fund size and its performance, as suggested by Chen, *et al.* (2004), may work better.

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COMMUNICATION

INDIAN AUTOMOBILE COMPONENTS INDUSTRY
A Global Perspective

Rajesh K. Pillania*

Abstract

Indian automobile components industry has been growing rapidly over the years both in the domestic market and in the export market. Starting in the 1940s, it has come a long way, particularly after the liberalisation, and is now making aggressive inroads in the global market, with acquisitions, green fields, and exports. Nearly all OEMs and Tier- 1 suppliers have established operations in India and are buying from Indian automobile component's manufacturers, not only for Indian operations but also for abroad. This article reviews the global automobile scenario and the evolution and growth of Indian automobile component industry, and compares the automobile components industry in India with that in China. The industry has a great future potential and ACMA, SIAM, and the Government of India have come up with "Automotive Mission Plan, 2016," for the sector. However, it needs heavy investment in research and development. Further improvements in quality and global strategy, and a meticulous approach towards China, need to be developed for meeting the challenges of the global automobile market.

Key Words: ***Indian automobile component industry, Global automobile market, Outsourcing, India-China comparison, Innovations.***

INTRODUCTION

Indian automobile components industry has made an impressive growth over the years, particularly during the last decade. It has come a long way from a small beginning in the late 1940s. After the 1991 economic reforms and liberalisation measures, the industry has grown rapidly. Today, it supplies products to almost all Original Equipment Manufacturers (OEMs) and major Tier-1 suppliers across the world, not only for their Indian operations but also for overseas operations. OEMs and Tier-1 suppliers have established their offices in India for outsourcing. When we talk about Indian exports, we often lament the absence of quality. However, the automobile components sector has overcome that barrier to a large extent and India has won the highest number of Deming Awards, after Japan.

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THE GLOBAL SCENARIO

Global Automobile Industry

The global automobile industry is going through a transition phase. Automobiles are going from analog to digital, from mechanical to electrical, and from isolated to connect. The convergence of IT and communications and the emergence of micro-electro-mechanical systems have led to a revolution. While old technologies are becoming obsolete, new technologies are emerging at a fast pace. This is resulting in the shortening of the product life cycle. One study predicted that during 1993-2000, the average product life cycle in the automobile industry would drop from eight years to four years in the US and from six years to four years in Japan (World Bank, 1999). Increasing environmental standards, safety concerns, and search for alternative fuel technology are putting further premium on knowledge creation and knowledge management. To face the challenges and stay competitive, the automobile supply chain has turned global. OEMs are putting a lot of responsibilities on the components manufactures. Outsourcing is being done on a large scale. The automobiles industry is turning highly research and development intensive, as five out of the top ten global research and development spenders are automobile companies (UNCTAD, 2005). Automobile R and D is globally dispersed. Globalisation of research and development activities is fastly taking place. China, the US, and India are most attractive prospective R and D locations (UNCTAD, 2005).

A survey of top 150 automobile and automobile parts executives, conducted by KPMG, identifies fuel efficiency as the dominant customer purchase criteria and the growing importance of Asian, particularly Indian and Chinese, markets and brands. The highlights of the survey are listed in Exhibit 1

Exhibit 1

Highlights of Global Automobile Executive Survey, 2007

1.	Dominant consumer purchase criteria : Fuel Efficiency, safety, design
2.	Biggest growth areas : Hybrids and Entry-level vehicles
3.	Biggest losers : Minivans, Sports Utility Vehicles (SUVs) and large trucks
4.	Winners in global market shares : Chinese, Indian and other Asian brand s
5.	Losers in the global market share: North American brands
6.	Major source for cost savings: Innovations and outsourcing
7.	Profit expectations a re mixed
8.	Future profits: a)Lower uncertainty among OEMs and bigger suppliers b)Higher uncertainty among smaller suppliers
9.	Strategic alliances more common than mergers and acquisitions.
10.	China sales to keep growing from 10 to 20 per cent annually

Source: KPMG, 2007

Global Automobile Components Industry

The global automobile components industry is worth over US $ 1 trillion. It is expected to touch $ 1.9 trillion by 2015, of which around 40 per cent, $ 700 billion, is expected to be sourced from low-cost countries (AMP, 2006).

The industry is going through a transition phase and is facing a lot of challenges. OEMs are transferring many of their responsibilities to the suppliers and there are pressures to reduce cost and take additional responsibilities. In today's typically-deconstructed value chain, up to 80 per cent of the value addition is done not by the manufacturer but by those who supply raw material and components (Dubey, 1999). The industry has witnessed fast technological changes and increasing complexity of components. Every component and raw material, and in some cases, even designing, that goes into a product, needs increasingly specialised manufacturing skills/expertise. Differentiation is postponed till the last stage and the suppliers play a crucial role. The implications for suppliers and OEMs are that traditional roles will change radically. OEMs are moving toward becoming the keepers of their brand image, design capability, and marketing responsibility. Tier-one suppliers continue to get bigger and fewer, taking on module and system development (Accenture, 2003). Profit margins are under pressure for reduction. To reduce the cost and improve the performance, lots of merger and acquisitions have taken place in the recent past. To take care of the emerging challengers, the firms are taking

Exhibit 2

Key Issues for Automobile Suppliers

1.	Supplier margins are under pressure. PWC Shareholder Value Index for suppliers decreased by 31.8 per cent over the 3-year period, ending Dec 31, 2000 and 43.5 per cent for the 3-year period ending Dec 31, 2001.
2.	Depressed margins and difficult to achieve synergies leading to a search for value addition and cost reduction.
3.	Bigger roles for supplier: -Module and system development
4.	Consolidation: M & A's M & A's in Tier I to reduce number of players from 800 to 35 by 2010. M & A's in Tier II to reduce number of players from 10,000 to 800 by 2010

Source: PWC, 2005

various initiatives, like knowledge management and Indian firms in the auto component sector need to take such initiatives (Pillania, 2006; Pillania, 2007).The industry is on the growth path and can exploit the emerging opportunities in the international market if the pace of learning by the industry is quickened (Dixit, 1994). The major issues facing the automobile suppliers are listed in Exhibit 2.

EVOLUTION OF INDIAN AUTOMOBILE COMPONENTS INDUSTRY

The Indian auto components industry has a long history. It made a small beginning in the 1940s, with Hindustan Motors and Premier Automobiles. The 1950-70s period resulted in ancilliarisation and growth with the coming up of TELCO, Bajaj, and Mahindra, on the one hand, and the Government policies of reservation for small-scale industries, and local content requirements, on the other. The entry of Suzuki with joint venture with the Government of India as Maruti laid emphasis on the quality and technology of automobile components, leading to increased foreign collaboration (Okada, 2004). Economic liberalisation of the 1990s brought

Exhibit 3.

Salient Features of Indian Automobile Components Industry

1.	Designated as a Thrust Sector by the Government Of India in the EXIM Policy.
2.	Recognised by the UNIDO as SME cluster with high potential for technology up- gradation and high export potential.
3.	India number one destination in terms of the quality of supply (Frost and Sullivan Study).
4.	Cost of auto designing less than one-twelfth of that in Europe and the US.
5.	Cost of manufacturing less than one-tenth of the US.
6.	GM, Delphi, Daimler Chrysler, Toyota, MICO have set up R and D bases in India.
7.	Technical collaborations with world leaders, like Koyo Seiko, Bosch, and Mitsubishi.

Source: ACMA, 2007

foreign competition, resulting in modernisation, quality improvements (Jagannathan and Jacob, 2007) and capacity expansion programmes, joint ventures, and exports. By the 2010s, the Indian automobile components industry will have come of age, with an aggressive expansion abroad, through acquisitions and green fields. Now, it is raring to grab a larger market share of the global automobile components trade. The salient features of the automobile components industry are listed in Exhibit 3.

The strong growth of the Indian automobile industry is backed by a vibrant auto components sector in India, manufacturing the entire range of components required for various types of vehicles, with engine parts, drive transmission and steering systems accounting for half of the total output (Department of Commerce, 2006).

Exhibit 4

Major Players in the Automobile Components Industry (Segment-wise)

Engine Parts

In terms of use, 'Engine Parts' is the most important product segment. According to the classification by ACMA, the primary sub-segments in the Engine Parts segment are: pistons, piston rings, engine valves, carburetors and fuel delivery systems.

The manufacturers in the pistons sub-segment are: Goetze, Shriram Pistons & Rings, India Pistons, and Samkrg Pistons.

The piston rings sub-segment is dominated by Goetze, Shriram Pistons & Rings, Perfect Circle Victor, and India Pistons.

Rane Engine Valves, KAR Mobiles, and Shriram Pistons & Rings dominate the engine valves sub-segment.

Ucal Fuel Systems, Spaco Carburetors and Escorts Auto Components are the prominent manufacturers of carburetors, a part of the petrol-based fuel injection systems.

In diesel-based fuel injection systems, Mico, Delphi TVS Diesel System and Tata Cummins are the prominent players.

Electrical Parts

The electrical system in an automobile consists mainly of starting, ignition and charging systems. According to the classification by ACMA, the primary sub-segments in the electric parts segment are: starter motors, generators, distributors, spark plugs, ignition coils, flywheel magnets and voltage regulators, and electric ignition systems (EIS).

Lucas TVS, Denso, Motor Industries Co. (MICO), Delco Remy Electricals and India Nippon Electricals are the major manufacturers of the electrical parts.

Drive Transmission and steering parts

As per the classification by ACMA, the primary sub-segments in the drive transmission and steering parts segment are: gears, wheels, steering systems, axles and clutches.

Sona Koyo Steering Systems, Rane Madras and Rane TRW Systems are the major manufacturers of steering systems. In the sub-segment of steering systems for commercial vehicles, there is only one manufacturer: ZF Steering.

Bharat Gears, Gajra Bevel Gears, Gajra Gears and Eicher are the major manufacturers of gears. Besides, two international companies, Graziano Trasmissioni and SIAP Gears India, have set up bases in the country.

Clutch Auto, Ceekay Daikin, Amalgamations Repco and Luk Clutches are the major players in the clutches sub-segment. In the clutch facings sub-segment, Rane Brake Lining and Rico Auto are the prominent players.

GKN Driveshafts (India) and Delphi cater to the drive shaft requirements of passenger cars in India, while Sona Koyo Steering Systems is present in the Commercial Vehicle segment

Suspension and Braking Parts

According to the classification by ACMA, the primary sub-segments in the suspension and braking parts segment are: brakes, brake assemblies, brake linings, shock absorbers and leaf springs.

There are three major brake system suppliers in India: Brakes India, Kalyani Brakes, and Automotive Axles.

Rane Brake Lining, Sundaram Brake Lining, Hindustan Composites and Allied Nippon, dominate the brake linings sub-segment. International companies have presence in this sub-segment.

Jamna Auto and Jai Parabolic are the major manufacturers of the leaf springs sub-segment.

Gabriel India and Munjal Showa dominate the shock absorbers sub-segment. Delphi is present in the higher-end of this sub-segment.

Equipment

According to the ACMA classification, the primary sub-segments in the equipment segment are: headlights, halogen bulbs, wiper motors, dashboard instruments, switches, electric horns and other panel instruments.

Lumax, Autolite and Phoenix Lamps are the largest manufacturers of headlights.

Premiere Instruments and Controls is the leading manufacturer of dashboard.

Jay Bharat Maruti, Omax Auto and JBM Tools dominate the sheet metal parts sub-segment.

Source: ICRA, 2003

***Ho*$_4$** = There is no significant difference in the employee conscientiousness in manufacturing and service organisations.

***Ho*$_5$** = There is no significant difference in the employee loyalty and sense of belongingness in manufacturing and service organisations.

***Ho*$_6$** = There is no significant difference in the employee civic virtue in manufacturing and service organisations.

***Ho*$_7$** = There is no significant difference in the employee responsibility in manufacturing and service organisations.

***Ho*$_8$** = There is no significant difference in the employee commitment in manufacturing and service organisations.

STATISTICAL TREATMENT OF DATA

Consistency: To check the consistency, the Item-to-total correlation was calculated in respect of each item of the questionnaire. Correlation of every item with all the items was measured and the computed value was compared with the standard value of 0.217. Where the computed value was found to be less than the standard value, that item was dropped and termed as 'inconsistent'. Only one item was thus dropped, namely, 'committed towards organisations'. The results are shown in Table 1.

Reliability: The reliability was calculated through the Cronbach Alpha method. The reliability was found to be 0.921. (See Table 2).The reliability of more than 0.7 was considered good. This noted that the items of the questionnaire show quite high reliability value.

Factor Analysis: The factors were calculated with the help of total variance explained. The final eight factors, were calculated from the rotation sum of squared value loading which was the outcome of the SPSS software. These factors are briefly introduced below:

1. **Courtesy:** Courtesy includes informing others to prevent the occurrence of work-related problems, (Organ, 1988).
2. **Altruism:** It reflects one's helpful behaviour towards others in carrying out their tasks. Netemeyer, *et al.* (1997) and Organ (1988) defined altruism, as discretionary behaviour that has the effect of helping a fellow employee within the organisationally-relevant task (Dovidio, 1984).
3. **Sportsmanship:** Sportsmanship is defined as the goodwill the employee displays in tolerating the circumstances that are less than ideal without making "a mountain out of a molehill" (Netemeyer, *et al.*, 1997).
4. **Conscientiousness:** Conscientiousness refers to the behaviour that goes beyond the job requirement, such as working more than the established time for the good of the company (Netemeyer, *et al.*, 1997).
5. **Loyalty:** It includes the employee's loyalty and sense of belongingness towards the organisation.
6. **Civic Virtue:** Civic virtue manifests itself in the concern of the employee in participating in the life of the organisation, like attending functions that are not specifically required (Netemeyer, *et al.*, 1997).
7. **Extra-role Behaviour:** Extra-role behaviour is the individual behaviour that extends beyond the standard behaviour normally expected by the employer. (Meyer and Herscovitch, 2001)
8. **Commitment:** Organisational commitment refers to the belief in the acceptance of an organisation's goals and values and willingness to exert effort and remain a member of the organisation (Mowday, Porter,and Steers, 1979). Morrison (1994)

Table 2

Reliability Statistics

Cronbach's Alpha	No. of Items
0.921	29

Table 3

Major Destinations of Indian Automobile Components Export (For OEM/Tier 1 Suppliers)

Export Destination	*Percentage Share*	*Export Destination*	*Percentage Share*
Europe	32.4	Middle East	7.8
North America	25.1	South America	2.5
Asia	20.0	Oceanic	1.3
Africa	10.8	Others	0.1

Source: ACMA, 2007

reaching US $ 20-22 billion by the year 2015 (AMP, 2016).The exports have reached almost 20 per cent of the total turnover, as shown in Table 2.

The growth in terms of imports also increased over the years and has taken over the exports growth rate in 2007, reflecting growing demand for automobile components. The major market for exports consists of Europe, North America, and Asia. Their share is shown in Table 3.

Like other mature automobile markets, replacement (or after-market) is a big part of the Indian automobile components industry. In 2005, the replacement demand accounted for nearly 57 per cent of the total demand, while OEMs accounted for 27 per cent, and exports accounted for the balance 16 per cent. Whereas in the 1990s, more than 65 per cent of exports were for the after-market and 35 per cent for OEM/Tier 1, in 2006, 75 per cent were for OEM/Tier 1 and only 25 per cent for the after-market.

India's share of the global automobile components trade of US $ 185 billion is only 0.4 per cent. According to AMP 2016, India has the potential to become one of the top five automobile components producers, by 2025.

Since 2000, the automobile components industry has recorded an investment level of US $ 0.44 billion and has attracted US $ 530 million in terms of the foreign direct investment (FDI). The Investment Commission has set a target of attracting foreign investment worth US $ 5 billion for the next five years to increase India's share in the global auto components market from the present 0.4 per cent to 3 to 4 per cent (AMP, 2016).

INDUSTRY COMPARISON: INDIA VS. CHINA

In 2007, a record of 8.3 million vehicles was expected to be sold in China. Since 2000, the Chinese automotive market has exploded, with sales growing by an average of more than 20 per cent per year. China overtook Japan in 2006 to become the world's number two automotive market, next only to the US, and the world's number three automotive producer, next to the US and Japan. China is projected to become the world's second-largest market in terms of production, by 2013, when it is expected to manufacture more cars than Japan. There is a huge scope for automobiles in China as the vehicle density per person is quite low and the income is increasing. The passenger car stock, per 1000 people, was seven in China as compared to six in India, 235 in Taiwan , and 220 in South Korea, in 2004 (EIU,2005).

The components industry was worth US $ 9.1 billion in 2004 and projected to reach US $ 13.1 billion by the end of 2007. The components industry has grown by CAGR of 17.8 per cent, during 2000-2004 and was expected to grow over 10 percent between 2004 and 2007. The aftermarket – less than 10 per cent of total automobile parts segment in 2004 as compared to 60 percent in the US, and 40 per cent in Germany. It is expected to grow with a CAGR of 17.6 per cent from 2004 to 2008. Chinese exports have been growing at a rate of more than 30 per cent (2002-2004), and China is expected to yield 10 per cent of global automobile parts sales by 2010 versus less than 1 per cent in 2004. However, the automobile components industry is a fragmented industry (1700 registered companies with 450 foreign invested companies), with top 10 contributing around 20 per cent of total revenue and there are another 30,000-plus small manufacturers for the aftermarket (KPMG, 2005).

China exports only 2 per cent of its car production, as against the 10 per cent in the case of India (UN, 2005). It is more of a domestic market as far as the vehicle production is concerned. But it exports good amount of automobile components production. China exported automobile components worth of US $ 2.4 billion against the US $ 0.8 billion of India, in 2004 (UN, 2005). However, the export growth rate of the automobile components of China is lower than that of India in the recent past. Another difference is in terms of the replacement market. Chinese replacement market is just 10 per cent as compared to 53 per cent in India.

KEY ISSUES

The Indian automobile components industry faces a number of key issues in its march towards conquering the global market.

First, the global automobile industry is research-and-development intensive. Indian automobile components industry has to make an investment in innovations and research and development to take care of the emerging challenges posed by global automobile industry and move up in the value-chain. Second, the industry is fragmented, having a large number of small players. In the international market, the size matters. So the industry will witness a wave of mergers and acquisitions. Third, though the industry has made a lot of progress on the quality front, it needs to make more progress. Firms in this sector have taken the steps by becoming competitive on the cost and quality fronts. Being at the crossroads, the firms have to make several choices in order to leverage these quality gains into a profitable global supply chain strategy (Balakrishnan, *et al.*, 2007). Last, but not the least, many Indian players have set up operations or sourcing operations in China. These need to be further developed and leveraged to meet the increasing competition from China and for taking advantage of the growing Chinese market.

THE WAY AHEAD

The Indian Government, the Society of Indian Automobile Manufacturers (SIAM), and the Auto Components Manufacturers' Association (ACMA), are highly optimistic about the future and the growth potential of the automobile and automobile components industry. It is expected to emerge as the destination of choice in Asia for the design and manufacture of automobiles and automobile components. The output of India's automobile sector will be US $ 145 billion, contributing to more than 10 per cent of India's Gross Domestic Product, and providing employment to 25 million persons additionally, by 2016. (Vision Statement, *AMP*, 2016). The industry has huge domestic as well as export markets. It is for the industry to grab this opportunity.

However, the industry needs to address many key issues. It needs to invest in research and development and move up the value chain; consolidation is required to increase the size for scale economies and funds for research and development; quality needs to be improved; and effective global strategy, taking an aggressive and inclusive approach towards China, needs to be developed.

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Hypotheses

The major hypothesis for the study is:

H_0 = There is no significant difference between the OCB of a manufacturing organisation and a service organisation.

Manufacturing and service organisation were again compared on the basis of the presence of different factors. Z-test was applied to compare these factors and the following null hypotheses were formulated:

Ho_1= There is no significant difference in the employee courtesy in manufacturing and service organisations.

Ho_2 = There is no significant difference in the employee altruism in manufacturing and service organisations.

Ho_3 = There is no significant difference in the employee sportsmanship in manufacturing and service organisations.

Table 1

Item-to-Total Correlation

S. No.	Items	Table Value	Consistency	Accepted/Dropped
1.	'Helping a colleague, when he is in trouble.'	0.63995	Consistent	Accepted
2.	'Always ready to help.'	0.558315	Consistent	Accepted
3.	'Going to help others'	0.557344	Consistent	Accepted
4.	'Helping others even when busy'	0.572	Consistent	Accepted
5.	'Cooperative towards new entrants.'	0.619916	Consistent	Accepted
6.	'Utilise spare time by increasing knowledge'	0.312976	Consistent	Accepted
7.	'Working above expectations'	0.618578	Consistent	Accepted
8.	'Consistent result towards organisation'	0.548133	Consistent	Accepted
9.	'Attending non-compulsory meetings after work'	0.54157	Consistent	Accepted
10.	'Friendly and lively attitude towards employee'	0.691377	Consistent	Accepted
11.	'Acting proactively'	0.667083	Consistent	Accepted
12.	'Updated with employees Performance'	0.535505	Consistent	Accepted
13.	'Follow organisational working procedure'	0.387878	Consistent	Accepted
14.	'Helping colleagues'	0.466806	Consistent	Accepted
15.	'Appreciate constructive ideas of Subordinate'	0.694273	Consistent	Accepted
16.	'Encourage peers to follow org.policies'	0.692716	Consistent	Accepte
17.	'Remain committed towards organisation'	0.756149	Consistent	Accepted
18.	'Sense of belongingness'	0.541289	Consistent	Accepted
19.	'Loyal towards my organisation'	0.601119	Consistent	Accepted
20.	'Responsible attitude'	0.208954	Consistent	Accepted
21.	'Adhere to organisational rules and regulations'	0.565739	Consistent	Accepted
22.	'Proper utilisation of organisation resources'	0.553124	Consistent	Accepted
23.	'Keep organisations clean'	0.452446	Consistent	Accepted
24.	'Understanding others problems'	0.674183	Consistent	Accepted
25.	'Release employees stress'	0.602149	Consistent	Accepted
26.	'Active participation in extra-curricular activities'	0.675454	Consistent	Accepted
27.	'Keeping personal and professional differences,	0.521418	Consistent	Accepted
28.	'Committed towards organisation'	0.043041	Inconsistent	Dropped
29.	'Team work'	0.44198	Consistent	Accepted
30.	'Loyalty towards organisation'	0.318182	Consistent	Accepted

(Note: The table value is more than the standard value of 0.217)

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about 5 per cent examined the banking sectors of developing countries. They also noted that a vast majority (about 75 per cent) of the efficiency literature focused on the banks of well-developed countries, with particular emphasis on the US. The relatively scant literature on the bank efficiency in emerging markets, like India, focused mainly on the efficiency differentials among banks with different ownership status and asset size. In India, research on performance and efficiency of Indian banking industry is rare in the existing literature. Notable among these are: Swami and Subrahmanyam (1994), Noulas and Ketkar (1996), Bhattacharya (1997), Das (1997a, 1997b, 2000), Shanmugam and Lakshmanasamy (2001), Mukherjee, *et al.* (2002), Leighter and Lovell (1998), and Zaim (1995).

Bhattacharya (1997) examined the impact of partial liberalisation during the mid-eighties on the productive efficiency of 70 commercial banks, using the data envelopment method for the period 1986-91. He found that the public sector banks had the highest efficiency, followed by foreign banks. The private banks were found to be the least efficient. He also found a temporal improvement in the performance of foreign banks, virtually no trend in the performance of private-sector banks and a temporal decline in the performance of public-sector banks.

Das (1997a) examined the X-efficiency of public-sector banks since their nationalisation, using the longitudinal data. The findings indicated that the banks of SBI group were a more efficient than the nationalised banks. The main source of inefficiency was found to be technical in nature, rather than allocative. It has been concluded that inefficiency in public-sector banks is mainly due to under-utilisation or wasting of resources rather than incorrect input combination.

Das (1997b) used non-parametric frontier methodology to derive efficiency measures for 65 major banks, based on the cross-section, data, for the year 1995. It was here found that, generally, the banks in India were technically more efficient than allocate efficiency. It also found that there is no significant difference in any of the efficiency measures between public and private-sector banks, except the scale efficiency, the foreign banks differed significantly from the public-sector and the private-sector banks.

Leighter and Lovell (1998) studied the Thai banking industry from both the bank and the government perspective, from 1989 to 1994. They found that the average Thai bank had a rapid productivity gain based on its own objectives, but during this period productivity gained from the liberalisation programme could not help advancing the government objectives.

Mukherjee, *et al.* (2002) sought to explore the technical efficiency and to benchmark the performance of 68 commercial banks, using the data envelopment analysis for the period 1996-99. It was detected that, in India, PSBs were more efficient than both private-sector banks and the foreign banks. Also, the performance of PSBs improved over study period. Besides this, publicly owned banks were rated uniformly in terms of self-appraisal as well as peer-group appraisal.

Noulas and Ketkar (1996) examined the technical and scale-efficiency of public-sector banks, through the data envelopment analysis, by using the cross-section of data from 18 banks, for the year 1993. It was found that the overall technical inefficiency was approximately 3.75 per cent of which only 1.5 per cent was on account of pure technical inefficiency and 2.25 per cent was due to scale inefficiency and majority of the public-sector banks were found to be operating under increasing returns to scale.

Shanmugam and Lakshmanasamy (2001) applied three approaches: non-parametric approach, stochastic frontier function and random coefficient approach, to measure the efficiency, and assessed the robustness of the efficiency measures, using the data on domestic banks in India, for the year 1999. It was found that overall mean technical efficiency ranges between

52 and 80 per cent in different approaches. The authors found the high rank correlation among efficiency values computed in different approaches was also the results indicated that the deposit was the dominant factor in determining the output of the banks in all the models.

Swami and Subrahmanyam (1994) applied the 'Taxonomic Method' to study the inter-bank differences in the performance of public-sector banks in India. It was found that many banks had wide disparities in their measures of performance, especially with differential weighting of individual indicators of business activity. No showed any measure of performance close to the ideal of the respective groups of banks. Almost every selected bank never attained even 50 per cent efficiency measures in both the periods (1971-73 and 1987-89).

Zaim (1995) reported improvement in the efficiency in the Turkish banks after the 1980's liberalisation programme.

The review of literature available on banking efficiency in India reveals that none of the scholars has examined the efficiency from different aspects. The present study is an endeavor in this direction and aims at enriching the existing literature concerning the efficiency of banks after the second banking-sector reforms in India.

OBJECTIVE AND METHODOLOGY OF THE STUDY

The study seeks to examine the comparative efficiency in various banks after the second banking-sector reforms.

For purpose of measuring the comparative efficiency of Indian banks since the second banking-sector reforms period, the whole banking industry is divided into four major bank groups. RRBs have been excluded from the study.

G-I Group: comprising Public-Sector Banks - 28 (Including IDBI Bank in 2004-05)

G-II Group: comprising old Private-Sector Banks - 21

G-III Group: comprising new Private-Sector Banks - 7

G-IV Group: comprising Foreign Banks - 31

Selected Efficiency Parameters

A. *Productivity Ratios:*
   (i) Business per employee (B/E)
   (ii) Profits per employee (P/E)

B. Profitability Ratios
   (i) Interest income as percentage of total assets
   (ii) Interest expended as percentage of total assets
   (iii) Net interest as percentage of total assets
   (iv) Operating expenses as percentage of total assets
   (v) Provisions and contingencies as percentage of total assets
   (vi) Net profits as percentage of total assets

C. Financial Soundness
   (i) Capital adequacy ratio

D. Quality of Assets
   (ii) Net NPAs as percentage of total assets
   (iii) Net NPAs as percentage of net advances

The present study analyses these selected ratios to compare the competitive efficiency of various banks.

Database

(i) Report on Trends and Progress of Banking in India, Reserve Bank of India, Mumbai, Various issues, from 1997-98 to 2005-06

(ii) Performance Highlights, Indian Banks Association, Mumbai, Various issues, from 1997-98 to 2005-06

standard value of ± 1.96, at 5 per cent level of significance, Hence, the null hypotheses were rejected, i.e., there seems to be a significant difference in the factors of employee courtesy, sportsmanship, conscientiousness, loyalty, civic virtue, extra-role behaviour and commitment, between manufacturing and service organisations. By comparing the mean values of manufacturing and service organisations, in terms of courtesy, sportsmanship, conscientiousness, loyalty, civic virtue, responsibility and commitment, it appears that the employees of service organisations show higher concern towards their organisation in comparison to the employees of manufacturing organisations. The Z value in H_{O2} was less than the standard value, so the alternate hypothesis was not accepted. Therefore, it is found that altruism is the only factor, which does not show any difference between both types of organisations, which suggest that the employees of both the types of organisations are keen to help each other without expecting any personal gain.

CONCLUSION

The study has revealed that irrespective of the type of organisation-manufacturing or service–employees tend to differ on various factors of OCB, viz., courtesy, sportsmanship, conscientiousness, loyalty, civic virtue, extra-role behaviour, and commitment . It has also been found that the OCB in service industry is significantly higher in comparison to the manufacturing-sector employees. The finding can be credited to the nature of the industry as in service sector the employees are supposed to be better in soft skills. Only one factor, namely, altruism, has shown no difference between the two types of organisations.

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variation, and doing it right the first time (Garvin, 1988; Kotler and Keller, 2007; Woodruffe, 1998). In line with this thinking, Gronroos (1982) developed a model in which he contended that consumers compare the service they expect with perceptions of the service they receive in evaluating service quality. Also, Smith (1987) claimed that satisfaction with service is related to confirmation or disconfirmation of expectation. They based their research on the disconfirmation paradigm, which maintains that satisfaction is related to size and direction of the disconfirmation experience where disconfirmation is related to a person's initial expectations.

In short, perceived service quality involves the subjective response of people and is, therefore, highly relativist. It is a form of attitude, related, but not equivalent, to satisfaction, and results from a comparison of expectations with perception of performance (Parasuraman, *et al.*, 1988). Perceived quality is an important measure in influencing the consumer's value perception and in affecting the intention to purchase products or services (Bolton and Drew, 1988; Zeithaml, 1998).

OBJECTIVES OF THE STUDY

The main aim of this paper is to demonstrate the use of some basic techniques for measuring and analysing service quality data obtained through the use of a self-developed research instrument. The outcome of the measurement process shall provide the management with actionable and diagnostic information to improve hospital services in those areas that have the major impact on customer perceptions of service quality. This evaluation is essential in today's competitive, cost-conscious healthcare market. The present paper, therefore, attempts to achieve the following objectives: -

1. To evaluate the quality of medical services in hospitals, under reference; and
2. To suggest appropriate measures for improving the medical services in hospitals, with a view to making the services more effective and efficient.

RESEARCH METHODOLOGY

Sample Profile

The study seeks to analyse the quality of medical service in hospitals in the state of Jammu and Kashmir and the Union Territory of Chandigarh. However, the study was confined to urban areas, keeping in view the concentration of hospitals, which is relatively high, in these areas. The study was further limited to four hospitals, namely, Shri Maharaja Hari Singh Hospital (SMHSH) in Srinagar, Shri Maharaja Gulab Singh Hospital (SMGSH) in Jammu, Shri Achariya Chandra Medical College and Hospital (SACMH) in Jammu, and FORTIS Hospital in Chandigarh. These hospitals have been purposely selected for the study since they are the largest teaching hospitals in the respective States. Moreover, in terms of Employees and bed strength, these hospitals stand at the top.

The sample consisted of 520 respondents, which include 280 from public-sector hospitals (54 per cent) and 240 from private hospitals (46 per cent). In order to seek a balanced opinion regarding quality of medical services, respondents bearing varied demographic characteristics, such as age, income, education, gender, and profession, were selected from different in-patient and from different out-patient departments. Stratified random sampling for both in-patients and out-patients was adopted. Before approaching a respondent, the importance of medical service for both the receiver and the service-provider were to be discussed.

A sizeable number of the respondents (39 per cent) belonged to the age-group of 35 to 50 years, followed by the age group of 20 to 35 (35 per cent), the remaining (26 per cent) being in the age group of above 50 years. Male respondents were 63 per cent. Those who had obtained secondary-level education were largest in number (42 per cent), followed by the graduates

Spread

The spread constitutes an important indicator of efficiency of banks since it is the most important driver of profitability of banks. The net interest as percentage of total assets of different bank groups in India is depicted in table 4. From this table, it was observed that new private-sector banks have the highest interest margin in relation to their total assets, i.e., 3.52 per cent in 2005-06, whereas it was only 2.14 per cent in foreign banks and 2.75 per cent in old private-sector banks.

The reason for higher spread of new private-sector banks group as compare to other bank groups was relatively lower interest cost on deposits of new private-sector banks. Persistently declining trend in interest spread of commercial banks in India during the last decade can be attributed to a slew of factors, such as competitive pricing, growing macro economic ability and healthy policy environment. Inter-country comparison of net interest margin revealed that net interest margin of Indian commercial banks at 2.88 per cent in 2003 was much higher than the developed countries that ranged between 0.8 per cent and 2.4 per cent. Only US banks had moderately higher net interest margin at 3.0 per cent. Thus, score of interest spread of banks in India has fared better than those of other countries.

Operating Expenses as Percentage of Total Assets: This ratio affects the efficiency of the commercial banks, i.e., how they manage the expenditure. From table 5, it is clear that this ratio was the highest in foreign banks, i.e., 2.79 pc in 2005-06 whereas it was only 2.06 pc in public-sector banks. New private-sector banks recorded the least operating cost level, i.e., 2.00 per cent in 2005-06.

Provisions and Contingencies as Percentage of Total Assets: Every bank should have to maintain some provisions and contingencies to secure their future uncertainties. In this case foreign banks were much efficient as compare to public-sector banks. Table 6 indicates that this ratio was 1.78 pc in foreign banks in 2005-06 whereas it was only 1.12 pc in case of public-

Table 4

Net Interest Margin as Per cent of Total Assets of Commercial Banks in India

(Per cent)

Bank Groups	*1997-98*	*1998-99*	*1999-00*	*2000-01*	*2001-02*	*2002-03*	*2003-04*	*2004-05*	*2005-06*
G-I	2.91	2.80	2.70	2.86	2.73	2.91	2.98	2.91	2.85
G-II	2.57	2.15	2.33	2.51	2.39	2.47	2.60	2.70	2.75
G-III	3.93	3.47	3.92	3.63	3.22	3.35	3.59	3.34	3.52
G-IV	2.23	1.98	1.95	2.14	1.13	1.70	2.03	2.17	2.14
All SCBs	NA	NA	2.73	2.85	2.57	2.77	2.88	2.83	2.78

Source: Same as in Table 1

Table 5

Operating Expenses as Percentage of Total Assets

(Per cent)

Bank Group	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
G-I	2.66	2.66	2.53	2.72	2.29	2.25	2.21	2.09	2.06
G-II	2.31	2.26	2.17	1.99	2.07	2.05	1.97	1.96	2.09
G-III	1.76	1.74	1.42	1.75	1.10	1.96	2.04	2.06	2.00
G-IV	2.97	3.59	3.22	3.05	3.00	2.79	2.77	2.88	2.79
All SCBs	2.63	2.63	2.50	2.64	2.19	2.24	2.21	2.21	2.11

Source: Same as in Table 1

sector banks. Hence, foreign banks and new private-sector banks were much efficient as compare to their counterparts.

Net Profits as Percentage of Total Assets

Foreign banks operating in India and new private-sector banks have been found employing their resources more efficiently and possessed greater capacity to generate income as compare to public-sector banks. Thus, it may be noted from Table 7 that new private-sector banks had the highest ratio of net profits to total assets (1.52 per cent) in 2005-06 followed by foreign banks at 0.97 per cent, but it was only 0.59 per cent in old private-sector banks and 0.82 per cent in case of public-sector banks.

Financial Soundness

From the perspective of regulatory and supervisory process, the Capital Adequacy Ratio (CAR) constitutes the most important indicator for evaluating soundness and solvency of the banks.

It is observed from Table 8 that among all the bank groups under study, the CAR of new private-sector banks was the highest, i.e., 13 per cent in 2005-06. Similarly, foreign banks were also sound in this case.

Quality of Assets

Net NPAs as Percentage of Total Assets: Non-performing assets (NPAs) adversely affected the profitability of commercial banks. Table 9 reveals

Table 6

Provisions and Contingencies as Percentage of Total Assets

(Per cent)

Bank Group	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
G-I	0.81	0.95	0.89	0.92	1.16	1.36	1.55	1.31	1.12
G-II	1.16	0.73	1.01	1.15	1.62	1.50	1.45	1.35	1.00
G-III	1.32	0.75	1.14	0.93	0.78	1.41	1.26	0.80	1.01
G-IV	2.94	1.64	2.08	2.12	1.78	1.63	2.02	1.69	1.78
All SCBs	0.98	1.00	1.00	1.03	1.19	1.39	1.54	1.28	1.15

Source: Same as in Table 1

Table 7

Net Profits as Percentage of Total Assets of Commercial Banks in India

(Per cent)

Bank Groups	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
G-I	0.77	0.42	0.57	0.42	0.72	0.96	1.12	0.87	0.82
G-II	0.81	0.48	0.81	0.59	1.08	1.17	1.20	0.33	0.59
G-III	0.97	0.69	1.17	0.93	1.32	1.56	1.65	1.29	1.52
G-IV	1.55	1.03	0.97	0.81	0.44	0.90	0.83	1.05	0.97

Source: Same as in Table 1

Table 8

Capital Adequacy Ratio

(Per cent)

Bank Groups	2001	2002	2003	2004	2005	2006
G-I	11.20	11.80	12.60	13.20	12.90	12.20
G-II	11.90	12.50	12.80	13.70	12.50	11.70
G-III	12.60	12.90	15.20	15.00	14.00	13.00
G-IV	11.50	12.30	11.50	10.20	12.10	12.60

Source: Same as in Table 1

1988). Bolton and Drew (1987), and Ostwald, *et al.* (1998), while supporting this contention, observed that consumer satisfaction was strongly related to quality, and the service quality was a pre-requisite of consumer satisfaction. Besides, satisfying the consumer needs was considered as a means to an end, like competitive advantage, customer loyalty, employee loyalty, and long-term growth and survival, in both commercial and non-commercial concerns (Bhat and Joo, 2005; Bhat and Rainayee, 2007; Krishna and Mummalaneni, 1993) and is an end in itself in social concerns.

The PIMS (Profit Impact of Marketing Strategy) study reveals that in the long run, the most important single factor affecting a business firm's performance is the quality of its products and services, relative to those of its competitors (Buzzell and Gale, 1987). Heskett, *et al.* (1990) observed that across a wide range of businesses, the pattern is the same: the longer a company keeps a customer, the more money it stands to make. The cost of poor quality, on the other hand, relates to the lack of responsiveness to the customer, dissatisfied customers, complaints and adverse word-of-mouth communications and dissatisfied employees (Crosby, 1979; Goodman, *et al.*, 1986).

Furthermore, consumers today are increasingly becoming aware of alternatives on offer and the rising standards of service have increased their expectations. They are also becoming increasingly critical of the quality of services they experience. Service quality can, therefore, be used as a strategic differentiation tool to build a distinctive advantage which competitors would find difficult to match. To achieve the service excellence, hospitals must strive for 'zero defections', retaining every customer that the company can profitably serve (Reichheld and Sasser, 1990). 'Zero defections' require continuous efforts to improve the quality of the service-delivery system.

However, quality cannot be improved unless it is measured. Hence, service quality trends, today, play an important role in service organisations, because excellent service quality is not an optional competitive strategy which may or may not be adopted to differentiate one service organisation from another, but it becomes essential to corporate profitability and survival.

Conceptualisation of Service Quality

Despite the immense importance of service quality in strategic planning and for corporate success, there is no clear-cut definition of quality or its dimensions for setting quality standards and measuring subsequent quality delivered and received. Service quality, unlike product quality, is more abstract and elusive, because of features unique to services: intangibility, inseparability, heterogeneity and perishability (Bitran and Lojo, 1993; Parasuraman, *et al.*, 1985; Parasuraman, *et al.*, 1993; and Zeithaml, *et al.*, 1996) and is, therefore, difficult to measure.

The most common definition of quality is the traditional notion that views quality as the customer's perception of service excellence. That is to say, quality is defined by the customer's impression of the service provided (Berry, *et al.*, 1988; and Parasuraman, *et al.*, 1985). The assumption behind this definition is that customers form the perception of service quality on the basis of service performance and their experience of the same. It is, therefore, the customer's perception that categorises service quality. For example, service quality is considered as "a measure of how well the service delivered matches customer's expectations" (Lewis and Booms, 1983), or "providing the customer with what he wants, when he wants it, and at acceptable cost, within the operating constraints of the business" (Lewis, 1991), "providing a better service than the customer expects" (Lewis, 1988).

Quite often, the term 'quality' itself is used as a variable, such as conformance to specifications the degree to which customer specifications are satisfied, a fair exchange of price and value, fitness for use, freedom from

Table 4

Service Quality Scores of Hospitals on Cleanliness and Comfort

	Elements of Service Quality (Cleanliness and Comfort)	*Hospitals*			
		SMHSH	*SMGSH*	*SACMH*	*FORTIS*
1.	Neat and clean corridors	-0.04	0.06	0.36	0.30
2.	Clean and functional bathrooms and toilets	-0.18	0.18	-0.13	0.32
3.	Neat and clean waiting rooms	-0.10	0.20	0.40	0.24
4.	Fresh and clean garments and curtains	-0.16	0.66	-0.04	0.28
5.	Clean drinking water area	-0.16	0.13	0.03	0.29
6.	Ventilation of wards	0.00	0.18	0.10	0.20
7.	Regular changing of bedding	-0.10	0.09	0.07	0.30
8.	Floors are regularly cleaned	-0.08	0.44	0.25	0.27
	Cleanliness and Comfort	-0.82	1.94	1.04	2.20
	Rank	4	2	3	1

and toilets and fresh and clean garments. The table reveals that SMGSH, which is a public hospital figures high on cleanliness and comfort. Surprisingly, the service quality scores on cleanliness and comfort of SMGSH are exceptionally high (1.94), in comparison to the other public hospital (SMHSH) under study.

Physician's Care

The scores of the service quality of the four hospitals in respect of physician's care are presented in Table 5.

As shown in the table, the quality of physician's care at FORTIS is reasonably high (0.34). It is followed by SMGSH (-0.92), where the quality on the said dimension at SMHS is the lowest (-2.50), followed by SACM (-2.22). The data also suggest that the service quality scores of SMHS on the doctors being supportive and helpful is poor (-0.59) and that the doctors do not instil confidence in their patients (-0.47). However, FORTIS scores exceptionally high on all elements of physician's care, except the promptness of the doctors (-0.01). The three

Table 5

Service Quality Scores of Hospitals on Physician's Care

	Elements of Service Quality *(Physician's care)*	*Hospitals*			
		SMHSH	*SMGSH*	*SACMH*	*FORTIS*
1.	Sympathy and politeness of doctors	-0.32	0.07	-0.02	0.08
2.	Promptness of doctors	-0.26	-0.24	-0.11	-0.01
3.	Intelligence of doctors	-0.0 8	-0.09	-0.37	0.07
4.	Supportive and helpful attitude of doctors	-0.59	-0.20	-0.28	0.02
5.	Doctors instilling confidence in patients	-0.47	-0.16	-0.28	0.04
6.	Doctors explaining reasons for tests	-0.25	-0.10	-0.23	0.06
7.	Doctors spending enough time on patients' treatment and care	-0.23	-0.11	-0.31	0.03
8.	Doctors answering all to queries from patients	-0.14	-0.01	-0.34	0.04
9.	Confidence and trustworthiness of doctors	-0.16	-0.08	-0.28	0.01
	Physician's care	-2.50	-0.92	-2.22	0.34
	Rank	4	2	3	1

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Zaim, O. (1995), "The Effort of Financial Liberalisation on the Efficiency of Turkish Commercial Banks", *Applied Financial Economics*, Vol. 5, pp. 275-284.

★★★★★

Recession is when your neighbour loses his job;
depression is when you lose yours.

Anonymous, Often attributed to Harry S. Truman

★★★★★

Philanthropy is commendable, but it must not cause the philanthropist to overlook the circumstances of economic injustice which make philanthropy necessary.

Martin Luther King, Strength of Love

★★★★★

Books are the treasured wealth of the world and the
fit inheritance of generations and nations.

Thoreau, Walden

★★★★★

BOOK REVIEWS

John E. Bauer, Grace L. Duffy, and Russell T. Westcott (eds.) ***The Quality Improvement Handbook*****, 2nd Ed., Pearson Power (Indian sub-continent edition) New Delhi, 2007, 217 pages, Hardbound; Price: Rs. 399.**

Quality is conformance to customers' requirements. In the present era of globally competitive business environment, quality management has become a centre-stage issue in business and industry. For survival and growth, companies have to aim at satisfying their customers better than their competitors do; and these competitors can now be from any part of the world. Hence, teaching-learning of quality management and quality improvement processes, tools and techniques has become an important component in engineering and management institutions.

The Quality Improvement Handbook is published by the Quality Management Division of the American Society for Quality (ASQ). Its second edition has been brought out by Pearson Power, for sale in the SAARC countries only and is relatively inexpensive.

The Handbook has three parts, covering ten chapters, four appendices and a subject index. Part I, dealing with quality basics, has two chapters. While Chapter 1 introduces the terms, concepts, and principles of quality, Chapter 2 describes the benefits of quality and the philosophies of some quality gurus.

Part I of the book, spanning 38 pages, essentially provides a quick conceptual understanding of quality perception, outlines the 2006 Baldrige National Quality Programme as well as the ISO 9000:2000 and makes comparison. It focuses on quality planning and the importance of employees and systems and processes in the pursuit of quality. 'SIPOC' (Supplier-Input-Process-Output Customer) analysis is outlined and need to control process variations is emphasised. In Chapter 2 of this part, benefits of quality to employees, the organisation, customers, suppliers, the community, and the society as a whole are listed so as to demonstrate that journey to quality is a win-win proposition. Quality philosophies and brief biographical profiles of Deming, Juran, Crosby, Feigenbaum, Ishikawa, Taguchli, and Shewhart are given. The chapter is concluded with Quality models- the Baldrige Quality Award Model and the ISO 9000 Quality Management Systems. As is expected in a handbook - like publication, the basic concepts are given in an encapsulated form and are not elaborated at length.

Part II of the Handbook includes Chapters 3, 4 and 5 spanning 30 pages in all. This part basically focuses on 'Teams'. Teamwork is one of the essential ingredients of TQM. This part, through the three chapters, introduces the basic concepts of team work, roles and responsibilities of team leader and members, process of team formation, and group dynamics.

In Part II Chapter 3 presents a spectrum of definitions of 'team', characteristics and types of teams-natural team, improvement team, cross-functional team, project team, self directed team and virtual team. The chapter concludes by identifying the basic value, purpose and mission of team work. Chapter 4 outlines seven roles and responsibilities of teams and team leaders and their performance attributes. It comments on the team size, team meetings, and the coaching role of a team leader. It lists the potential perils and pitfalls of teams as well as the features that make team work successful. Chapter 5 deals with the process of initiating team formation. It includes guidelines for team formation, the selection of team members, and the four stages of team work: forming, storming, norming, and performing. It also brings out some aspects of conflicts in team working and

Dimensions of Quality of Medical Service

Nursing Care

The service quality scores, with respect to the nursing care in the four hospitals, are given in Table 3. Private hospitals, FORTIS and SACMH, figure relatively high on nursing care, while public hospitals (SMHSH and SMGSH), figure low on the same. The element-wise analysis of nursing care reveals that FORTIS meets the expectations of its patients as far as the sympathy and politeness, and support and help of nurses are concerned, as it is evident from the high positive scores (0.07 and 0.08, respectively). High negative service quality scores of SMHS on the quick response from nurses (-0.82) and interaction with patients (-0.76) reveals low service quality standards of the said dimension.

The data reveals poor service quality scores on promptness of nurses (-0.73) and interaction with the patients (-0.72) of SMGSH hospital. Government hospitals (SMHSH and SMGSH) figure very low on nursing care as compared to the private hospitals (FORTIS and SACMH). The positive service quality scores on all elements of nursing care of FORTIS shows that it is much better than the rest of the hospitals (SACMH, SMGSH and SMHSH) in so far as the nursing care dimension is concerned. All the three hospitals show negative service quality scores on all the elements of nursing care, which suggest that these hospitals, do not meet the expectations of their patients in this particular dimension.

Cleanliness and Comfort

The service quality scores of the four hospitals in respect of cleanliness and comfort are given in Table 4. It reveals that FORTIS, followed by SMGSH (2.20, 1.94, respectively), is comparatively very high on cleanliness and comfort whereas SMHSH is low on the said dimension (-0.82). SMHSH is the only hospital having negative scores. The minor variation in service quality scores of SMGSH and FORTIS reveals that these hospitals did well on all the elements of cleanliness and comfort, whereas the negative service quality scores of SMHSH suggest that this hospital was very poor on all elements of the said dimension, except the ventilation of wards, where the hospital meets the expectations of its patients. As far as SACMH is concerned, it is also doing well in meeting its patients' expectations, except, the cleanliness of bathrooms

Table 3

Service Quality Scores of Hospitals on Nursing Care

	Elements of Service Quality (Nursing Care)	*Hospitals*			
		SMHSH	*SMGSH*	*SACMH*	*FORTIS*
1.	Sympathy and politeness of nurses	-0.45	-0.53	-0.36	0.07
2.	Promptness of nurses	-0.67	-0.73	-0.55	0.08
3.	Intelligence of nurses	-0.65	-0.65	-0.39	0.02
4.	Interaction with patients	-0.76	-0.72	-0.38	0.04
5.	Supportive and helpful nurses	-0.58	-0.55	-0.47	0.03
6.	Quick response from nurses	-0.82	-0.57	-0.06	0.04
7.	Confident and trustworthy nurses	-0.46	-0.60	-0.48	0.06
8.	Nurses' courtesy and respect towards the patients	-0.41	-0.62	-0.09	0.03
9.	Nurses' response to queries from the patients	-0.64	-0.50	-0.12	0.03
	Nursing Care	-5.44	-5.47	-2.90	0.40
	Rank	3	4	2	1

In addition to the ten chapters, the handbook contains four appendices. Appendix A reproduces100 Questions for a 3-hour test as guidance for candidates preparing for taking the ASQ certified Quality Improvement Associate Certification. Appendix-B reproduces ASQ code of Ethics, Appendix-C should be very useful to the readers as it presents an extensive Quality Glossary, arranged in an alphabetical order. A quick run through this appendix will lead to substantive gain in the reader's knowledge. Appendix D lists additional readings on the subject-arranged in an alphabetical order. Towards the end, the handbook provides an Index for facilitating the page location of a topic. A CD-ROM accompanies the hard copy of the text.

Though small in size for a 'handbook', the book is a collection of very useful reference material on the subject of quality improvement meant for practioners, consultants and students and faculty interested in the subject. It does not go into the depth of any of the techniques because it is primarily a handy 'handbook'. Its price in the Indian edition is definitely worth its usefulness. I welcome this inexpensive edition to the stock of knowledge on quality management.

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S. Singh, *Triple Bottom-Line Reporting and Corporate Sustainability*, Prentice-Hall of India Private Limited, New Delhi, 2007, Pages: 288, Paperback, Price: Rs.250.

The book deals with the concept and practice of Triple Bottom-Line Reporting (TBLR), in Part I, and presents a few case studies of companies, based on a survey aimed at ascertaining the present level of adoption of TBLR norms, which appears in Part II.

A conceptual framework for TBLR just revolves round the requirement of paying equal attention to three factors: People, Planet, and Wealth Creation (economic-value addition). The author writes that these terms are self-explanatory (p.19). Then, why such a long elaboration? For their survival and growth, corporations must create wealth for their owners, simultaneously practice ethics in their dealings with their stakeholders, and have commitment towards larger social responsibilities. The author asserts, what Oliver Sheldon, a leading management philosopher, stated in his book, (*The Philosophy of Management*, London: Sir Issac Pitman & Sons Ltd., 1923) that the problem of industry was to determine the proper balance between the things of production and the humanity of production (included in Cluade S.George, Jr., *The History of Management Thought* Prentice-Hall of India, New Delhi, 1974, pp. 131-135). Shelden emphasised on ethics or "oughtness' and the human elements of industrial responsibility. Since a majority of management consultant-authors use new terms for marginally improvised concepts in order to gain attention in a relatively short-span of time; one such result is a use of the jargon "triple bottom-line reporting".

Not very old, but in good currency, is the concept of 'green company'. In March 2000, *Business Today* and the Tata Energy Research Institute (TERI) jointly conducted a study of environmental practices in corporate India, with two objectives: (1) to analyse the key trends and dominant environmental practices, in Indian companies, and (2) to identify the 10 'greenest' companies in terms of the maturity of their environmental systems and practices. Important aspects of 'planet and people', considered as the parameters of 'The Green Yardstick', included: existence of an environmental policy, organisation structure, target-setting, training for environment and safety, a system (internal) for awarding environmental performance, internal environmental reporting system, a system of environmental audit, disclosure of information: form and content, voluntary standards/codes adopted, awards obtained and transparency in responses (*Business Today*, May 6, 2001, pp.64-67). The 10 'greenest' companies identified were: Asea Brown Boveri, Bayer India, Clariant (India), Coromandel Fertilizers, Gujarat Ambuja Cements, ICI India, Indian Aluminium Company, Orchid Chemicals and Pharmaceuticals, Philips India, and Tata Iron and Steel Company, arranged in alphabetical order.

The book under review covers only two of the above-mentioned greenest, companies, namely, Tata Iron and Steel Company (TISCO) and Gujarat

Ambuja Cements. The case study of TISCO (Chapter 6, pp 73-84) presents the history, existing position, future prospects (all elementary) and six paragraphs on 'Tata Steels', Deep Commitment to Social Responsibility and Environment', based on a paper by Michael Smith. The case study does not categorically analyse and evaluate any thing of TBL. About two pages of its Annexure describes the position and prospects of 'Steel Industry in India', not even distantly addressing the TBL reporting. One is not able to figure it out as to the nature and scope of TBL of TISCO.

Three major factors encourage and force companies to become 'green' environmental regulations, consumer preference for eco-friendly companies, and inherent cost-advantage (savings in cost) by reducing wastes (toxic and other). All these factors primarily address to 'people' and 'planet' and put pressure on profits in the short and medium run. Under the existing eco-labeling programme in India, a license is granted for a product after it passes through comprehensive assessment criteria, right from its conception to its final disposal. Parameters for issuing such a license include: the source and type of material used, judicious use of natural resources, energy-saving production process, waste management, and products bio-degradability. During more than 20 years of the existence of eco-labelling programme, only 12 companies have been able to secure an eco-mark license from the Bureau of Indian Standards (BIS). The eco-mark is a voluntary scheme. Had it been compulsory, care for people would not have been such a largely neglected concern (Times of India, May 29, 2007, p.28). The present book does not include any example of any company having acted for 'care for people', in this way.

The book under review includes case studies on Tata Steels and Tata Power Company Ltd. and describes Tata Steel's commitment to social responsibility and environment (pp.76-77) in a cursory manner. If one expects an analytical and focused treatment of 'care for people' and 'care for planet', one will be grossly disappointed. In the case of Tata Power Co. Ltd., under the heading 'Tata Guidelines for Community Development (strategy), only a broad indication is available in the form of a statement made by its Executive Director (Corporate Affairs). The Annexure (pp 81-83) does not have anything related to triple-bottom-line reporting.

ITC has 'Commitment beyond the market' as its 'vision'. In addition to striving for shareholder's long-term value enhancement, it works for the augmentation of natural and social capital. The company has an unwavering commitment to triple bottom-line objective. And it has obtained the status of a 'water positive' and 'carbon positive organisation'. The company publishes 'Annual Sustainability Report', with independent reputed third-party verification. The 2006 Sustainability Report of ITC - the third in the series - is the first in India, claimed the Chairman of ITC, at the 96th Annual General Meeting, held on 27th July 2007 (*Times of India*, New Delhi, July 29, 2007, p. 9). This report is prepared in accordance with the latest G-3 Guidelines of the Global Reporting Initiative. The author has made a mention about this initiative (p. 90). An analysis and evaluation of such reports would have provided useful insights into a topic of great relevance. In fact, after reading the entire book, one knows nothing about the contents of such a report. It seems that the major parts of the cases on Tata Steels and Tata Power Company, ITC, DCM Shriram Consolidated Ltd., Wipro, and Reliance Industries are based on newspaper reports, Chairman's speeches, and write-ups in periodicals. The author has done merely the reporting; an analysis was needed.

Upto Chapter 3, the author writes about TBL reporting related to corporates. One gets perplexed by the otherwise useful, but out-of-sync contents of Chapter 4, captioned 'Triple Bottom Line for Sustainable Community in Australia'; Chapter 5, titled, 'Production of Bio-energy in India: Position and Prospects'; Chapter 12, captioned 'Chhatisgarh-An Emerging Big, Biofuel Development Centre of India', Chapter 14, captioned 'Habitat Destruction in North-Eastern States of India', Chapter 16. 'Inter-Government Panel on Climate Change'; and APPENDIX: 'A Note on the Position and Prospects of Renewable Energy in South Asia' (pp 261-286). These chapters do not relate to business corporate.

A two-page case study of Grundfos Pumps India Pvt. Ltd. (Chapter 8), suggesting by the title itself, that the company is fully TBL-compliant, mentions that the company scored 42 points out of the 69 possible points. There was, therefore, a large gap between what was achieved, and what should have been achieved to become a fully TBL-compliant company (pp. 93-94). Thus, the caption is not in conformity with the contents.

If we go by the claims made by the companies, the author provides no opportunity to the reader for being objectively evaluative, when the activities were undertaken because of regulatory provisions and force. The book under review includes case studies of nine companies in the private sector and two companies in the public sector. The subject of corporate governance has been addressed only in two case studies: BHEL (pp. 125–126 and Annexure 2 : pp. 133–142), and Reliance Industries Ltd. (pp. 256–257). If the focus of corporate governance was the transparency in managing enterprises and accountability of management people, then there is nothing of substance in the book for evaluating the performance of companies, except the broad statements, either from the Chairman's speeches or the Annual Reports. Some examples are:

(1) 'Sound corporate governance is an important component of our commitment to these values, and our philosophy on corporate governance begins with our Board of Directors' (BHEL: p. 126). Further,' BHEL believes that conducting business in a manner that complies with the corporate governance procedures and code of conduct exemplifies each of our core values (viz., Zeal to excel and zest for change; Respect for dignity and potential of individuals; Strict adherence to commitments; Ensuring speed of response; Fostering learning: Creativity and the team-work; Loyalty and pride in the company. p.134). Then, the compliance report includes the composition and category of directors, and the matters pertaining to the audit committee and the remuneration committee (pp.135-142).

(2) 'For implementing the corporate governance practices, Reliance has a well-defined policy framework, consisting of: Values and Commitments Policy; Code of Ethics, Business Policy, Policy for prohibition of Insider Trading, and a detailed programme of ethics management' (pp.256-258). No details of these policies are given anywhere in the book.

The topic, "Reporting of Corporate Social Responsibility Concerns", included in the book, does not provide any opportunity to assess the extent, impact and results of major or steps taken by the corporate. There is a severe lack of homogeneity of presentation including the lack of a defined direction. It appears to be only an assembly of the news of different depths and coverage.

An important aspect of TBL relates to the environment concerns of enterprises. Steps to control pollution and promote improvement in environment include water resource initiatives, like storage, rainwater harvesting (ITC), climate protection, greenhouse gas emission, air pollution and dust emissions, adoption of suitable technology, use of alternative raw materials (Ambuja Cements); financing only those projects which are environment-friendly promoting greenery in and around the primary schools adopted (Wipro); compliance to environment protection laws (Reliance Industries). Again, the book presents assertions only about the above-mentioned activities. The absence of systematic and sequential data for gauging the progress of implementation is notable.

In almost all the case studies, Customer Relationship Management (CSR) finds a passing reference. Sporadically undertaken activities are highlighted and the companies wished these to promote sustainable growth for them. This 'wish' is highlighted and exaggerated by the author. It was expected, but not found, anywhere in the book, analysis of some minimum common features of CSR and presence of a threshold level of these features to praise or appreciate a company for its TBL reporting.

In the case study of PNB (pp 157-179), a lot of data pertains to its operation as per government policies for which all nationalised banks were made responsible and accountable. For reporting for planet and people-related broadly to donations for welfare and relief activities and financing projects hardly one page was devoted.

The data on EVA (Economic-value Added) pertain to only one company, i.e., Hindustan Lever (pp. 10–11) and a summary of EVA of top 10 companies excerpted from *Business Today* (Table 1. 3, p. 12), including Hindustan Lever. The details of EVA of other nine companies listed in Table 1.3 on the pattern adopted for Hindustan Lever were needed for a better appreciation of the subject. The example on the calculation of weighted average cost of capital suffers from a gross error of calculation as well as concept, for example. 'The opportunity cost of retained earnings is the dividend foregone by the shareholders' (p. 16).

Despite the above-mentioned deficiencies, the author deserves credit for initiating a promising debate on triple-bottom-line reporting and its impact on corporate sustainability.

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Balram Dogra and Karminder Ghuman, *Rural Marketing: Concepts and Practices*, Tata McGraw-Hill Publishing Company Limited, New Delhi, 2008, Pages: 352, Paperback, Price: Not mentioned.

A book on rural marketing is a welcome addition to the scant literature available on the fast-changing context of the Indian rural market. The authors deserve congratulations on their bold endeavour and, all the more, for an exhaustive coverage. Divided into 28 short chapters, written in a simple language, the book begins with the basics – "Rural Marketing: A Conceptual Framework", followed by a backdrop on the Indian rural market, and presents a comparative analysis of the rural and the urban markets. It then builds on the theme through a treatment of the various elements of marketing-mix as well as the types of product/ market characteristics, and goes on to cover the contemporary aspects of modern marketing management, such as e-Rural Marketing, Organised Rural Retailing, and e-Governance for rural India.

Some interesting chapters of the book include the following: Chapter 6, on rural marketing research; Chapter 11 on rural market and brand management; 12 on rural retail channel management; 14 on marketing strategies for Indian rural market; 17 on rural marketing of financial services; and Chapters 18 to 21, covering marketing of agricultural inputs, produce and rural artisan products. While various rural market-mapping tools are covered in Chapter 25; the issues relating to Corporate Social Responsibility (CSR) in rural markets and IT for sustainable rural development form part of Chapter 27.

The authors must be complimented for a painstaking collation of various bits and pieces of data and examples and illustrations from numerous sources. Yet another useful part of the book is a large number of case studies, albeit with a shallow coverage and that too in a rushed manner. Prominent among these are: Hindustan Lever Ltd. (now Hindustan Unilever Ltd.), ITC, Coca-Cola, Pepsi, Nirma, Colgate, Amul, Dabur, and Chambal Fertilisers. Likewise, the chapter on Organised Rural Retailing, carries a write-up on ITC's 'Chaupal Sagar', Tata's 'Kisan Sansar', SSCL's 'Kisan Hariyali Bazar', Godrej's 'Adhaar and Manthan', Mahindra's 'Shubh Labh'; the coverage of CSR describes the activities of Amaron's 'Amaragaon', ITC's 'Sunehra Kal', HLL's 'Swasthya Chetna' Campaign, and Colgate's 'Jagruti'.

Rural markets need to be clearly understood before rural marketing is planned. The focus of the book on "concepts and practices" has, however, left much to be desired. While the former lacks clarity on such critical areas as consumer behaviour, segmentation and brand management, the latter lacks the purpose of detailing. While the book does succeed, to some extent, in describing the "what " of rural marketing to the existing and potential learners, it neither familiarises them with the "how" nor the "why" of the practices cited – so very essential for enabling them to sharpen their analytical skills and take home meaningful insights. Fewer chapters with a comprehensive coverage aimed at provoking the reader to think the "why" of a good or not-so-good practice, ably supplemented by case problems and exercises would have made the effort more useful.

Sound marketing requires the clarity of focus. After all, marketing to rural consumers is different from marketing of the rural produce and, hence, both require a separate, objective and much holistic treatment. A rural market is neither an escape nor a refuge for the non or slow-selling urban product marketer and not the least for exploiting the hapless rural consumers suffering from asymmetry of information. Effective rural marketing, in turn, requires a rural market-oriented mind-set as well as the permeation of the rural customer orientation in the entire enterprise.

Based on the best practices of rural marketing, the concluding chapter, focusing on how to create the right mind-set to deal with the emerging challenges of rural marketing in India, would go a long way in not only making the book more useful for students but also in enabling the rural marketers to successfully exploit the vast untapped potential with a sustainable customer satisfaction.

It is hoped that the revised edition of the book will see a more orderly sequencing of the chapters as well as a better coverage of the topics.

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Stephen P. Robbins, Timothy A. Judge, and Seema Sanghi, *Organisational Behaviour,* 12th ed. (New Delhi: Pearson Education), Pages: 829, Paperback, Price: Rs 435.

In today's increasingly competitive and demanding workplace, a manager can hardly succeed with his technical skills alone; he must possess good inter-personal skills as well. For this, he should have adequate knowledge of Organisational Behaviour (OB). An organisation is a consciously co-ordinated social unit, composed of two or more persons, which functions on a relatively continuous basis to achieve some common goals. Behaviour is defined as the reaction towards stimulus. *OB* is an applied behavioural science concerned with human behaviour in organisations. Thus, *OB* is concerned with the study of how people behave in an organisation and is regarded as a special field of study that covers various aspects of human behaviour in the organisation. OB offers both challenges and opportunities for managers. It offers specific insight to improve a manager's 'people' skills, which are essential for managerial effectiveness.

Organisational Behaviour studies three major determinants of behaviour in an organisation: individuals, groups and structure. *OB* includes the core topics of motivation, learning, attitude, perception, interpersonal communication leader behaviour and power, group structure and processes, change management, conflict, work design and work stress. It focuses on how to improve productivity, increase job satisfaction, reduce absenteeism and employee turnover.

Organisational Behaviour, by Stephen P. Robbins, Timothy A. Judge and Seema Sanghi, is a highly-acclaimed text book, containing the topics related to management practices and human performance at workplace.

This Indian adaptation of the classic book on OB has a good blend of examples from Western and Indian organisations. It concentrates on the functioning of Indian organisations as well as multinational corporations operating in India and other Asian countries. This edition is reader-friendly as the topics are quite clear and understandable. Moreover, it provides a comprehensive teaching material including team exercises, ethical dilemma exercises and case applications, which will be helpful for making teaching sessions more interactive.

For the convenience of students, most of the concepts are explained with the help of real-world examples of profit as well as non-profit, large as well as small, and local as well as international, business organisations.

The book, comprising nineteen chapters, shall be helpful to students in understanding the concept of OB. Chapter 1 introduces the nature and importance of organisational behaviour and the advantages of OB to managers by giving them an understanding of how to empower their employees, design and implement change programmes, improve customer service and help employees balance their work-life conflicts. A new discussion on deviant workplace behaviour has also been incorporated. This chapter helps students to cope with temporariness and to learn ways to stimulate innovation.

Individual variables including biographical characteristics, ability and learning are discussed in Chapter 2, which will enable the students to understand the behaviour of employees in an organisation.

In Chapter 3, the authors examine the employees' attitude and how it impacts their performance and job satisfaction.

Chapter 4 focuses on personality and values of an individual. It explains the relationship of personality with behaviour. It introduces the Big Five Model of personality. Here, the authors explain a link between individuals' personality and values at the workplace. The Rokeach Value Survey has been incorporated to assess potential employees and determine if their values align with the dominant organisational values.

Perception and individual decision-making process are described in Chapter 5. It explains how two persons can observe the same thing and interpret it differently due to the differences in their perception. The chapter explains the significant difference between what is seen and what really exists. It suggests that managers must spend time to understand how each individual interprets reality. This chapter elaborates how to make decision in an organisation and what managers can do to improve their decision making.

Chapters 6 and 7 discuss motivation concepts and applications of these concepts in *OB*. These chapters review the basics of motivation, assess important motivation theories, provide an integrative model that shows how the best of these theories fit together and offer some guidelines for designing effective motivation programmes. As compared to previous edition, in this chapter ERG theory of motivation has been abridged and moved under Maslow's theory and there is also an expansion of the Goal-Setting theory.

In Chapter 8, titled 'Emotions and Moods', the authors explain the emotional elements of individuals to assess their behaviour. This is the most important change in this edition as a full chapter has been devoted to emotions. The chapter suggests that one cannot divorce emotions from workplace because it is impossible to remove emotions from the people. Emotions and moods can also enhance performance. The manager who understands the role of emotions will significantly improve his abilities to explain and predict individual behaviour. This chapter also describes benefits of Emotional Intelligence for organisations.

In Chapter 9, titled 'Foundations of Group Behaviour', types of groups and their importance and functioning and group development have been explained. It also explores the norms, status and social loafing, and their effect on group performance. It highlights the strengths and weaknesses of group decision making.

Chapter 10 explains that teams are increasingly becoming the primary means for organising work in contemporary business firms. It also shows the difference between groups and teams.

In Chapter 11, the author reviews the common theme regarding the relationship between communication and employee satisfaction i.e., the less the uncertainty, the greater the satisfaction. This chapter also suggests that communication plays a significant role in determining the level of employee motivation.

Chapters 12 and 13 discuss the concept of leadership in an organisation. These chapters explain different traits of a leader and major theories of leadership. Authors suggest that organisations are increasingly searching for managers with transformational leadership qualities. They want leaders with vision and charisma to achieve the organisation's objectives.

In Chapter 14, the authors suggest that power is a natural process in any group or organisation. This chapter draws attention on political nature of organisations. It says that an effective manager accepts the political nature of organisations. By assessing behaviour in a political framework, one can better predict the actions of others and use this information to formulate political strategies that will be advantageous for the work unit.

Chapter 15 deals with the concept of conflict and negotiation. In this Chapter, negative and positive conflicts are discussed and the reasons for developing conflicts in an organisation have been explained.

Chapter 16, titled 'Foundation of Organisation Structure', explains the key components that make up an organisation and how different organisation structures affect employees' behaviour and can shape their attitude.

In Chapter 17, titled 'Organisational Culture', explains how the organisational culture influences the attitudes and behaviour of the employees. It discusses the important implications of organisational culture which relate to selection decisions of employees. Furthermore, the appraisal of an individual's performance includes how well the person fits into an organisation.

In Chapter 18, titled 'Human Resources Policies and Practices', the authors emphasise that Human Resource (HR) policies and practices in the areas of employee selection, training and performance appraisal influence the effectiveness of an organisation. It explains that HR policies and practices represent important forces for shaping employee behaviour and attitude. It also includes the performance appraisal system in India.

Chapter 19, titled 'Organisational Change and Stress Management', deals with the environmental forces that are required by managers to implement comprehensive change programmes. It suggests that managers are primary change agents in most of the organisations. It also considers why people in the organisations often resist change and how this resistance can be overcome. In addition techniques for managing organisational change and contemporary change issues for today's managers have been interpreted. Further, this chapter elaborates the sources and consequences of stress and suggests individuals and organisational approaches to manage the stress level of employees.

Some contemporary issues, such as globalisation and diversity, networked organisation, gender differences in decision-making, revised model of communication process, modern leadership, restructuring Indian organisation–challenges and responses and the rise and fall of forced rankings are discussed in the book.

In Chapters 1, 3, 4, 8 and 17, topics, like, why OB should be concerned with the customer, the relationship between job satisfaction and customer satisfaction, the role of displayed emotion in friendly and helpful service, how employee attitude and behaviour shape an organisation customer culture, and what management can do to make organisation more customer-oriented, have been explained.

"Myth or science?" boxes give an insight to the readers that the common sense leads to understand the behaviour of an individual and the research provides the evidence to test the common sense notions. This practice leads to understanding and explaining the human behaviour at work.

As this edition focuses more on the Indian scenario, the case studies and '*OB* in the News' section contains companies operating in India, such as 'Narayana Murthy and Infosys' (Chapter 13), 'Sukhdev at Jindal Pumps' (Chapter14) and a 'A Virtual Team at Nanawati Associates' (Chapter 10). 'OB in news' section contains the brief of 'Infosys faces sexual harassment lawsuit', 'what happens to family values of Indian family businesses', 'Deal ends Reliance Brothers' feud', and Ownership vs Management'. Foundations of Organisation Structure explains the restructuring of Indian organisations-challenges and responses. An overview of HR practices in call centres and HR outsourcing in India has been given in Human Resource Policies and Practices.

A SAL CDROM Package has been included in this edition. Students will be benefited from this by taking a self-assessment test right after they've learned a concept. SAL assesses students' knowledge, beliefs, feelings, and actions in regard to a wide range of personal skills, abilities, and interests, and helps students translate theory into practice.

Surprisingly, This new edition has certain drawbacks as compared to the earlier editions. The material on technology and work design and the movement of the material on job design have been eliminated from the chapter on Motivation. In addition, the historical evolution of OB which is the foundation of the study of OB has not been discussed.

In sum the book is an interesting, student-friendly, and a readable text, full of fascinating examples that makes OB a real life experience. It is acceptable as timely and comprehensive. The students shall find it logical and straight- forward.

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Ganesh Natarajan and Uma Ganesh, *Unleashing the Knowledge Force: Harnessing Knowledge for Building Global Companies*, Tata McGraw-Hill Publishing Company Limited, New Delhi, 2007, Pages: 171, Hardbound, Price: Rs. 395.

Today, Knowledge Management (KM) is seen as an important capability in an organisation's arsenal to win a competitive battle in an increasingly difficult business environment. KM is one of the major interventions in most of the engineering industries during recent years. KM, which is an integrated systematic approach for identifying, managing, and sharing all the information assets of the organisation, including databases, documents, policies and procedures as well as the individual information management, seems to be a procedural task. However, in reality, it requires highly skilled and technical persons as it deals with the internal and confidential information of the company. On this important subject, very few books are available, since it is still a subject matter of research.

The book under review, titled, "*Unleashing the Knowledge Force: Harnessing Knowledge for Building Global Companies*", by Ganesh Natrajan and Uma Ganesh, gives a systematic approach to explain the concept and role of KM in the management of any business. This book is an attempt to describe, in detail, the knowledge force, and its role in shaping the business. It develops a new model, Knowledge Management Maturity (KMM) Model to explain the different stages of knowledge maturity in keeping with the phases of business growth.

The book is divided into eight chapters. Evolution of KM, role of knowledge force, and its success are taken in the opening chapters of the book. Thereafter, nature and scope of KM, Indian software industry, and export industry are nicely placed. These are followed by knowledge stages, factors, and their application, which are supported with the help of a case study and certain models. Every chapter includes bibliographic references at the end, which reflects that this is a well researched book.

In Chapter 1 the context and the background of the knowledge industry has been introduced. Evolution, definitions, roles of KM and the KMM model are focussed in this chapter. The author has succeeded in giving the opening thought on KM to the reader by this chapter. But the chapter fails to give the interactive thought as it lacks the examples and cases.

Chapter 2, titled, "The Journey of Start-up IT Firms", focuses on understanding IT entrepreneurship and various enabling and inhibiting forces for the success of the venture. The chapter deals with the distinguishing entrepreneurship for small business, motivation for entrepreneurship, and Indian IT entrepreneurship and the road to success. This chapter could have been made lucid by introducing some real-world case studies.

The role of knowledge force is the central theme of Chapter 3. Hence, the author explores the impact of knowledge forces on business growth and strategy. The four building blocks of knowledge force, i.e., entrepreneurial energy, employee capability, industry-orientation, and customer-orientation are highlighted but the in-depth discussion on the topic is badly lacking.

Knowledge force in the new entrepreneurial ventures is depicted through a models in Chapter 4. In this chapter, knowledge forces at different stages of the firm are discussed in sufficient detail, with supporting tables and graphs. Pictorial interpretations of different measures of various models are both methodological and scientific. The author has comprehensively compared different models on different parameters for deriving an understanding of knowledge forces.

Chapter 5 elaborates the status and challenges of companies that have moved beyond the entrepreneurial stage to attain a high level business maturity in the industry. Market focused and adaptive knowledge forces and dynamic nature of knowledge force have been discussed at length through figures, which are self-explanatory.

Chapter 6 deals with the software industry in India and Indian software export industry. This chapter highlights the progression of the Indian IT industry and the scope for the KMM model. This chapter contains two case studies, which are in conformity with the main objective of the chapter.

Chapter 7 explains the concept of knowledge management maturity the stages that organisations are expected to go through in their journey to maturity, and the key factors that influence the progress through the stages. The chapter is very well-written, particularly in explaining the stage-wise transition, the knowledge of factors, and dynamics. The case study of Zensar Technology is well presented. The author has excelled in the case analysis and identification of sub-factors. The relevance of the KMM Model in the software industry is also discussed at length.

In the concluding chapter, the author has highlighted the pre-requisites for organisations to benefit from the knowledge force. He has drawn a conclusion on maximizing the knowledge force and accelerating KMM. At last, he has extended the knowledge force and KMM for other service industries.

Thus, *Unleashing the Knowledge Force: Harnessing Knowledge for Building Global Companies* excellently interlaces the concept of Knowledge Force and its impact on global business. The tabular and pictorial explanations of the topics make it interesting. Though, the book has been written on the basis of research, it misses the lucidity and the flow of language. The book is more useful for the researchers and the academician working in the field of knowledge management. The book does not fulfil the requirement of the students as it has less number of case studies and illustrations. Even in explaining the concepts, the author has missed to make it more lucid. It seems the author has aimed only at the academicians and the researchers, in which he has succeeded. In sum, this book is an admirable effort in explaining and elaborating a new concept of knowledge management.

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Jagdish N. Sheth, *Chindia Rising: How China and India will Benefit Your Business* (New Delhi: Tata McGraw-Hill Publishing Company Ltd., 2008), Pages: 207, Hardbound, Price: Rs. 495.

The re-emergence of two great nations ? India and China-with rich civilisation and glorious past in just one generation's time from the depths of oblivion, starvation, destitution, and victimisation of the 'Colonial Raj' in one hand, and the bloody tyranny on the other is a magical feat which should be saluted by all.

A spectacular growth of the two rising stars on the world horizon is aptly called 'Chindia'. The innovatively-coined word conveys the impact of the dual forces joining together, which can change the future of the mankind in every way. Never before in the recorded history have so many people, been in a position to rise so quickly (Gurcharan Das).

This amazing moment - the global shifting on its axis from the West to the East is elaborately captured in the insightful book, *Chindia Rising*, written by a world-renowned economist. The writer shows how the global forces will be affected and influenced by this tectonic shift. A foreseen future of expanding opportunities, exciting innovations, enormous markets, alternative resources, and new geo-political alliances is very much a reality now.

'Chindia' will contribute to the global growth, through revitalising and investing in the Western assets, merging and acquiring overseas companies, targeting both the low-end and the high-end markets. The success stories of Tata Tea, Tata Steel, Mittal Steel, Jindal Steel, Essar, Infosys, Lenova, and Haier, show a global mindset. They will dominate their own domestic markets but will also be head-to-head against the world's best and the biggest. Chindian corporations will enhance productivity, not through people but through process and high efficiency, rather than the increased cost. It is the double whammy; financial resources enhance that access to both human and natural resources. The ascent of Chindia is investment-driven and not export-driven, like that of Japan and Korea.

The world needs Chindia more than it needs the world. The growing pace and sophistication of its domestic economy has made the outside world less important to China now, than what it was during the early years of the export boom. It will not take even fifty years to replace the American dollar by the new Chindia currency as the most powerful currency across the world. Transformations which occur as a result of the Chindia rise will be fascinating, far-reaching, and ultimately positive.

Chindia has entrepreneurial DNA, but until recently, their mercantile spirit had been driven overseas. The huge population serves as comparative advantage with entrepreneurial success increasingly enshrined as a respectable and rewarding goal. Vast resources of brains and talent will be redirected. Turtles are coming back home bringing with them the technological know-how and marketing expertise.

But for all the rapid growth in every field, Chindia needs oil, natural gas, iron ore, coal, and other raw materials to sustain its huge domestic market. For this, Chindia is to seek the strategic engagement with other developing countries and empowering them in return. It is the old 'stomach and wallet' phenomenon. The Government's ideology is less important than the basic needs of the people. So, the new alliances are forged every month for corporations and joint ventures.

The enormous democratisation of wealth created aspirations where none existed before. A vast gap between the haves and have-nots got to be filled. The cell phone revolution is one such example and moves have to follow in recent years. Scarcity and need creates new vistas and opportunity and drive-out-of-the-box solutions.

It is to be ensured that the ecological balance is not disturbed and environmental health, along with economic growth, should be our primary duty. For this, we have to be smart consumers, smart producers and smart protectors of our natural resources, and find new ways to conserve our energy. We have to clean our rivers, our political system, and our corrupt bureaucracies. We have to uplift our educational infrastructure and basic education system. If we want the peace and prosperity in the sub-continent and the world, we have to practice and carry forward the principles of *"Ahimsa, Anupana and Anugrah"*. Unbridled capitalism will not serve the purpose. Only Chindia has this stupendous growth in the right direction enlightened capitalism – where wealth creation and wealth distribution take place at the same time – can alleviate the problems of poverty and illiteracy.

Wealth confers power, and power, if used constructively, can bring about a great change in the social structure and benefit the man placed at the lowest rung of the society.

The future of Chindia is like a beacon of hope for other developing countries. Only time will tell whether we swim across or sink down, but, of course, the chances are very bright that we will come out winners, surmounting all the obstacles in the way.

The book is an emerging chronicle of enormous growth and rising of two sleeping giants- China and India from the deep slumber of hundreds of years.

One finds oneself staring at the most blistering statistics. The author has so brilliantly woven the facts of economies and trade in such an interesting tapestry that even a layman can grasp and appreciate it, which is a great achievement for any writer.

Though the book has covered almost all the major components of these two booming markets and their incredible potential, it fails to capture the socio-political scenario of the two large countries. The communist government at the helm of affairs and the rising expectations of the middle class- which form the backbone of this whole movement- throw a big challenge for future. China's political institutions are not world-class yet. On the other hand, India is a vibrant democracy but there are so many different centres of power that the bigger issues take the back-seat and petty ones take the centre-stage. The nation has to rise above the ideological rhetoric and move ahead with a global mind-set.

Barring these minor flaws, *Chindia Rising* is a powerful treatise on the upward mobility of the two great economies and its impact on the changing global equations.

It is a must read not only for economists, policy-makers and entrepreneurs, but also for every citizen who loves to look into the future of our beloved world.

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