NICE Journal of Business

ISSN : 0973-449X

Shobhit University

Shobhit Institute of Engineering & Technology, Meerut

A University declared by GoI u/s 3 of UGC Act 1956

Volume 3, Numbers 1 & 2

2008

Listed in Cabell's Directory, USA

RESEARCH PAPERS

COMMUNICATION

BOOK REVIEWS

HALF-YEARLY JOURNAL OF SHOBHIT UNIVERSITY, MEERUT (INDIA)

NICE Journal of Business

(Half-yearly Journal of School of Business Studies, Shobhit University, Meerut)

ISSN: 0973-449X

All correspondence pertaining to editorial and circulation matters may be addressed to:

The Editor, *NICE Journal of Business*
School of Business Studies, Shobhit University, Modipuram, Meerut-250 110
Phone 0121-257 5091/92; Fax 0121-257 5724
(Dialing code: from Delhi 95-121, from outside India: +91-121)
e-mail: *editornjb@gmail.com,* & *verma.dps@gmail.com*

CONTENTS

SHOBHIT UNIVERSITY, MEERUT

Shobhit University, declared by the Government of India, under Section 3 of the University Grants Commission Act, 1956, envisaged and inspired by Babu Vijendra Kumar *ji*, who was an eminent agriculturist and social worker from Gangoh (Saharanpur), U.P. 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 special focus on the 21st century professional requirement.

School of Business Studies

School of Business Studies (SBS) is an integral part of the Shobhit University, Meerut Campus. It inherited the academic legacy of NICE Management College (established in 1995) and has got 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.

The SBS offers MBA, with numerous specialisations, like marketing, finance, human resource management, operations management, supply-chain and retail management, insurance and risk management, etc. It also offers a Ph.D. programme in 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 the recent developments in the relevant fields, by way of research articles, 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 field.

The journal is listed in Cabell's Directory, USA.

From the Editor's Desk

It is a great privilege for me to place before you the present issue of *NICE Journal of Business*.

This issue of the journal contains research papers, short articles, a bibliography and book reviews on topics of current interest in business and allied areas. The research papers and short articles pertain to varied business areas: *Finance* (stock return and volatility spillover between Indian and the US stock markets, working of Indian stock market), *Marketing* (impact of market-orientation on service quality in banking, service quality in telecom industry), *Human Resource Management and Organisation Behaviour* (appropriate HRM practices for small and medium enterprises, relationship of job performance and occupational stress, influence of job satisfaction on organisational commitment, managerial leadership), *International Business* (MIS for foreign exchange exposure), and *Macro-economic Environment and Rural Economy* (interlinkages of marketing and economy).

In his paper, Dr. K.N. Badhani explores the linkages between the Indian and the US stock markets, in line with the 'de-coupling' hypothesis, using the VAR-BEKK-GARCH technique. The results show that there is a substantive stock return and volatility spillover from the US to the Indian market and the bond between these two markets has become stronger during the recent years.

In a competitive environment, business firms have to pay adequate attention to their customers, and orient themselves to the market. Dr. Alka Sharma and Mr. Anil Gupta seek to ascertain the extent to which the State Bank of India, the largest public-sector bank in the country, has adopted market-orientation. They examine this important phenomenon on the basis of intelligence generation and dissemination and responsiveness. They also assess the service quality of the bank and the impact of market-orientation on customer perception of the premier bank's service quality. They make interesting findings on a topic of common interest.

Most of the studies for developing HRM practices have focused on large and multinational corporations. Very little research work has been done on developing HRM practices for small and medium enterprises (SMEs), particularly in the context of the developing African economies. Two scholars from the University of Botswana (Africa), Henry Ongori and J.P.W. Shunda, seeks to develop appropriate HRM practices for SMEs in Africa. Their findings are likely to benefit the managers and owners of SMEs in developing economies, on the critical dimensions of HRM.

Indian firms have often been sceptical in venturing out to the exciting and often mysterious world of global derivatives. Dr. Nidhi Jain seeks to help business managers in India to make informed decisions through new technologies. She proposes an MIS system for foreign exchange exposure management in Indian firms. The findings based on a survey of selected business firms, would be helpful to managers gain an understanding of the marketplace. The survey has revealed that Indian companies consider the transaction exposure more important than the translation exposure; the economic exposure ranked third in their priority.

Occupational stress often adversely affects an employee's performance on the job. Dr. Nirmala Chaudhary examines the relationship of job performance and occupational stress of bank managers in the State of Haryana. She identifies the major predictors of occupational stress, which have a negative and significant correlation with the job performance of bank managers, who are in for interesting tips based on a survey in an interesting area of their work-life.

The years 2007 and 2008 presented a unique period as regards the performance of the Indian stock market and as compared to other major world markets. During this period, the Indian market rose steadily to reach historic heights. Thereafter, it fell abruptly towards the end of 2008, owing to the global fallout of the US mortgage crisis. In her article, Dr. Harvinder Kaur presents a snapshot of the Indian stock market performance during the period and compares it with that of the overseas markets. A number of parameters used to capture the market performance include the daily returns, volatility of daily returns, market capitalisation, FII fund flows, and F&O, and mutual fund activity.

Due to unprecedented expansion of telecom services in the urban as well as the rural population, the telecom service has attracted the attention of almost everyone. A survey-based study, by Mr. Prakash Tiwari and Mr. Hemraj Verma, seeks to identify the major factors affecting the telecom service quality of six major mobile service-providers, operating in Dehradun, the capital city of Uttarakhand. They have sought to measure the service quality on the basis of the factors identified as significant.

Marketing is said to be concerned with creating and delivering the standard of living to the society. It affects almost every area of our life. Indrani Majumder seeks to explore whether the marketing activities of business organisations has really empowered the rural Indians. She uses voluminous demographic, economic, and marketing data for her analysis.

In the section on book reviews, we have five book reviews written by experts in the relevant fields. The books reviewed pertain to subjects as diverse as innovation, business statistics, financial planning, effective communication tools, and human resource management.

The subject of redress of consumer grievances by companies and regulatory bodies has received keen attention from scholars, legal practitioners, and consumer activists, the world over, especially in the US and the UK. Deepa Sharma's comprehensive bibliography on the subject includes standard text and reference books, selected Ph.D theses, research articles, and major pieces of current legislation in India.

I express my gratitude to eminent authors of research articles, scholarly biography and book reviewers for their valuable contribution to the journal. Moreover, several experts rendered assistance, and made available their expertise in assessing the articles and making critical comments and suggestions for improving their quality. I owe a word of gratitude to each one of them.

Mr. Shobhit Kumar, Chancellor; Kunwar Shekhar Vijendra, Pro-Chancellor; and Professor Anoop Swarup, 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

RETURN AND VOLATILITY SPILLOVER BETWEEN INDIAN AND THE US MARKETS

K. N. Badhani*

Abstract

This paper seeks to explore the interaction between the Indian and the US stock markets, from January 2000 to December 2007. While the S&P CNX Nifty index represents the stock prices in India, the stock prices in the US are represented by the NYSE Composite index. There is no long-run co-integration between the levels of stock prices in these two markets. However, in the short-run, there is a substantial spillover effect of the price movements in the US market on stock returns and volatility in India. Contrary to the much-acclaimed de-coupling hypothesis, the evidence suggests that the bonds between the Indian and the US stock markets have become stronger during recent years.

Key Words: ***Integration, De-coupling, Co-integration, VAR, Multivariate-GARCH.***
JEL Classification: C32, F15, G15

INTRODUCTION

FOR the past 100 years, the rate of growth of output in the developing countries has depended on the rate of growth of output in the developed countries. When the developed countries grow fast, the developing ones also grow fast and when the developed slow down, the developing ones also slow down. These linkages are equally strong in the financial sector, as the stock markets in developing countries sink or swim with the stock markets in the developed countries. The United States of America's (US) economy has emerged so far as an unchallenged leader of the world economy since World War II. It is by far the largest economy of the world in term of the GDP; the largest importer and exporter, and the largest financial market of the world, in terms of stock market capitalisation (US market capitalisation is about 45 per cent of the world's total market capitalisation). The US financial market has been leading the ups and downs of the world's financial markets. The ties among the financial markets the world over became stronger after liberalisation of most of the emerging markets over last two decades. This process further strengthened the leading role of the US economy as being the biggest source of investment flow and the biggest trader of the world. The strong influence of the US economy on the world economy is often summed up by the saying: "If the US sneezes, the rest of the world catches a cold!"

However, during the last few months of 2007, it appeared that the US economy was about to

* Dr. K.N. Badhani is an Associate Professor in the Institute of Rural Management, Anand (Gujarat); e-mail: *badhanikn@yahoo.co.in*

lose its leadership role. The US economy started to slowdown in the middle of 2006, but the emerging financial markets were able to remain amazingly immune till as late as November 2007. The turmoil in the US credit market began as far back as February 2007; but stocks in developing countries were remarkably resilient and kept powering ahead. This situation led the economists to proffer the hypothesis that the emerging markets, under the leadership of China and India, are de-coupling from the US and other developed economies and have entered the stage of self-sustained growth (see, for example, IMF, 2007, and Akin and Kose, 2007, for discussions on the de-coupling hypothesis). The decoupling is most likely the reality of the future; but from the post-September 2007 developments it has now become clear that the hypothesis of financial decoupling was premature and perhaps misplaced (although there may be some strength behind the hypothesis of the real-sector de-coupling). The correlation between the Indian and the US equity markets has been at the historically high level during the first quarter of 2008.

This study investigates the return and volatility linkage between the US and the Indian stock markets during the period of eight years from January 2000 to December 2007, in the light of the de-coupling hypothesis. The results show no sign of de-coupling. On the contrary, during the last two years, the level of correlation between the daily movements in stock prices in the two countries had substantially increased.

REVIEW OF LITERATURE

The growing international integration of financial markets has prompted a vast amount of empirical research to examine the mechanism through which stock market movements are transmitted around the world. The studies have sought to evaluate how stock returns in one national stock market influenced the return in those of another stock market and their implications for pricing of securities, management of portfolios, hedging and other trading strategies, and for regulatory policies which aimed at curbing the contagion. The earliest studies on the international stock market linkage have focused on the identification of short-term benefits of international portfolio diversification. For example, Ripley (1973), Solnik (1974), and Hilliard (1979) examined the short-run correlation of stock returns across national markets and discovered the existence of substantial possibilities to diversify internationally, taking benefit of low correlation among national stock markets. However, during the 1980s, strong financial linkages among the countries started evolving, particularly due to the financial liberalisation, adopted by most of the developing countries.

The strong integration of national capital markets came into realisation from the contagion of financial crisis during the last two decades, specifically during the US market crisis of 1987 (see, for example, Eun and Shim, 1989; Hamao, Masulis and Ng, 1990, and King, Sentana and Wadhwani, 1994, Lee and Kim, 1994), the Asian economic crisis of 1997-98 (see, for example, Sheng and Tu, 2000 and Kim, 2005) and, recently, the US sub-prime crisis of 2007. The integration of national financial markets has reduced the benefits of international diversification. For a discussion on this aspect, see Ozun, Turk and Centkin, 2007. Some researchers (for example, Griffin and Karolyi, 1998; Cavaglia, Brightman and Aked, 2000; Brooks and Negro, 2002 and Yang, Tapon and Sun, 2006) claim to the extent that the cross-industry diversification has come to dominate the cross-country diversification.

The bourgeoning literature on the integration of international financial markets is too wide to survey here. A comprehensive survey of literature on this issue may be found in Kearney and Lucey, (2004). The studies have covered various issues, including the magnitude of spillover of the shocks from one market to another, trends in the spillover effect and its determinants, impact of spillover and its implication for expected return, and risk management of asset-portfolios.

The studies on market integration are based on different methodological frameworks. The first category of the empirical studies have investigated the impact of increasing market integration in the context of Capital Assets Pricing Model (CAPM) and factor models (see, for example, Errunza and Losq, 1985; Bekaert and Harvey, 2000; Henry, 2005; and Bekaert, Hodrick and Zhang, 2007).

The second category of the studies have used the cointegration analysis to examine the lon g-run relationship among markets (e.g., Taylor and Tonks, 1989; Kasa, 1992; Masih and Masih, 2001; and Ewing, Payne, and Sowell, 2001). On the other hand, the third category of the studies have emphasised on the examination of short-run interactions among the markets using the techniques, like vector autoregression (VAR) and univariate and multivariate GARCH models, for the analysis (see, for example, Hamao, Masulis, and Ng, 1990; Karyoli, 1995; and Koutmos and Booth, 1995, Worthington and Higgs, 2004, particularly for the application of multivariate GARCH analysis).

Researchers have investigated the interaction among developed markets and among countries belonging to particular economic block or geographical proximity (such as NAFTA, European Block and Pacific Rim). More recently, particularly with financial liberalisation of emerging markets, the impact of the spillover effect from developed markets to emerging markets has received prominent research interest (see, for example, Bekaert and Harvey, 2000; and Kim and Singal, 2000). The influence of the US economy and stock market on global markets is pervasive and well-documented. Among the earlier studies on this aspect, Hamao, Masulis and Ng (1990) found that there was a significant spillover effect from the US and the UK stock markets to the Japanese market, but not vice versa; whereas Lin, Engle and Ito (1994) reported bi-directional causality between the US and the Japanese markets. Park and Fatemi (19 93) studied the influence of the US stock market on several stock markets the world over. They found that the Australian market was the most sensitive to the shocks in the US market followed by the stock markets of Singapore, Hong Kong, and Netherlands. Some more recent studies have also documented the leading role of the US market in the world financial market (see, for example, Jankiramana and Lamba, 1998; Hasiao, Hasiao, and Yamashita, 2003; Kim, 2005; and Canarella, Sapra, and Pollard, 2007).

Although there is a vast amount of literature available on the spillover of information across the markets, the studies focusing on external linkage of the Indian equity market are rare. Kumar and Mukhopadyay (2002) used Granger causality test and univariate GARCH model to study the return and volatility linkage between the Indian and the US markets. They found a significant return and volatility spillover from the US to India. Similarly, Nair and Ramana than (2003) also reported the unidirectional spillover of returns from the US to the Indian market. Nath and Verma (2003) examined the long-run equilibrium relationship among three major stock markets of South Asia, viz., India, Singapore, and Taiwan, and found no cointegration between the stock market indices representing these ma rkets.

Lamba (2004) analysed the dynamic relationship between the South Asian markets of India, Pakistan, and Sri Lanka, and the major developed markets, during the period July 1997 to February 2003. He found that the Indian market was influenced by the large developed equity markets, including the US, the UK and Japan, and that this influence had strengthened during the more recent period of January 2000 to February 2003.

Choudhry (2004) studied, inter alia, the interlinks of the Indian stock market with the US and the Pakistani stock markets. He found two-way linkages between the Indian and the Pakistani markets, and a one-way influence of the US market on these two markets. Wong, Agarwal and Du (2005) reported the fractional integration of the Indian stock market with developed markets of the US, the UK, and Japan, with innovations in the developed markets significantly influencing the Indian market, but not vice versa. Similarly, Chen and Lobo (2006) reported a fractional integration among the Indian, US and Chinese markets. Their study revealed that the US stock market plays a dominant role in the relations with the other two markets, whereas there was an interactive relationship between the Indian and the Chinese markets.

Mukherjee and Mishra (2007) studied the relationship of the Indian stock market with a sample of twenty-two national stock markets, including the US, using vector autoregression and cointegration frameworks, assuming time invariant variance-covariance matrix. They used Geweke-statistics to analyse the contemporaneous relationship and feedback. Their result shows that the contemporaneous relationship among the markets is strengthening with time, which signifies increasing market efficiency in the international scenario.

MOTIVATION AND OBJECTIVES

The present study was primarily motivated by the on-going debate on the decoupling hypothesis. The period of the study pertains to the period when the hypothesis of decoupling was being aired (2006-2007). This period was not covered in the earlier studies referred to above. On the contrary to what was expected, we found an increased level of interaction between the Indian and the US markets, during this period. Methodologically, this study differs from the earlier studies focusing on the Indian stock market in the sense that it explores the possibility of volatility spillover by including a time-varying volatility specification in the BEKK-multivariate GARCH framework. The study, in particular, seeks to answer the following questions:

1. Is there a long-run cointegration between the Indian and the US market?
2. Is there a short-run interaction between the returns in these two markets? If yes, what is the direction of the return spillover?
3. Is there any structural change in the nature of interaction of the return-spillover during recent years? If yes, what is the direction of this change? Whether this change is consistent with the hypothesis of decoupling?
4. Is there a volatility spillover between these two markets? If yes, what is the direction of this spillover?

DATA AND METHODOLOGY

This study covers a sample period of eight years, from January 2000 to December 2007. The stock prices in India are represented by the daily closing value of the S&P CNX Nifty Index. Similarly, the daily closing values of NYSE Composite Index represents the US stock prices. If there had been no trading on a particular day

Table 1

A - Descriptive Statistics

Particulars	*Ret-NYSE*	*Ret-NSE*
Mean	1.88×10-4	6.95×10-4
Standard Deviation	0.0101	0.0159
Skewness	-0.0643	-1.2112
Kurtosis	5.0755	13.8532
J-B Statistic	349.92**	10006.10**
B-P, Q Statistic(15)		
For Returns	28.03**	46.42**
For Sqr. Returns	1036.30**	155.69**

B - Unit Root Tests

Variable	*ADF Test*		*PP Test*	
	with intercept	*without intercept*	*with intercept*	*without intercept*
Log-NYSE	0.30	1.76	0.98	5.67
Log-NSE	1.37	2.00	1.79	5.15
Ret-NYSE	8.17**	8.99**	1772.48**	1755.54**
Ret-NSE	8.02**	8.41**	1807.51**	1743.33**

C - Johansen's Cointegration Test

(Between LogNYSE and LogNSE)

λmax Test		*LR (Trace) Test*	
H0 (r=)	*λmax*	*H0 (r=)*	*Trace*
0	8.3	1	5.0
1	5.0	0	13.4

** $p<0.01$
* $p<0.05$

in either of the markets, that day was excluded from the sample. Thus, the matching observations for both the indices constituted the sample for the study. All the figures were log-transformed and differentiated to obtain the index returns.

Descriptive Statistics

The descriptive statistics of the returns on both the indices (Ret-NSE and Ret-NYSE) are shown in Table 1, Panel A. The average NSE Nifty returns (Ret-NSE) are higher than the average returns on the NYSE composite index (Ret-NYSE). The NSE returns (Ret-NSE) are also highly skewed to the left-side and are fat-tailed. This shows that the frequency of large negative returns is higher in the Indian market than what is implied by the normal distribution. The high values of the Jarque-Bera statistic for both the return series indicate their significant departure from normal distribution; but this departure is much stronger in the case of the NSE returns. The significant values of the Box-Pierce statistics, up to 15th lag-order, both for returns and squared returns series, indicate the presence of autocorrelation and ARCH effects in returns.

Unit Root Test

The knowledge of stationarity or the order of integration of the variables is crucial for construction of consistent econometric models. Two popular tests—the Augmented Dickey-Fuller (ADF) unit root test and the Phillips-Perron (PP) unit root test, have been applied to test the stationary of the log-transformed indices (representing the level of stock prices) and their first differences (representing the returns). The PP test is considered to be more powerful than the ADF test but it is also prone to size-distortion; therefore, better results can be obtained if both of these tests are applied jointly. The results presented in Table 1, Panel B, shows that the null hypothesis of unit-root is not rejected for log-transformed indices at level (Log-NSE and Log-NYSE). Therefore, these series are non-stationary. On the other hand, their first-differences (i.e., returns) are stationary, as the null hypothesis of unit root is rejected for them on the basis of both the ADF and the PP tests. If a process has unit root at level and its first-difference is stationary, the process is called integration of order-1, or the I (1) process. Therefore, both the indices representing the level of stock prices in India and the US follow the I (1) process.

Co-integration Test

The regression models, with non-stationary variables, may produce spurious results (Granger and Newbold, 1974). Therefore, it is generally advised that the variables following the I (1) process should be included in an econometric model only after making them stationary through differencing. However, Engle and Granger (1987) show that if two or more variables of the same order are integrated (say, I(1)), there may exist a co-integrating relationship among them, and in that case, the regression model involving these co-integrated variables can be interpreted in an economically meaningful way (that is, it is not spurious). The co-integration occurs between two or more non-stationary variables, which are associated with each other with an equilibrium relationship and, therefore, share a common stochastic trend.

According to famous Granger representation theorem, if the variables are co-integrated, their relationship can be expressed in the form of an error correction mechanism (ECM). That is, whenever any disequilibrium takes place, at least one of the variables, included in the equilibrium relationship, will respond to restore the equilibrium. The co-integrated variables must be modelled in the form of an error-correction model, because valuable information will be lost if these are modelled simply in a differenced-form without accounting for their equilibrium relationship. On the other hand, if the variables are not co-integrated, they must be included in an econometric model only after making them stationary through differencing.

Therefore, testing the co-integration among the variables is an important step of the time-series modelling.

A linear combination of unit-root processes is also a unit-root process. Therefore, the residuals from the regression model involving two non-cointegrated unit-root processes also have a unit-root. However, if two non-stationary variables are co-integrated, they cancel out the stochastic trends of each other and the residuals from their regression model are stationary. Building on the same properties of co-integrated variables, Engle and Granger (1987) developed their co-integration test. However, this test has now been replaced by more powerful tests developed by Johansen (Johansen, 1988; and Johansen and Juselius, 1990). Johansen's tests are based on the reduced rank vector auto-regression (VAR) model.

Since the log-transformed values of indices (Log-NSE and Log-NYSE) are I (1) processes, there may be a possibility that these two variables may be co-integrated. If these two are found to be co-integrated, they will be modelled in the framework of ECM. Otherwise, their first-differenced stationary processes (i.e., returns) will be used for econometric modelling. The Johansen's co-integration test is used to test the co-integration between Log-NYSE and Log-NSE. Johansen suggests two alternative tests for identifying the number of co-integration relations *(r)* among the variables - the lambda-max (λ_{max}) test and the likelihood ratio (trace) test. If there are k variables, then there may be minimum zero and maximum k-1 co-integrating relationships among them.

The λ_{max} test is used to test the null hypothesis of *r* co-integrating relations against the alternative hypothesis of r+1, co-integrating relations. On the other hand, trace test examines the null hypothesis of *r* co-integrating relations against the alternative hypothesis of *k* (full rank) co-integrating relations. Since, in this study, we have only two variables, *r* can have only two values - 0 and 1. We have used Schwarz information criterion for lag-length selection. The Johansen's test is sensitive towards specification of intercepts and trends in the VAR equation. Following the Pantula principle, we used the test with three possible combinations of the specifications of these deterministic terms. However, the results are not found sensitive to specification. The results produced in Panel C of Table 1, are obtained from the most restrictive model, viz., the model containing an intercept not restricted to co-integration space.

The results of the co-integration test show that the null hypothesis of zero co-integrating relationship is not rejected on the basis of both the tests. Therefore, the stock prices in India and the US are not co-integrated. That is, these stock prices are not associated with each other, with a long-run equilibrium relationship. In this situation, it is appropriate to construct econometric models using stock returns (rather than the level of stock prices) in these two markets.

In order to study the interlinkage between the US and the Indian stock markets, the standard vector auto-regression (VAR) model was used and the direction of causality was analysed, using the Granger causality (block-significance) test, innovation response analysis, and the variance decomposition analysis. The stability of the relationship between these two markets was tested, using Chow's test of parameter stability. Finally, the volatility was analysed by extending the VAR model with the BEKK-multivariate GARCH model. The details of these models and the results of the analysis are presented in the next section.

RESULTS AND DISCUSSION

The Vector Autoregression

The vector autoregression (VAR) models are the natural extensions of the univariate ARMA models. Sims (1980) suggested the VAR as an alternative of dynamic simultaneous equation models which, according to him, involve too many arbitrary decisions. The simplest VAR model, known as the standard VAR, can be presented as an equation given below:

$$y_t = A_0 + A_1 y_{t-1} \ldots\ldots\ldots\ldots A_p y_{t-p} + \varepsilon_t \qquad \ldots (1)$$

where,

y_t is a vector of all the k variables included in the system,

A_0 is k×1 vector of intercepts,

$A_1 \ldots\ldots A_p$ are k×k matrix of coefficients, and

ε_t is the vector of error terms.

In a standard VAR, all the variables are treated as endogenous and the regressors include only lagged values of these endogenous variables (these conditions are relaxed in some extensions of VAR model, such as the VARX model and the structured VAR model). Since the contemporaneous terms of the variables are not included in the list of independent variables, this model is based on the implicit assumption that the contemporaneous innovations in the variables are not correlated. In the present context, this assumption is not very far from reality. On a particular date, the trading starts in the US when the Indian markets are closed.

Therefore, innovations in the US market can not cause stock prices in the Indian market on the same day. On the other hand, generally the stock prices in developed markets cause, but are not caused by, innovations in the emerging markets. It is less likely that innovations in the Indian market will cause stock prices in the US market on the same date in a significant manner. Therefore, the issue of contemporaneous causality may be ignored and the standard VAR model can be used as a structural VAR model to explain the interaction between the Indian and the US markets.

The standard VAR model of Ret-NYSE and Ret-NSE can be presented as equation (2) :

$$\begin{bmatrix} Ret - NYSE_t \\ Ret - NSE_t \end{bmatrix} = \begin{bmatrix} \lambda_{10} \\ \lambda_{20} \end{bmatrix} + \begin{bmatrix} \lambda_{11}^{1} & \lambda_{12}^{1} \\ \lambda_{21}^{1} & \lambda_{22}^{1} \end{bmatrix} \begin{bmatrix} Ret\_NYSE_{t-1} \\ Ret - NSE_{t-1} \end{bmatrix} + \ldots\ldots$$

$$\begin{bmatrix} \lambda_{11}^{p} & \lambda_{12}^{p} \\ \lambda_{21}^{p} & \lambda_{22}^{p} \end{bmatrix} \begin{bmatrix} Ret\_NYSE_{t-p} \\ Ret - NSE_{t-p} \end{bmatrix} + \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \end{bmatrix} \qquad ..(2)$$

Before estimating the above system of equations the order of VAR, p is to be decided. The

Table 2

Vector Auto Regression, VAR (3, 3) Model

A - Regression Estimates

Regressor	*Equation for Ret-NYSE*		*Equation for Ret-NSE*	
	Coeff.	*t*	*Coeff.*	*t*
Constant	0.0002	0.81	0.0006	1.79
Ret-NYSE (-1)	-0.0014	0.06	0.2892	8.20**
Ret-NYSE (-2)	-0.0205	0.87	0.1109	3.10**
Ret-NYSE (-3)	-0.0025	0.10	0.0081	3.30**
Ret-NSE (-1)	0.0022	0.14	0.0271	1.18
Ret-NSE (-2)	0.0150	1.00	-0.0969	4.24**
Ret-NSE (-3)	0.0050	0.34	0.0019	0.08
Diagnostics:				
R2	0.00		0.05	
Residual Skewness	-0.05		-1.22	
Residual Kurtosis	5.07		14.21	
J-B Statistics	346.60**		10623.50**	
B-P Statistics (15)				
Residuals	28.05**		19.83**	
Sqr. Residuals	973.45**		150.15**	

B - Granger Causality (Block Significance) Test

Null-Hypothesis (H0)	*F-Test*	*Wald Test (λ2 distri-bution)*
Ret-NSE does not cause Ret-NYSE	0.39	1.00
Ret-NYSE does not cause Ret-NSE	27.92**	12.16**

C - Variance Decomposition

(Up to 10th Lag)

Variance of the Variable	**Percentages of the variance caused by**	
	Ret-NYSE	**Ret-NSE**
Ret-NYSE	99.88	0.12
Ret-NSE	4.53	95.48

** $p<0.01$
* $p<0.05$

Schwarz Bayesian Criterion (SBC) has been used for this purpose and, accordingly, p is decided to be equal to 3. Therefore, three lagged values of both Ret-NYSE and Ret-NSE are used as regressors in the above model. The model is estimated, using the ordinary least squares (OLS) estimator. The results are presented in Table 2 Panel A.

In the equation of Ret-NYSE, the individual coefficients of lagged values of Ret-NSE are not significant. On the other hand, all the coefficients of Ret-NYSE in the equation of Ret-NSE are individually significant at 0.05 level. The VAR model explains five-percent variations in Ret-NSE (R^2=0.05), but it is unable to explain any significant proportion of variability in Ret-NYSE. These results suggest that the causality runs from Ret-NYSE to Ret-NSE. However, sometimes the interpretation of individual lags-coefficients of VAR is rather difficult. Therefore, summary statistics - block significance, innovation response, and variance decomposition, are used for interpretations of the VAR models.

Granger Causality (Block Significance) Test

The notion of Granger causality (Granger, 1969) is based on the belief that 'the effect can not come before the cause'. A variable, say x_t, is said to be causing another variable, say y_t, if the coefficients of lagged values of x_t are jointly significant in the regression model of y_t. In the VAR model, the causality can be evaluated by examining the joint significance of lagged coefficients of one variable in the equation of another variable. This kind of significance testing is called the block significance test and it can be performed with the usual F-test or the Wald-test, used for evaluation of parameter restrictions. In the context of the present study, the spillover of returns from one market to another market can be analysed by testing the following Granger non-causality hypotheses:

Hypothesis 1

$H0: \lambda_{12}^{1} + \lambda_{12}^{2} + \lambda_{12}^{3} = 0$: Ret-NSE does not cause Ret-NYSE.

$H1: \lambda_{12}^{1} + \lambda_{12}^{2} + \lambda_{12}^{3} \neq 0$: Ret-NSE causes Ret-NYSE.

Hypothesis: 2

$H0: \lambda_{21}^{1} + \lambda_{21}^{2} + \lambda_{21}^{3} = 0$: Ret-NYSE does not cause Ret-NSE.

$H1: \lambda_{21}^{1} + \lambda_{21}^{2} + \lambda_{21}^{3} \neq 0$: Ret-NYSE causes Ret-NSE.

The results are presented in Table 2, Panel B. Hypothesis 1 is not rejected but Hypothesis 2 is rejected on the basis of the F-test and the Wald-test. Therefore, there is only one-way causality running from Ret-NYSE to Ret-NSE. This suggests that there is unidirectional return spillover from the US market to the Indian market. Stock prices in India get affected significantly by information signals coming from the US market, but information signals from the Indian market does not affect the US market.

Impulse Response Analysis

Since a univariate AR model can be represented as an infinitive order moving average (MA) process, a stable VAR model of order k can be represented as an infinitive order vector moving average (VMA) process, as given in the following equation:

$$y_t = \mu + \varepsilon_t + \psi_1 \varepsilon_{t-1} + \psi_2 \varepsilon_{t-2} \text{............} \infty \qquad \dots (3)$$

This representation serves as a key to study the impulse response function (IRF). An IRF allows one to trace the time path of the impact of a shock in one variable on all the variables contained in the VAR. However, the standard impulse response analysis assumes that the shock occurs in one variable at a time. Such an assumption may be valid only if the shocks in different variables are not correlated. Figure 1 presents diagrammatically the IRF of the variables included in the study (Ret-NYSE and Ret-NSE), together with its ±2SE band up to 10th lag-order. The impact of a shock in Ret-NYSE on Ret-NSE is significant up to the 3rd lag-order. A shock of one standardised unit in Ret-NYSE

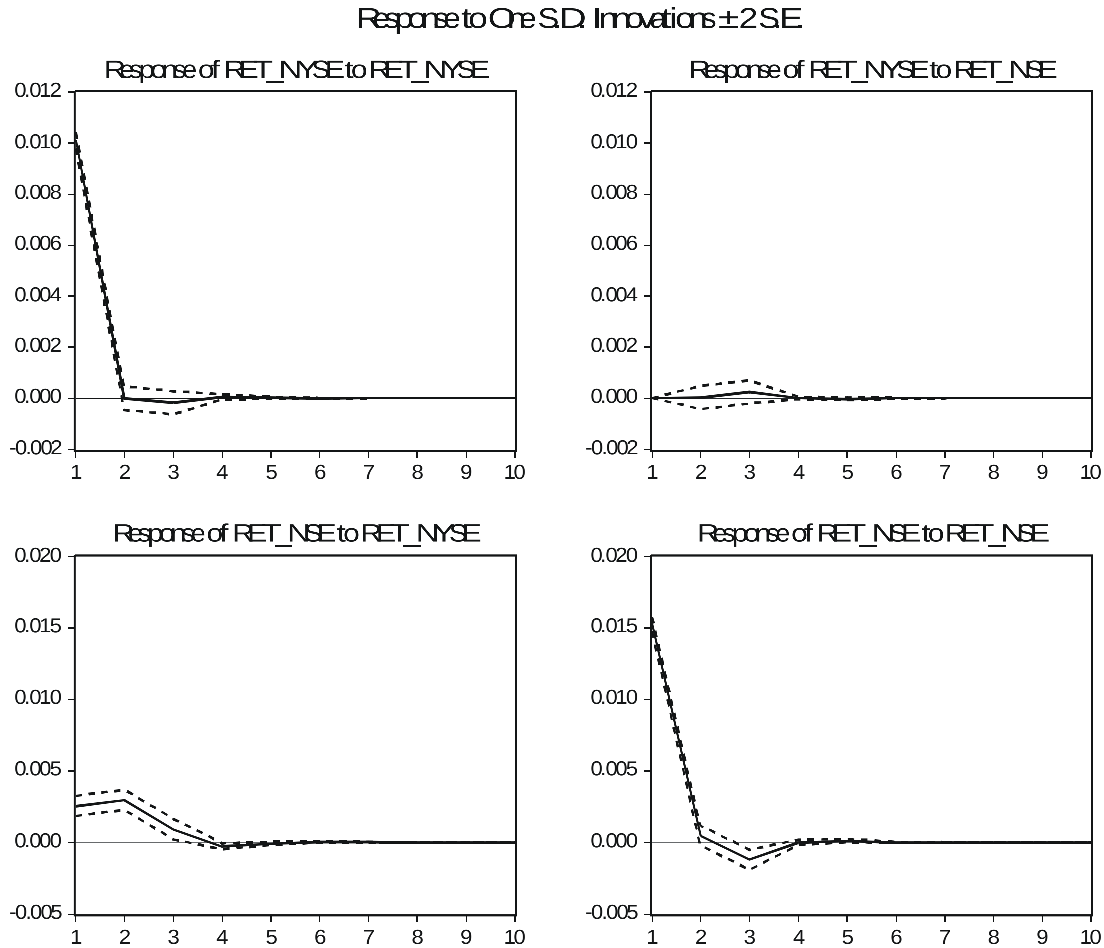


Fig. 1: Impulse Response Analysis

produces an impact of +0.015458 standardised unit in Ret-NSE cumulatively up to the 10th lag-order. On the other hand, one standardised unit shock in Ret-NSE produces an impact of only +0.003633 standardised unit in Ret-NYSE up to the 10th lag-order, and this impact is not significantly different from zero at any lag-order as suggested by ±2SE band.

Variance Decomposition Analysis

Variance decomposition analysis is another alternative representation to show how an innovation in one variable affects the other variables included in the VAR. It shows that if other factors remain unchanged and one of the variable experiences a shock of one standardised unit, then what proportion of the variance in other variable can be attributed to that shock after t periods ahead of the shock. Table 2, Panel C show the results of variance decomposition at 10th lag-order. A shock of one standardised unit in Ret-NYSE can explain 6.45 percent variance in Ret-NSE after ten days of the shock. On the other hand, a shock of one standardised unit in Ret-NSE can explain only 0.06 per cent of the variance in Ret-NYSE after ten days.

Test of Parameter Stability

So far, we have analysed the interaction between the Indian and the US stock markets during the period of eight years from 2000 to 2007, with an implicit assumption that the nature of the interaction would have remained the same during this entire period. This assumption may be flawed and there may be substantial changes in the nature of interaction between these two markets. There are contrary claims regarding this change. On the one hand, it is claimed that the interdependence between these two markets would have increased with increasing integration of world market. The increasing level of the FII-flow and consequently the increasing role of the FIIs in deciding the direction of changes in the Indian market is one of the important sources of the strengthening of integration of Indian market with the US market. On the other hand, it is also being claimed in some quarters that as the economic fundaments of the country getting stronger, it is gaining more strength to resist to external shocks.

We use Chow's test (Chow, 1960) for parameter stability to test these hypothesis. Since, the results of VAR analysis suggest one-way causality running from the US market to the Indian market, a single equation model with Ret-NSE as dependent variable is used to test the parameter stability. The residuals of the VAR model show the presence of the ARCH effect (as reflected by high value of Q-statistics for squared residuals); therefore, a GARCH (1, 1) specification for conditional volatility is also included in the equation. Precisely, the following specification [Equation (4)] is used:

$$\mathrm{Re}t - NSE_t = C_0 + \sum_{i=1}^{3} \rho_i \,\mathrm{Re}t - NSE_{t-i} + \sum_{j=1}^{3} \lambda_j \,\mathrm{Re}t - NYSE_{t-j} + \varepsilon_t$$

$$\varepsilon_t = u_t . \sqrt{h_t} \qquad u_t \sim N(0,1)$$

$$h_t = \omega + \alpha \varepsilon_{t-1}^2 + \beta h_{t-1} \qquad \dots (4)$$

First, this equation is estimated for the entire sample period. The results are presented in the second and third columns of Table 3 Panel A. The results are comparable with the results of the equation for Ret-NSE in the VAR model. The observed differences in results are due to the GARCH specification. Now dropping the conditional volatility term, the chow-test for parameter stability is applied to this equation. In this test, a possible break-date in parameters is defined and then the equation is estimated separately for two sub-samples, obtained by dividing the entire sub-sample using the possible break-date as the splitting point. The unrestricted sum of squares of residuals (URSS) is then defined as the sum of the residuals (RSS) for two estimates, that is

$$USSR = RSS_1 + RSS_2 \qquad \dots (5)$$

The equation is again estimated for pooled data of entire sample and RSS from this estimate is defined as the restricted sum of the squares (RRSS). The hypothesis of structural stability is then tested using following F-test, as defined by equation (6):

$$F = \frac{(RRSS - URSS)/(k+1)}{URSS/(n_1 + n_2 - 2k - 2)} \qquad \dots (6)$$

where k is the number of regressors including the intercept term, and n_1 and n_2 are the size of sample for two sub-samples. The similar exercise can be done in the framework of the likelihood ratio (LR) test.

Table 3

Changing Nature of Integration between the Markets

A - Analysis of Changes in Parameters

Regressor	*Model without changes in Parameters*		*Model with changes in Parameters*	
	Coeff.	*t*	*Coeff.*	*t*
Mean Equation:				
Constant	0.0012	3.48**	0.0012	3.50**
AR(1)	0.0551	1.98*	0.0471	1.70
AR(2)	-0.0873	3.13**	-0.0882	3.14**
AR(3)	0.0291	1.21	0.0246	1.00
Ret-NYSE(-1)	0.2787	9.04**	0.2176	5.70**
Ret-NYSE(-2)	0.1210	3.67**	0.0960	2.58*
Ret-NYSE(-3)	0.1234	3.54**	0.1314	3.28**
D*Ret-NYSE(-1)	-	-	0.2559	3.63**
D*Ret-NYSE(-2)	-	-	0.0997	1.24
D*Ret-NYSE(-3)	-	-	-0.0308	0.37
R2	0.049		0.058	

B - Chow-Test for Parameter Stability

Period	*F-test*	*LR Test*
(i) last six month	1.04	7.35
(ii) last one year	1.75	12.36
(iii) last two years	5.12**	35.76**

** p<0.01

* p<0.05

Table 3, Panel B shows the results of the analysis. Parameter stability is evaluated for last six months, one year, and two years. The null hypothesis of parameter stability is strongly rejected for last two years. To analyse what kinds of changes have taken place in the nature of interaction between the Indian and the US stock markets during last two years, a dummy variable, D_t is included in equation to represent the period of two years (from January 2006 to December 2007) and the equation is re-estimated with the following specifications [equation (7)]:

$$\mathrm{Re}t - NSE_t = C_0 + \sum_{i=1}^{3} \rho_i \,\mathrm{Re}t - NSE_{t-i} + \sum_{j=1}^{3} \lambda_j \,\mathrm{Re}t - NYSE_{t-j} + \sum_{j=1}^{3} \gamma_j D_{t-j} \,\mathrm{Re}t - NYSE_{t-j} + \varepsilon_t$$

$$\varepsilon_t = u_t . \sqrt{h_t} \qquad u_t \sim N(0,1)$$

$$h_t = \omega + \alpha \varepsilon_{t-1}^2 + \beta h_{t-1} \qquad \ldots (7)$$

where, γ_j show the changes in interaction parameter, λ_j during the last two years. The parameters for the period of six years (2000-2005) are λ_js, while the parameters for last two years (2006-2007) are $\lambda_j+\gamma_j$. The results presented in the fourth and the fifth column of Table 3, Panel A, show that the γ_j coefficient is highly significant at lag-order 1. The regression coefficient of Ret-$NYSE_{t-1}$ is 0.2171 for the period from 2000 to 2005, but for the period of last two years (from 2006 to 2007) it rises to the level of 0.4735 (i.e., 0.2176+0.2559).However, for higher lag-orders, there is no significant change in regression parameters. This shows the increased level of integration of Indian stock market with the US market, during recent years.

Volatility Spillover

The residuals of the VAR model indicate the presence of substantial ARCH effect in volatility. Therefore, it is more suitable to model the volatility of VAR model in the GARCH framework. A bivariate GARCH (1, 1) model may be used for this purpose. One benefit of using the bivariate GARCH (1, 1) is that it can also be used to test how volatility in one market transmits to the other market. Alternatively, the transmission of volatility can also be examined using the univariate GARCH model that includes exogenous variables representing the variance or innovations of another market in two-step procedure (see for example, Hamao, Masu lis, and Ng, 1990; Kim and Rogers, 1995). Cheung and Ng (1996) suggest a causality-in-variance test based on the univariate GARCH framework, where causality is tested between squared standardised residuals from the GARCH model. We have used these procedures also to examine the consistency of our results. Since, the results obtained using both the procedures were quit consistent with each other, this section reports the results of conceptually more sophisticated bivariate GARCH model.

The most natural extension of the univariate GARCH (p, q) model in bivariate and multivariate setting is the VECH (p, q) model, proposed by Bollerslev, Engle, and Woodridge (1988). However, two major drawbacks come in the way of popularity of this model. First, the large number of parameters to be estimated which increases rapidly with the fourth power of the number of variables in the system and makes the model quickly unmanageable. Second, it is highly complicated to put parameter restrictions in VECH framework to guarantee a positive definite variance-covariance matrix. Therefore, mos t of the literature on the multivariate GARCH is addressed to seek plausible restrictions to limit the number of the parameters and to ensure positive definite conditional volatility. The most popular among different recommended parameterisations of the multivariate GARCH is the BEKK model. This model was originally proposed by Baba, Engle, Kraft, and Kroner (1989), and was further developed by Engle and Kroner (1995). The model, by its construction, yields a positive definite variance and covariance matrix. The BEKK parameterisation for a bivariate GARCH (1, 1) model can be expressed in the form of an equation as follows:

$$H_t = C'C + B'H_{t-1}B + A'\varepsilon_{t-1}\varepsilon_{t-1}^{'}A \quad \ldots (8)$$

where, H_t is the time varying variance-covariance matrix, C is a lower triangular non-singular n×n matrix, and are n×n parameter matrix. We use this specification of conditional volatility with VAR (1, 1) model of stock returns in India and the US, using the system of equations presented in equation (9):

$$y_t = A_0 + A_1 y_{t-1} \ldots\ldots\ldots\ldots A_p y_{t-p} + \varepsilon_t$$

$$\varepsilon_t = H_t^{1/2} u_t \qquad u_t \sim iid(0, I)$$

$$H_t = C'C + B'H_{t-1}B + A'\varepsilon_{t-1}\varepsilon_{t-1}^{'}A \quad \ldots (9)$$

where, the first part of the equation is the VAR model of stock returns, as described in Equations (1) and (2). The matrices in variance equation have following specification:

$$H_t = \begin{bmatrix} h_{11,t} & h_{12,t} \\ h_{21,t} & h_{22,t} \end{bmatrix},\ A = \begin{bmatrix} \alpha_{11} & \alpha_{12} \\ \alpha_{21} & \alpha_{22} \end{bmatrix} \text{ and } B = \begin{bmatrix} \beta_{11} & \beta_{12} \\ \beta_{21} & \beta_{22} \end{bmatrix}$$

The estimates are presented in Table 4, Panel A. The results of the VAR equation are comparable with the results of constant variance VAR model presented in Table 2. Due to its complex lag-structure the direct interpretation of the BEKK-GARCH parameters is rather tedious. However, the hypothesis of volatility spillover can be tested by imposing appropriate parameter restrictions as follows:

Hypothesis 1

$H0: \alpha_{12} + \alpha_{21} + \beta_{12} + \beta_{21} = 0$: There is no volatility spillover.

$H1: \alpha_{12} + \alpha_{21} + \beta_{12} + \beta_{21} \neq 0$: There is a significant volatility spillover.

Hypothesis 2

$H0: \alpha_{12} + \beta_{12} = 0$: There is no volatility spillover from NSE to NYSE.

$H1: \alpha_{12} + \beta_{12} \neq 0$: There is a volatility spillover from NSE to NYSE.

Table 4

VAR (3, 3), BEKK-GARCH (1, 1) Model for Volatility Spillover

A - Regression Estimates

Regressor	*Equation for Ret-NYSE*		*Equation for Ret-NSE*	
	Coeff.	*t*	*Coeff.*	*t*
Mean Equation:				
Constant	0.0007	3.89**	0.0018	5.53**
Ret-NYSE (-1)	-0.0486	1.82	0.2205	6.12**
Ret-NYSE (-2)	-0.0471	1.97*	0.0905	2.54*
Ret-NYSE (-3)	-0.0220	0.93	0.1293	3.96**
Ret-NSE (-1)	0.0172	1.23	0.0605	2.33*
Ret-NSE (-2)	0.0185	1.41	-0.0923	3.60**
Ret-NSE (-3)	0.0046	0.36	0.0195	0.82
Variance Equation:				
Intercept (SD)	0.0051	-	0.0095	-
Ret-NYSE (α)	0.2501	12.71**	0.2765	4.91**
Ret-NYSE (β)	0.9643	124.10**	0.1345	0.97
Ret-NSE (α)	0.0079	0.52	0.3644	12.78**
Ret-NSE (β)	-0.0583	1.00	0.8547	38.54**
Diagnostics:				
R2	0.00		0.05	
Residual Skewness	-0.46		-1.89	
Residual Kurtosis	4.30		20.78	
J-B Statistics	206.04**		10252.50**	
B-P Statistics (15)				
Residuals	22.44*		10.89	
Sqr. Residuals	21.78*		0.70	

B - Wald Test for Volatility Spillover

Null-Hypothesis (H0)	*Wald Statistic (χ^2 distribution)*
1. There is no volatility spillover between NYSE and NSE	25.61**
2. There is no volatility spillover from NSE to NYSE	1.00
3. There is no volatility spillover from NYSE to NSE	24.17**

** p<0.01
* p<0.05

Hypothesis 3

$H0: \alpha_{21} + \beta_{21} = 0$: There is no volatility spillover from NYSE to NSE.

$H1: \alpha_{21} + \beta_{21} \neq 0$: There is a volatility spillover from NYSE to NSE.

The parameter restrictions to test the above hypotheses are examined using the Wald test. The results are presented in Panel B of Table 4. The null hypothesis of no volatility spillover is strongly rejected. However, the null hypothesis of no volatility spillover from the NSE to the NYSE can not be rejected. Thus, there is only one way volatility spillover between these two markets from the NYSE to the NSE.

CONCLUSION

In this paper we have analysed the interaction between the Indian and the US stock markets. While the S&P CNX Nifty index represents the stock prices in India, the US stock prices are represented by the NYSE Composite index. The Johansen's cointegration test has shown that there is no long-term equilibrium relationship between these two stock markets. Therefore, the VAR model has been used to test the short-run relationship. The block significance test, based on the VAR model, shows that there is only one-way return spillover from the US market to the Indian market. The innovation of one standardised unit in the US market produces a change of 0.015458 standardised units in the Indian stock market. About 6.45 per cent variability in the Indian stock market can be explained by changes in the stock prices in the US. Contrary to the much-acclaimed decoupling hypotheses, the bonds between the Indian and the US stock markets have become stronger during recent years. Chow's test of parameter stability has shown that the coefficient of spillover of return innovation from the US market to the Indian market has significantly shifted upwards during the last two years' period covered in this study (2006-2007). The multivariate BEKK-GARCH model shows that the spillover effect is not limited to the first movement of stock returns, but there is also a significant spillover of volatility from the US to the Indian stock market.

REFERENCES

Akin, C., and M.A. Kose (2007), "Changing Nature of North-South Linkage", IMF Working Paper No. 07/280. Source: *http://www.imf.org/ external/pubs/ft/wp/2007/wp07280.pdf* (Accessed on April 2, 2008).

Baba, Y., R.F. Engle, D.F. Kraft, and K.F. Kroner (1991), "Multivariate Simultaneous Generalised ARCH", University of California, San Diego: Department of Economics, Discussion Paper No. 89-57. Source: *http://www.econ.ucsd.edu/papers/files/ucsd8957r.pdf* (Accessed on April 2, 2008).

Bekaert, G., and C.R. Harvey (2000), "Foreign Speculators and Emerging Equity Markets", *Journal of Finance*, Vol. 55, No. 2, pp. 465-612.

Bekaert, G., R.J. Hodrick, and X. Zhang (2007), "International Stock Market Co-movements", Working Paper, Source: *http://finance.wharton.upenn.edu/weiss/wpapers/06-03.pdf* (Accessed on April 2, 2008).

Bollerslev, T., R.F. Engle, and J. Wooldridge (1988), "A Capital Asset Pricing Model with Time Varying Co-variances", *Journal of Political Economy*, Vol. 96, No. 1, pp. 116-131.

Brooks, R., and M.D. Del Negro (2002), "International Diversification Strategies", Working Paper, Federal Reserve Bank of Atlanta, No. 2002-23, Source: *http://www.frbatlanta.org/filelegacydocs/wp0223.pdf* (Accessed on April 2, 2008).

Canarella, G., S.K. Sapra, and S.K. Pollard (2007), "Asymmetry and Spillover Effects in the North American Equity Markets", Economic Discussion Papers, No. 2007-35, Source: *www.economics-ejournal.org/discussionpapers* (Accessed on April 2, 2008).

Cavaglia, S., C. Brightman, and M. Aked (2000), "The Increasing Importance of Industry Factors", *Financial Analyst Journal*, Vol. 56, No. 5, pp. 41-54.

Chen, H., and B.J. Lobo (2006), "Links between the Indian, US and Chinese Stock Markets", National University of Singapore, Department of Economics, Working Paper No. 0602, Source: *http://nt2.fas.nus.edu.sg/ecs/pub/wp/wp0602.pdf* (Accessed on April 2, 2008).

Cheung, Y.W., and L.K. Ng (1996), "A Causality-in-Variance Test and its Application to Financial Market Prices", *Journal of Econometrics*, Vol. 72, No. 1- 2, pp. 33-48.

Choudhry, T. (2004), "International Transmission of Stock Returns and Volatility: Empirical Comparison between Friends and Foes", *Emerging Market Finance and Trade*, Vol. 40, No. 4, pp. 33-52.

Chow, G.C. (1960), "Test of Equality between Sets of Coefficients in Two Linear Regressions", *Econometrica*, Vol. 28, No. 3, pp. 591-605.

Engle, R.F., and C.W.J. Granger (1987), "Co-integration and Error-Correction: Representation, Estimation and Testing", *Econometrica*, Vol. 55, No. 2, pp. 251-276.

Engle, R., and K. Kroner (1995), "Multivariate Simultaneous Generalized ARCH", *Econometric Theory*, Vol. 11, No. 1, pp. 122-150.

Errunza, V., and E. Losq (1985),"International Asset Pricing under Mild Segmentation: Theory and Tests." *Journal of Finance*, Vol. 40, No. 1, pp. 105-124.

Eun, C.S., and S. Shim (1989), "International Transmission of Stock Market Movements", *Journal of Financial and Quantitative Analysis*, Vol. 24, No. 1, pp.41-56.

Ewing, B.T., J.E. Payne, and C. Sowell (2001), "Transmission of Conditional Stock Return Volatility across North American Markets: Evidence from Pre- and Post-NAFTA", *International Trade Journal*, Vol. 15, No. 4, pp. 409-427.

Granger, C.W.J. (1969), "Investigating Causal Relations by Econometric Models and Cross-Spectral Methods," *Econometrica*, Vol. 37, No. 3, pp. 424-438.

Granger, C.W.J., and P. Newbold (1974), "Spurious Regressions in Econometrics", *Journal of Econometrics*, Vol. 2, No. 2, pp. 111-120.

Griffin, J.M., and G.A. Karolyi (1998), "Another Look at the Role of the Industrial Structure of Markets for International Diversification Strategies", *Journal of Financial Economics*, Vol. 50, No. 3, pp. 351-373.

Hamao, Y.R., R.W. Masulis, and V.K. Ng (1990), "Correlations in Price Changes and Volatility across International Stock Markets", *Review of Financial Studies*, Vol. 3, No. 2, pp. 281-307.

Hasiao, F.S., M.W. Hasiao, and A. Yamashita (2003), "The Impact of US Economy on Asia-Pacific Region: Does it Matter?" *Journal of Asian Economics*, Vol. 14, No. 2, pp. 219-241.

Henry, P.B. (2005), "Stock Market Liberalization, Economic Reform and Emerging Market Equity Prices", *Journal of Finance*, Vol. 55, No. 2, pp. 529-564.

Hilliard, J. (1979), "The Relationship between Equity Indices on World Exchanges", *Journal of Finance*, Vol. 34, No. 1, pp. 103-114.

International Monetary Fund (IMF) (2007), "Decoupling the Train? Spillover and Cycles in Global Economy", *World Economic Outlook*, April 2007, Chapter 4, pp. 121-160.

Janakiramanan, S., and A.S. Lamba (1998), "An Empirical Examination of Linkages between Pacific-Basin Stock Markets", *Journal of International Financial Markets, Institutions and Money*, Vol. 8, No. 2, pp. 155 -173.

Johansen, S. (1988), "Statistical Analysis of Cointegration Vectors", *Journal of Economic Dynamics and Control*, Vol. 12, No. 2-3, pp. 231-254.

Johansen, S., and K. Juselius (1990), "Maximum Likelihood Estimation and Inference on Cointegration with Application to the Demand for Money", *Oxford Bulletin of Economics and Statistics*, Vol. 52, No. 2, pp. 169-210.

Karolyi, G.A. (1995), "A Multivariate GARCH Model of International Transmissions of Stock Returns and Volatility: The Case of the United States and Canada", *Journal of Business and Economic Statistics*, Vol. 13, No. 1, pp.11-25.

Kasa, K. (1992), "Common Stochastic Trends in International Stock Markets", *Journal of Monetary Economics*, Vol. 29, No. 1, pp. 95-124.

Kearney, C., and B.M. Lucey (2004), "International Equity Market Integration: Theory, Evidence and Implications", *International Review of Financial Analysis*, Vol. 13, No. 5, pp. 571-583.

Kim, E.H., and V. Singal (2000), "Stock Market Openings: Experience of Emerging Economies", *Journal of Business*, Vol. 73, No. 1, pp. 25-66.

Kim, S.J., and J. Rogers (1995), "International Stock Price Spillovers and Market Liberalization: Evidence from Korea, Japan, and the United States", *Journal of Empirical Finance*, Vol. 2, No. 2, pp. 117-133.

Kim, S.J. (2005), "Information Leadership in the Advanced Asia-Pacific Stock Markets: Return, Volatility and Volume Information Spillovers from the U.S. and Japan", *Journal of the Japanese and International Economies*, Vol. 19, No. 3, pp. 338-365.

King, M.A., E. Sentana, and S. Wadhwani (1994), "Volatility and Links between National Stock Markets", *Econometrica*, Vol. 62, No. 4, pp. 901-933.

Koutmos, G., and G.G. Booth (1995), "Asymmetric Volatility Transmission in International Stock Markets", *Journal of International Money and Finance*, Vol. 14, No. 6, pp. 747-762.

Kumar, K.K., and C. Mukhopadyay (2002), "Equity Market Interlinkage: Transmission of Volatility - A Case of US and India", NSE Research Initiative, Source: *http://www.nseindia.com/content/research/Paper39.pdf* (Accessed on April 2, 2008).

Lamba, A.S. (2004), "An Analysis of the Dynamic Relationships between South Asian and Developed Equity Markets", NSE Research Initiative, Source: *http://www.nseindia.com/content/research/comppaper_lat83.pdf* (accessed on April 2, 2008).

Lee, S.B., and K.J. Kim (1994), "Does the October 1987 Crash Strengthen the Co-movement in Stock Price Indices", *Quarterly Review of Economics and Business*, Vol. 3, No. 1-2, pp. 89-102.

Lin, W., R.F. Engle, and T. Ito (1994), "Do Bulls and Bears Move across Borders? International Transmission of Stock Returns and Volatility", *Review of Financial Studies*, Vol. 7, No. 3, pp. 507-538.

Liu, Y.A., and M.S. Pan (1997), "Mean and Volatility Spillover Effects in the US and Pacific-Basin Stock Markets", *Multinational Finance Journal*, Vol. 1, No. 1, pp. 47-62.

Masih, R., and A.M.M. Masih (2001), "Long and Short term Dynamic Causal Transmission amongst International Stock Markets", *Journal of International Money and Finance*, Vol. 20, No. 4, pp. 563-587.

Mukherjee, K., and R.K. Mishra (2007), "International Stock Market Integration and its Economic Determinants: A Study of India and World Equity Market", *Vikalpa*, Vol. 32, No. 4, pp. 29-44.

Nair, A.S., and A. Ramanathan (2002), "Analysis of Co Movements of Select US and Indian Stock Price Indexes", Paper presented at Sixth UTI Capital Market Conference, Source: *http:// Last www.utiicm.com/Cmc/ PDFs/2002/abhilashnair%5E13.pdf* (Accessed on April 2, 2008).

Nath, G.C., and S. Verma (2003), "Study of Common Stochastic Trend and Co-Integration in the Emerging Markets: A Case Study of India, Singapore and Taiwan", 2003. NSE Research Initiative, Source: *http:// www.nseindia.com/ content/research/Paper72.pdf* (Accessed on April 2, 2008).

Ozun, A., M. Turk, and U. Centkin (2007), "Some Empirical Notes on Recent Perspectives in International Portfolio Management", *Problems and Prospects in Management,* Vol. 5, No. 3, pp. 166-180.

Park, J., and A.M. Fatemi (1993), "The Linkages between the Equity Markets of Pacific-Basin Countries and those of the U.S., U.K., and Japan: A Vector Autoregression Analysis" *Global Finance Journal*, Vol. 4, No. 1, pp. 49-64.

Ripley, D.M. (1973), "Systematic Elements in the Linkages of National Stock Market Indices", *Review of Economics and Statistic*, Vol. 55, No. 3, pp. 356-361.

Sheng, H.C., and A.H. Tu (2000), "A Study of Cointegration and Variance Decomposition among National Equity Indices before and During the Period of Asian Financial Crisis", *Journal of Multinational Financial Management*, Vol. 10, No. 3-4, pp. 345-365.

Sims, C.A. (1980), "Macroeconomics and Reality," *Econometrica*, Vol. 48, No. 1, pp. 1-48.

Solnik, B. (1974), "An Equilibrium Model of the International Capital Market", *Journal of Economic Theory*, Vol. 8, No. , pp. 500-524.

Taylor, M.P., and I. Tonks (1989), "The Internationalisation of Stock Markets and the Abolition of U K Exchange Control", *Review of Economics and Statistics*, Vol. 71, No. 2, pp. 332-336.

Wong, W.K., A. Agarwal, and J. Du (2005), "Financial Integration for Indian Stock Market, A Fractional Cointegration Approach", National University of Singapore, Department of Economics, Working Paper No. 0501, Source: *http://nt2.fas.nus.edu.sg/ecs/pub/wp/ wp0501.pdf* (accessed on April 2, 2008).

Worthington, A., and H. Higgs (2004), "Transmission of Equity Returns and Volatility in Asian Developed and Emerging Markets: A Multivariate GARCH Model", *International Journal of Finance and Economics*, Vol. 9, No. 1, pp. 71-80.

Yang, L., F. Tapon, and Y. Sun (2006), "International Correlations across Stock Markets and Industries: Trends and Patterns 1988-2002", *Applied Financial Economics*, Vol. 16, No. 11, pp. 1171-1183.

A company must be viewed not only as a portfolio of products
and services, but as a portfolio of competencies as well.

Gary Hamel and C.K. Prahalad,
Competing for the Future

★ ★ ★ ★ ★

A corporation without a strategy is like an airplane weaving
through stormy skies, hurled up and down, slammed
by the wind, lost in he thunderheads. If lightning or crushing
winds don't destroy it, it will simply run out of gas.

Alvin Toffler, The Adaptive Corporation

Guidelines for Writing a Book Review

We invite academicians and others to write reviews of books on management and allied subjects.

The book reviewers are requested to follow the guidelines given below:

1. The reviewer should begin with a listing of the bibliographical details of the book, comprising the names of the authors, full title and sub-title as they appear on the cover, details of the place and name of the publisher, year of publication, the number of pages in the book, and the price, if mentioned.
2. The review can range from 1000-3000 words, depending upon the topic and the importance of the book.
3. Reviews should engage with the issues, problems, and themes articulated in the book and make a rigorous attempt to identify and assess the main set of arguments that have been put forth by the author. It should, in other words, have a strong engagement with the conceptual structure of the book and should bring out its strengths and weaknesses.
4. The book under review should have been published recently, preferably in the current or the previous year.
5. The reviewer may also include comments on the stylistic aspects and literary presentation of the book.
6. References should be avoided altogether. If references are considered essential, the citation style, adopted by *NICE Journal of Business,* should be used.

The review should be an objective assessment of the book, indicating its specific strengths and weaknesses, and overall assessment.

THE IMPACT OF MARKET-ORIENTATION ON SERVICE QUALITY
A Study of State Bank of India

Alka Sharma* and Anil Gupta**

Abstract

The study seeks to ascertain the extent to which the largest public-sector bank in India, namely, the State Bank of India, is market-oriented. The main variables on the basis of which the market-orientation has been examined are intelligence generation, intelligence dissemination, and responsiveness, according to the scale developed by Kohli, Jaworski, and Kumar (1993). This study would be useful in developing an understanding of the bank's strategic orientation towards customers and its readiness to respond to the shifts occurring in the customers' needs, tastes, and preferences. This understanding has been used by the bank in providing quality services to the customers. Accordingly, the service quality of the bank has also been assessed and an attempt is made to ascertain the relationship between market-orientation of the bank and the service quality perception of the customers.

Key Words: ***Market-orientation, Service quality, Customers' responsiveness, Banking, State Bank of India***

INTRODUCTION

THE financial-services sector in India has witnessed a metamorphic growth since the initiation of the economic-reforms process, in the early nineties. The banking sector, which has been there for long as more or less a money-lending service, has now matured into a complex service-provider. This new *avatar* of banking has emerged as a critical player in the transformation of the Indian economy, as the economic growth is a function of the level of investment, capital-output ratio, and the state of technology (Paliwal and Harigunani, 2005). A sweep of changes, including financial liberalisation, dis-intermediation, globalisation, and technological advancements, was introduced. Consequently, vast opportunities emerged in the Indian market, leading to the entry of a number of new players in the banking sector, in the public sector as well as the private sector, introducing new services and technology. The erstwhile slow-moving, in-efficient and huge public-sector banks, which had dominated the Indian financial market for long, were suddenly made

* Alka Sharma is a Reader in The Business School of the University of Jammu, Jammu; e-mail: *alkasharma68@movemail.com*

** Anil Gupta is a Lecturer in The Business School of the University of Jammu, Jammu; e-mail: *anil1975@yahoo.com*

to perform and show results. With the emergence of competition, the banks were given enough freedom to determine the rate structures for deposits and advances, which are the basic services of the banks. Moreover, the banking regulations were tightened keeping in view the flexibility being given to the banks. On the other hand, the customers also have become more demanding and less loyal. The increasing customer expectation has forced the pace of business innovation. Therefore, the banks, like other major consumer services, are increasingly becoming more customer-oriented. A number of new concepts, like technology-oriented banking and relationship marketing, are being adopted by the banks, which have further increased the complexities of the sector.

In this scenario, marketing has emerged as an overall solution for various players. The banks, irrespective of the fact whether they belong to the private sector or the public sector, are adopting the marketing tools to compete in the market and earn more business. In this process, it has become imperative for the banks to develop close, cooperative relationship with customers, as they are now more demanding than ever before (Parvatiyar and Sheth, 2004). It is more so due to the fact that many times the banks do not understand the customers' needs and the desired service-output levels. Therefore, in the recent times, the focus of the banks has shifted from a typical transactional marketing to relationship marketing. This paradigm shift in the business orientation of the banks is critical, as it helps in developing a better understanding of the needs and expectations of the customers and provides an opportunity to them to perform efficiently, earn more profits, and, most importantly, sustain the competition. Thus, in highly personalised and intangible services, the banks have to balance the customers' perception with the requisite service quality, which in turn requires continuous customers' need assessment and satisfying that need. The banks which follow this approach are said to be market-oriented.

REVIEW OF LITERATURE

Development of the Concept of Market-orientation

Market-orientation, although being a recent concept, has elicited considerable interest among marketing academicians and practitioners alike as the market dynamism in the wake of competition, has led the organisations to an increased focus on performance. It provides a set of values that focuses the efforts of the organisation on creating superior value for the customers, thereby leading to the achievement of superior performance and distinctive advantage. The term 'Market-Orientation' was first coined by Shapiro in 1988, and was developed conceptually in subsequent years. Conceptually, market-orientation has three elements, namely, intelligence generation, intelligence dissemination and responsiveness (Kohli and Jaworski, 1990). All these elements together define the extent of market orientation and also indicate the level of customer satisfaction. It is so due to the fact that it takes into account the organisation's capability to respond to the customers' shift in needs, wants, and preferences. The increased responsiveness, thus leads to an increased productivity, as the organisation understands the customers better, thereby, leading to an increased customer satisfaction.

Besides this construct, another alternate construct has also been developed, wherein the market orientation is suggested to have three components, i.e., behavioural, long-term focus and profitability (Narver and Slater, 1990). Of these components, the behavioural component is the only one which the research has proved to be reliable. It is so because, the behavioral component of an organisation is wholesome and takes into account the customers, competitors and coordination between the various functional areas. The earlier construct, which has been proposed by Kohli and Jaworski, also takes into consideration these components, although the focus is on information about these variables. Thus, both of these constructs directly or indirectly lead towards developing a capability in an organisation to perform better. This construct (Narver and Slater), however, has given a new direction to researchers to focus on performance, profit being an important indicator for the same.

Market-Orientation and Business Performance

The increased focus on performance has led to the development of other measures, which are considered to have an impact on business performance. The impact of culture, customer (market) orientation and innovativeness on business performance have also been examined in later studies (Deshpande, Farley and Webster, 1993), wherein the customers' perception of market-orientation has been identified as the most relevant factor. This not only helps in understanding how your organisational efforts towards customers are perceived by them (customers), but also helps in analysing the performance in the market, as customers' perceptions are directly related to the performance.

As suggested by earlier researches, the performance variable has emerged as an important component of market orientation. Different organisations, however, are perceived at different levels in terms of market-orientation, as some organisations are perceived to be more market-oriented as compared to others. Therefore, this market-orientation requires studying another dimension besides customers and profiting, i.e., employees. The effect of market-orientation on employees and business performance has been analysed and an attempt has been made to develop a linkage between business performance and market-orientation (Jaworski and Kohli, 1993). This study has helped in developing the MARKOR scale, which has also been used in the present study. This scale holds more relevance, as compared to the other scales because it also considers the employees' orientation towards customers, which is more relevant in case of service organisations. It is so due to the fact that the employees' actions have a direct affect on service quality and service delivery.

This study has shown that business performance is positively related to market-orientation (Deshpande and Farley, 1998; Slater and Narver, 2000). Market-orientation has been identified as the second most important driver of business performance besides differential advantage (Doyle and Wong, 1998).

Although competition has been one of the foremost factors responsible for organisations being more customer–focused, few studies have been undertaken to analyze the impact of environment on market-orientation (Slater and Narver, 1994, and Day and Wensley, 1988). These studies have indicated that the environment has little effect on the market-orientation and performance relationship.

This relationship holds true in all the organisations, even in banks. However, another variable that affects the performance is innovation. Innovation in business is an important indicator of an attempt of an organisation to provide such offers that are in line with the changing needs of the customers. It has been proven time and again that innovation is the key to success, therefore, its role in market-orientation and performance relationship has been analysed. The research has proven that organisational innovativeness is positively related to market-orientation (Han, Kim and Srivastava, 1998).

Market-Orientation and Customers

In the case of services, marketing is a multi-faceted activity represented by a triangle. The services marketing triangle identifies the company, employees and the customer as the three sides of the triangle. The earlier literature analysed has focused on company and employees, and the other dimension of triangle, i.e., customers and market orientation has remained unfathomed. Market-orientation is, in fact, to create a superior value for the customers and adapt the business processes, procedures and structures based upon the continuous learning from actual value-creation and performance (Narver, Slater and Tietje, 1998).

It has been noticed that Indian firms are largely entrepreneurial and organisations are less market-oriented (Deshpande and Farley, 1999). The present study was undertaken to ascertain the extent to which a big service organisation, like the State Bank of India (SBI), with a branch network throughout the country and abroad, and a very large number of employees and customers, is market-oriented. This will not only help in understanding the orientation, which the bank has developed in recent times but will also help in understanding the bank's marketing strategy, as one of the earlier studies has identified that market-orientation in smaller firms provides a stronger source of competitive advantage as compared to larger firms (Pelham, 2000). The study also seeks to ascertain which customer satisfaction is a dominant factor in smaller firms.

Customers' perspective is very much relevant in judging the marketing effectiveness. The customers' perception of various organisational initiatives helps an organisation to develop strategies for being more effective. It is the customer whose perception makes an organisation market-oriented as well as it helps the organisation to satisfy the customers more effectively by providing quality service. Thus, customers have been identified as the primary focus of market-orientation. It is, therefore, necessary to systematically study the consumers' needs, wants, preference and satisfaction, etc., so that the organisation's focus on customer is maintained. Hence, it makes the market-oriented organisations more proactive and capable of anticipating the shifts in consumers' requirements so as to provide the desired quality service and, therefore, perform better. Hence, it can be stated that market-orientation is a business culture that commits the organisation towards creation of superior value to the customers (Narver and Slater, 1994).

Service Quality

Service quality, which has been the biggest contributor to the creation of superior value, has emerged as an area of interest among the research scholars since 1980s, where they have extensively examined the measurement of service quality to help the practitioners effectively manage the delivery of quality service (Babakus and Boller, 1992; Cronin and Taylor, 1992; Parasuraman, Berry, and Zeithaml, 1991). Earlier research in service quality measured the perceptions as a proxy measure of customer satisfaction; but with its evolution as a strategic factor in determining the firm's competitive advantage (Fitzsimmons and Fitzsimmons, 1994), the recent research positioned service quality as an antecedent of customer satisfaction (Cronin, *et al*., 2000; Spreng and Mckoy, 1996). The service quality construct has developed over the years and different authors have contributed to it. Varied conceptualizations, from a three-dimensional construct (Gronroos, 1984) to a two-dimensional aspect (Hedvall and Paltschik, 1989), were developed. While Leblanc and Nguyen (1988) proposed five components of service quality, Garvin (1988) developed another concept with nine dimensions of service quality. The main contribution in this field, however, came from Parasuraman, Berry, and Zeithaml (1985; 1988; 1994). They developed a five-dimensional, 22-item scale, to measure service quality, commonly referred to as 'SERVQUAL'.

SERVQUAL has been extensively used in researching service quality. Allred and Addams (2000) modified the scale to a 14-item scale to conduct service quality measurement in financial services in the UK. While studying the service quality perceptions, Ibrahim, Joseph, and Ibeh (2006) evaluated it on a six-dimension scale. However, in another study, Avasli, Katircioglu, and Smadi (2005) have used the SERVQUAL scale. Hence, despite the fact that service quality conceptualisation has been a highly debated topic, the present study has been conducted by using the SERVQUAL model. It is so due to the fact that there has been an agreement about the five dimensions of service quality and their importance (Fisk, Baron, and Bitner, 1993).

OBJECTIVES AND HYPOTHESIS

As the literature review suggests, customer satisfaction is an antecedent to service quality and no organisation can claim that it is market-oriented, unless it is perceived so by the customers. Therefore, for the purpose of the study, the following objectives were formulated:

1. To ascertain the extent of market-orientation of the bank under study.
2. To measure customers' perception of the level of service quality provided by the bank.
3. To examine the relationship between market-orientation and the bank's business performance
4. To suggest measures for the bank to be customer-oriented and to improve the customers' perception of its service quality

In the light of the objectives stated above and the literature review, the following hypothesis was formulated:

H_0: There is a positive relationship between market-orientation and business performance.

RESEARCH METHODOLOGY

The present study has been conducted in the biggest public-sector bank, i.e., State Bank of India. This bank was chosen for the study, as it is one of the biggest service organisations in India, and in the recent years it has revolutionised the traditional banking sector in India. The bank has adopted new marketing concepts and approaches to be competitive and has initiated a pro-active customer-oriented approach. The literature review has shown that smaller organisations are more market-oriented. Therefore, this study will be helpful in developing an understanding of the bank's orientation and the various initiatives that the bank has taken to be more customer-focused. For the purpose of the study, two diverse variables—employees and customers have been analysed. While the employees' perception was recorded in order to analyse the market-orientation of the bank, the customers' perception was recorded to gauge the service quality of the bank.

Instruments of the Study

In order to analyse the market-orientation aspect, the MARKOR scale (Kohli, Jaworski and Kumar, 1993) has been used. The scale is based on three elements of market-orientation, namely, intelligence generation, intelligence dissemination, and responsiveness. While intelligence generation has six items under it, dissemination has five items and responsiveness has nine items.

In order to analyse the performance of the bank, five more items have been included in the scale, which are based on the various variables identified in the literature. They are: profitability, return on investment, and innovations in the offer and aggression in the approach to do business. The employees' perceptions, thus, indicate not only the extent of market-orientation but also the bank's business performance.

Another main variable that has been analysed in the study is service quality, which is sought to be measured by using the 'SERVQUAL' scale (Parsuraman, Zeithaml, and Berry, 1988). This scale is based on five elements, viz., Tangibility, Reliability, Responsiveness, Assurance and Empathy. It is a 22-item standardised scale, which has been used for the study. The customers' perceptions have been recorded to understand as to how the customers perceive the quality of the service, provided by the bank.

Sample Selection and Rationale

The study is mainly based on primary data and, therefore, the data was collected from the employees and the customers. As far as the employees are concerned, the responses were collected from the middle and the top-level management upto the level of General Manager. The data was mainly collected from the Jammu and Kashmir zonal office of the bank, which is responsible for the implementation of strategic policies in the zone. Out of 100 questionnaires distributed among the bank employee, only 52 were received back.

In the case of customers-respondents, two leading bank branches with maximum number of customers were selected, and only those customers were contacted who were coming out of the bank branch. The timing chosen was the peak hours, so as to make it possible to contact a large number of customers and to record their perception during a critical time. Out of more than 150 questionnaires distributed to the customers, who visited the bank from 10.30 am to 2 pm, only 112 customers responded.

All the items in both the scales, namely, MARKOR and SERVQUAL, were measured on a 7-point scale, with only polar categories being labeled as "1-strongly disagree and 7-strongly agree", so as to ensure the generation of metric data.

Pre-testing the Questionnaire

The two questionnaires used for the study were based on two popular standardised questionnaires, namely, MARKOR and SERVQUAL. However, the questionnaires were pre-tested before conducting the survey. The MARKOR questionnaire was administered to 15 employees, 10 from the middle level and 5 from the senior level of management. The analysis of the preliminary data revealed that market-orientation dimensions to be studied were valid and the questionnaire required no modification. Similarly, the SERVQUAL questionnaire was pre-tested with 25 customers of the bank. It was found that all the dimensions of service quality were relevant and, therefore, the questionnaires were accepted for a detailed survey.

ANALYSIS AND RESULTS

The data collected through the questionnaires were analysed, using SPSS. The descriptive statistics (i.e., mean and standard deviation) of all the items was calculated. The data collected through the MARKOR scale was subjected to Factor Analysis, with the objective to assess whether the 3-dimensional structure of market-orientation fits the data. Similarly, the information generated from customers on perceived service-quality questionnaire was also subjected to factor analysis to assess the underlying dimensions of the perceived service quality. The descriptive statistics (i.e., mean and standard deviation) corresponding to each of the items were also calculated. Subsequently, multiple regressions were carried out to test the relationship between market-orientation and perceived service quality.

In its initiative to be competitive, the State Bank of India has undertaken several measures, which are directed towards making it more customer-oriented and capable of providing higher value to customers. In order to appreciate the bank's efforts, the data collected by using the MARKOR scale, has been analysed.

Dimensional Structure of Market-Orientation

The first step in the process was to analyse the dimensional structure of market-orientation. Therefore, the data was subjected to factor analysis in order to identify the underlying dimensions of the construct. The KMO Statistics and Bartlett's Test of 'Sphericity', as shown in Table 1, suggests that factor analysis can be undertaken for the given data. The factor analysis result suggests that market-orientation has three-dimensions, which has also been supported by the MARKOR scale. The factor loadings are presented in Table 2.

Table 1

KMO Statistics and Bartlett's Test of 'Spherecity'

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.779
Bartlett's Test of Sphericity	Approx. Chi-Square	781.037
	df	190.000
	Sig.	.000

Table 2

Factor Loadings for Market-Orientation Scale

S.No	*Item*	*Intelligence Generation*	*Intelligence Disemination*	*Responsiveness*
1.	'In our bank, we meet with customers at least once a year to find out what products/services they will need in future'.	.545		
2.	'We do a lot of in–house market research'.	.684		
3.	'We are slow to detect the changes in our customers' preferences'.	.851		
4.	'We conduct a poll of end users at least once a year to assess the quality of our products and services'.	.593		
5.	'We are slow to detect fundamental shifts in our sector (competition, technology)'.	.886		
6.	'We periodically review the likely effect of changes in our business environment (regulation) on customers'.	.715		
7.	'We have interdepartmental meetings at least once every quarter to discuss market trends and development'.		.857	
8.	Marketing personnel in our bank spend time discussing customers' future needs with other departments.		.799	
9.	'When something important happens to a major market or customers, the whole bank comes to know about it very soon'.		.586	
10.	'Data on customer satisfaction is disseminated at all levels on regular basis'.		.758	
11.	'When one department finds out something important about our competitors, it is slow to alert other departments'.		.392	
12.	'It takes us forever to decide how to respond to competitors ' strategies'.			.843
13.	'We tend to ignore changes in customers' product/service needs'.			.789
14.	'We consistently review our product development efforts to ensure that they are in line with what customers want'.			.406
15.	'All the departments get together periodically to plan a response to changes taking place in our business environment'.			.718
16.	'If a major competitor launches an intensive campaign targeted at our customers, we, immediately implement a response'.			.393
17.	'All the departments in our bank are well coordinated'.			.435
18.	'We are not able to implement a great marketing plan in a timely fashion'.			.560
19.	'Customer complaints fall on deaf ears in our bank'.			.912
20.	'The departments make concerted efforts to modify a product or service, when the customers want'.			.684

Dimensional Analysis of Market-Orientation

While interpreting the data, the descriptive statistics were analysed. The computations are presented in Table 3.

Intelligence Generation

The descriptive statistics on this dimension, as presented in the table, suggests that the bank is taking adequate initiatives and measures to generate information/intelligence about their customers. The mean score on all the dimensions is greater than that of the mid-point value of 4, suggesting a higher level of agreement on the items relating to the intelligence generation dimension. Thus, one can draw an inference that the bank is working satisfactorily in terms of understanding the future aspirations of the customers. The high average score clearly indicates that the bank is working actively to get

Table 3

Descriptive Statistics for Market Orientation and Firm Performance

S.No	*Item*	*Mean*	*Standard Deviation*
1.	'In our bank, we meet with customers at least once a year to find out what products/services they will need in future'.	4.5	2.2
2.	'We do a lot of in – house market research'.	5.3	1.6
3.	'We are slow to detect the changes in our customers' preferences'.	4.2	2.3
4.	'We conduct a poll of end users at least once a year to assess the quality of our products and services'.	5.0	2.0
5.	'We are slow to detect fundamental shifts in our sector (competition, technology)'.	4.8	2.2
6.	'We periodically review the likely effect of changes in our business environment (regulation) on customers'.	5.1	1.7
7.	'We have interdepartmental meetings at least once every quarter to discuss market trends and development'.	5.6	1.7
8.	'Marketing personnel in our bank spend time discussing customers' future needs with other departments'.	4.9	1.8
9.	When something important happens to a major market or customers, the whole bank comes to know about it very soon'.	5.5	1.8
10.	'Data on customer satisfaction is disseminated at all levels on regular basis'.	4.9	1.8
11.	'When one department finds out something important about our competitors, it is slow to alert other departments'.	4.6	2.1
12.	'It takes us forever to decide how to respond to competitors' strategies'.	3.5	1.8
13.	'We tend to ignore changes in customers' product / service needs'.	4.2	2.1
14.	'We consistently review our product development efforts to ensure that they are in line with what customers want'.	5.5	1.4
15.	'All the departments get together periodically to plan a response to changes taking place in our business environment'.	5.8	1.4
16.	'If a major competitor launches an intensive campaign targeted at our customers, we immediately implement a response'.	5.8	1.4
17.	'All the departments in our bank are well coordinated'.	6.0	1.2
18.	'We are not able to implement a great marketing plan in a timely fashion'.	4.9	2.0
19.	'Customer complaints fall on deaf ears in our bank'.	6.1	1.3
20	'The departments make concerted efforts to modify a product or service, when the customers want'.	5.2	1.9

Note: All items are measured on 7- point scale

a relevant feedback from the customers regarding the quality of services. The bank, in order to be proactive, is following a two-pronged strategy of not only developing quality services in line with customers' requirements, but also ensuring the quality by developing an effective feedback mechanism. The bank has actually been able to identify the critical shifts in terms of technology as well as competition and also to manage it effectively. This is further corroborated by the fact that despite being the oldest and biggest bank in India, it has not only been able to survive the cut-throat competition, but also strengthen its position in the market over a period of time.

Intelligence Dissemination

The descriptive statistics of all the items relating to this dimension indicate the mean value greater than the midpoint value of 4, indicating that the bank has been able to develop processes within the organisation that helps to disseminate the information generated through their intelligence mechanism. The bank has developed an effective intra-organisational mechanism to analyse the shifts in the market and, therefore, develop effective strategies to serve the customers efficiently. It has also been observed through the data that the marketing people of the bank spend sufficient time exploring the needs of the customers at the right quarters.

It, therefore, helps in the development of appropriate products and services . Moreover, the marketing people do not merely sell the services but also play an important role in passing on the information to the bank , so that the bank is able to add value to the offer. The bank has an effective information-dissemination mechanism. Although, the value for the same has been lesser than the dissemination of information about the market or services, it can be inferred from the analysis that the final outcome of the processes is less effectively distributed as compared to the dissemination of information regarding the market trends. The findings also suggest that the bank is now effectively managing its competitors, as the information about the competitors is well disseminated. This also suggests a proactive strategy the bank has adopted to compete with strong private players, like ICICI, HDFC and others, who have emerged as the key players in the recent past due to their aggressive approach.

Responsiveness

On the responsive dimension, the mean value of Item no. 12 (mean = 3.56, σ = 1.85) suggests that there is a gap in terms of the bank's initiative to respond to the competitors' moves.

The bank is not working effectively to reduce the time gap to respond to the competitors in the market. This may prove to be a big hurdle in the bank's market-orientation initiatives. The moderate average value for Item no. 13 clearly suggests that the bank has not ignored the customers' preferences and changes in their needs. It has been receptive to such changes and, therefore, develops competitive products in the market place. From the data, we can also infer that bank products are in line with customers' requirements. Moreover, it also suggests the bank's willingness to include customers' requirements and needs in the product development process.

The analysis of the business environment is necessary to understand the trends and shifts taking place in the present time. The next statement regarding the responsiveness of the bank towards environmental change has been analysed and the average value has been calculated to be 5.86 (std. dev. – 1.48), which is fairly high. It clearly suggests that the bank has been able to develop such mechanism, where the responses to such changes are more holistic, as all the departments together develop a strategy for response to an environmental shift.

The bank has restructured itself into a number of new departments to be more customer-friendly and provides efficient and qualitative services to customers. While analysing the statement regarding the coordination of these departments, the average value has been calculated at 6.08 (std. dev. – 1.23), which is very high. The high value clearly suggests that the bank has been able to develop the market-orientation approach effectively, as all the departments are equally focused and synchronised with each other, working effectively towards providing higher value to the customers.

Since all the departments of the bank are well-coordinated, the next statement regarding implementation of marketing plan in a timely fashion has also scored a high average value of 4.9 (std. dev. - 2.08). It indicates that the bank has been able not only to develop effective marketing plans but also to implement them in an effective and efficient manner.

As given in Table 4, it can further be deduced from the analysis that of the three components, the bank has recorded a minimum average value for the intelligence generation parameter at 4.87. On the other hand, the value for the other two

Table 4

Overall Mean Score of Market-Orientation

Item	*Score*
Intelligence-Generation	4.87
Intelligence-Dissemination	5.16
Responsiveness	5.27
Market-Orientation	5.10

parameters has been calculated at 5.16 and 5.27, respectively. It suggests that the values for all the variables are on the higher side. However, the bank initiative in intelligence generation is lacking as compared to the other two components. Moreover, the kind of aggression the bank has adopted to meet the competition and maintain its customer base is also depicted from a very high value for responsiveness.

Perceived Service Quality

The second set of data was collected from the customers regarding the service quality perceptions. The responses were analysed to find out the perceived service levels. The descriptive statistics for all the 22 statements of SERVQUAL scale have been calculated and analysed, which are presented in Table 5.

Table 5

Descriptive Statistics for Service Quality

S.No	*Item*	*Mean Score*	*Standard Deviation*
1.	'The bank has up-to-date equipment'.	5.0	1.5
2.	'The physical facilities of the banks are visually appealing'.	4.7	1.4
3.	'The bank employees are well dressed and neat in appearance'.	4.2	1.6
4.	'The physical facilities of the banks are in accordance with the type of service provided'.	4.6	1.3
5.	'When the bank promises to do something within a certain time, it does so'.	4.3	1.5
6.	'The bank is sympathetic and reassuring, when customers have problems'.	3.9	1.6
7.	'The bank is dependable'.	5.2	1.6
8.	'The bank provides the service at the promised time'.	4.6	1.4
9.	'The bank keeps its records accurately'.	5.4	1.6
10.	'The bank does not tell its customers exactly when services will be performed'.	4.0	1.7
11.	'The customers do not receive prompt service from the employees'.	4.4	1.6
12.	'The bank employees are not always willing to help the customers'.	3.7	4.6
13.	'The bank employees are busy to respond to customer requests'.	4.1	1.6
14.	'The bank employees are trustworthy'.	5.2	1.2
15.	'It is safe to transact with the bank'.	5.6	1.4
16.	'The bank employees are courteous'.	4.4	1.6
17.	'The bank supports the employees to do the job efficiently'.	4.7	1.6
18.	'The bank does not give individual attention to the customers'.	4.0	1.7
19.	'The bank employees do not give individual attention to the customers'.	3.7	1.8
20.	'The bank employees do not know the needs of the customers'.	4.0	1.8
21.	'The bank does not have your best interest at heart'.	3.9	1.8
22.	'The bank does not have convenient operating hours'.	3.7	1.7

Dimensional Structure of Service Quality

To reassess the underlying dimensions of perceived service quality, the data was subjected to factor analysis. The KMO statistics and Bartlett's Test, as shown in Table 6, suggest that the correlation matrix is factorable and the analysis explicitly indicates the distinct five dimensions of service quality, as suggested in the

Table 6

KMO Statistics and Barlett's Test for Service Quality

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.78
Bartlett's Test of Sphericity	Approx. Chi-Square	706.993
	Df	231.000
	Sig.	.000

SERVQUAL scale. The data also suggests an equal number of dimensions. The factor loadings are presented in Table 7.

Dimensional Analysis of Service Quality

Tangibility

The mean value of the items corresponding to this dimension is greater than the mid-point value of 4, indicating that the customers perceive the bank positively on this dimension. The customers perceive that the bank has the latest equipments like computers and other physical facilities. This also reflects that the bank is working upon the improvement in its image among the customers. The higher mean value suggests that the bank has an improved infrastructure in terms of the physical facilities. The bank has been working upon the tangibility aspect of service quality. Further, the customers perceive the employees to be good in appearance and professional in outlook. Thus, the employees project a good image among customers.

Table 7

Factor Loadings for Service Quality

S.No.	*Statement*	*Factor 1*	*Factor 2*	*Factor 3*	*Factor 4*	*Factor 5*
1.	'The bank has up-to-date equipment'.			.856		
2.	'The physical facilities of the bank are visually appealing'.			.650		
3.	The bank employees are well dressed and neat in appearance'.			.650		
4.	The banks physical facilities are in accordance with the type of service provided'.			.509		
5.	'When the bank promises to do some thing by a certain time, it does so'.		.754			
6.	'The bank is sympathetic and reassuring, when you have problem'.		.712			
7.	'The bank is dependable'.		.813			
8.	'The bank provides the service at the promised time'.		.813			
9.	'The bank keeps its records accurately'.		.586			
10.	'The bank does not tell its customers exactly when services will be performed'.				.481	
11.	'The customers do not receive prompt service from the employees'.				.765	
12.	'The employees are not always willing to help the customers'.				.749	
13.	'The bank employees are busy to respond to customer requests'.				.729	
14.	'The bank employees are trustworthy'.					.604
15.	'It is safe to transact with the bank'.					.802
16.	'The bank employees are courteous'.					.618
17.	'The bank supports the employees to do the job efficiently'.					.746
18.	'The bank does not give individual attention to the customers'.	.832				
19.	'The bank employees do not give individual attention to the customers'.	.914				
20.	'The bank employees do not know the needs of the customers'.	.863				
21.	'The bank does not have your best interest at heart'.	.670				
22.	'The bank does not have convenient operating hours'.	.706				

Reliability

The descriptive statistics corresponding to this dimension presented mixed results. The mean value of item no. 5 shows that although the bank tries to perform the promised job, the customers do not perceive it to be an encouraging performance. They are not satisfied enough with the bank in terms of its commitment to customers. Further, the customers' perception of the bank to handle any problem in a sympathetic and reassuring manner is very low. The statement also throws light on the inefficient efforts of the bank in terms of providing quality service in terms of being reliable enough. Despite these issues, however, the customers' perceive the bank to be highly dependable. Since the bank is in public sector and is one of the oldest banks in the country, customers perceive the bank has high ability to respond to their needs and have the capability to keep their records accurately.

Responsiveness

The descriptive statistics of the items corresponding to this dimension suggest that generally the bank performs moderately in terms of responsiveness. Regarding the promptness of the service, the average score indicates that the customers' perceive that the bank is providing prompt service. This may be due to the fact that the bank has improved in terms of technological input at customer interface levels, which may have reduced considerably the waiting time for the customers. The lowest score corresponds to employees' willingness to help the customers has scored an average value of 3.79 (std. dev. – 1.66). It shows that the customers' perception regarding the employees' willingness to help is low. They perceive that the employees are not flexible in their approach; so the kind of help they should provide is not readily available. The customers' perceptions further suggest that there is an ample scope for the bank and its employees to be more responsive and provide quality services.

Assurance

The descriptive statistics of the items corresponding to this dimension suggest that generally the bank performs reasonably high on the assurance dimension. The mean values of items are greater than the midpoint value of 4. The results indicate that the customers perceive the bank and the employees to be highly trustworthy. The trustworthiness of the bank under study has been further analyzed in the next statement dealing with the customers' perceptions about the safety to transact with the bank. The analysis suggests that the customers hold the bank as very trustworthy and consider it very safe to transact with the bank. The customers' perception about the individual attention paid by the bank is not enough. It suggests that the bank should work towards developing customized services for the customers. Further, the low mean score of 3.7 shows that the employees lack in showing empathy for the customers. The customers perceive that the employees do not give individual attention to them.

Empathy

The descriptive statistics of the items corresponding to the empathy dimension suggest that the mean value of majority items is less than or close to the mid-point value of 4, which is a matter of concern. The customers perceive that employees' knowledge of customers is average. According to the customers, the bank does not have their interest at heart. This may be due to the fact that the customers believe that the bank has an inflexible approach. It follows its processes and procedures strictly, without considering the customers' point of view. Further, the customers are not satisfied with the operating hours of the bank. This may be due to the fact that almost all the private sector banks have extended operating hours for the convenience of the customers.

Continuing the analysis further, the mean scores of the various factors have been calculated, which are presented in Table 8.

Table 8

Mean Scores of Service Quality Dimensions

Dimensions	*Mean Score*
Tangibility	4.83
Reliability	4.73
Responsiveness	4.12
Assurance	5.02
Empathy	3.93
Mean Average	4.53

The results suggest that the bank has substantially improved its service quality perceptions among the employees. Of all the dimensions, the empathy dimension has scored the lowest, which indicates the rigid service performance by the employees. The responsiveness dimension has also scored below average. This further indicates the gap between the responsiveness dimension as perceived by the employees and the customers.

Regression Results

Regression analysis was undertaken between market orientation dimensions and perceived firm performance. The results are presented in Table 9.

Perceived firm performance was measured using 7 – item scale and the employees of the bank were asked to provide response. The mean score of the perceived firm performance is 5.97 (std.dev. - 1.11). The regression results suggest that the three dimensions of market orientation, i.e., intelligence generation, intelligence dissemination and responsiveness are related to perceived firm performance. Findings suggest that intelligence dissemination (b = 0.384, t= 0.011) and responsiveness (b = 0.685, t= 0.00) are significantly and positively related to perceived firm performance. Findings indicate that intelligence generation (b = -0.109, t= 0.478) is not significantly related to perceived firm

Table 9

Regression Analysis

Model Summary

Mode	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*	*Change Statistics*					*Durbin Watson*
					R Square Change	*F Change*	*df1*	*df2*	*Sig. F Change*	
1	.789[a]	.623	.598	370560	.623	25.300	3	46	.000	1.241a

ANOVA (b)

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	37.789	3	12.596	25.300	.000(a)
	Residual	22.902	46	.498		
	Total	60.691	49			

a. Predictors: (Constant), VAR00003, VAR00002, VAR00001

b. Dependent Variable: VAR00004

Coefficients[a]

Model	*Unstandardized Coefficients*		*Standardized Coefficients*		
	B	**Std. Error**	**Beta**	**t**	**Sig.**
1. Constant	.918	.642		1.430	.160
Intelligence Generation	-.109	.153	-.136	-.715	.478
Intelligence Dissemination	.384	.145	.474	2.642	.011
Responsiveness	0.685	.161	.525	4.250	.000

a. Debendent Variable: Firm Performance

performance. This basically indicates that the employees in the organization do not believe that intelligence generation has any relation with the firm performance. This finding can also be substantiated by the fact that on the service quality measure the customers believe that the bank is not responsive towards the need of the customer, whereas the bank employees believed that the bank is responsive. Therefore, the bank needs to strengthen the intelligence generation aspect and sensitize the employees towards the importance of this function. Furthermore, the value of adjusted R2 is 0.598 or 59.8 per cent indicating that all these three dimensions together explain 59.8 per cent of the total variance in perceived firm performance.

DISCUSSION

Dynamic and hostile market conditions have forced the business firms to be market-oriented. Market-orientation is a business culture, which is focused on creating superior value for the customers. In the recent past, this concept has received increasing research attention. However, most of it has focused on the US market. The study further suggests that market-orientation is not merely being customer focused, but it is also related to business performance and the learning capabilities of the organisation to change.

The organisation under study has been analysed for its market-orientation initiative and for the same its performance has been studied. The study shows that the bank has recorded a growth of 21.23 per cent in its operating profit, and an increase of 40.36 per cent in interest on loans. Despite this tremendous performance, the bank's operating expenses have increased marginally by 0.84 per cent only. The bank has witnessed a remarkable growth in the recent years. Moreover, it has to its credit a number of other initiatives, which are largely responsible for the bank's performance, like the largest number of bank ATMs and the largest card base in India. Besides this, the bank's more than 90 per cent business is on core banking. These initiatives have helped in improving to a large extent the bank's customers service level and retaining the customer base.

The above data analysis has revealed a few more facts about the State Bank of India, which are indicative of the objectives of the study. While identifying the extent of market-orientation of the bank, it has been seen that the employees perceive that the bank is highly market oriented, as it has scored an average value of 5.10. This further reveals that according to the employees, the biggest factor contributing to the bank's market-orientation initiative is responsiveness, followed by intelligence dissemination. However, the bank has scored lower on intelligence generation aspect. It suggests that the employees believe that they are highly responsive to customers' needs. Moreover, the bank is lacking in its effort to generate information about the market and the competitors, which may result in affecting the other two components of market-orientation in the long run.

The second objective of the study focused on the analysis of customers' perceptions regarding the service quality level of the bank. The data analysis suggests that according to the customers' perceptions, the service quality level has been high but considering the kind of competition, the banking sector is witnessing, the value is not enough, as the market is increasingly becoming more dynamic and complex in terms of the customer needs. Further, the customers perceive that the bank is in fact a trustworthy and safe institution to deal with, it is so due to the fact that the bank has scored the highest value on assurance dimension. The empathy factor has been the least contributor to the service quality, which is also suggestive of the public sector approach of the bank to deal with the customers. This is further corroborated with the fact that even the responsive dimension of the service quality has scored lower value. These two are largely responsible for lower customer perception scores for the bank.

The research in market-orientation has largely focused on the impact of market-orientation on performance. Statistically, the bank has achieved a number of distinctions in the past year. Moreover, the employees also perceive that the bank's performance has improved due to the market-orientation, as the score for the performance has been recorded at 5.97, which is very high. The performance has been perceived on the basis of profit, returns, innovations, etc.

The study has been conducted with a hypothesis that there is positive relationship between market-orientation and performance. Further, in order to validate the hypothesis of the study, the regression analysis has been used. The results suggest that 59.8 per cent variance in the performance is caused by market-orientation. This leads us to the conclusion that market-orientation is an important strategic orientation to gain competitive advantage in the present competitive context.

FINDINGS

The current competitive scenario being witnessed by the bank has necessitated that important steps are taken by it to sustain the situation and also exploit it in the bank's favour. Some strategies have been formulated for improving the market-orientation and service quality of the bank. The earlier analysis has identified that intelligence generation is an area where the bank lacks effort. It needs to develop a concerted effort to develop mechanisms and procedures for intelligence generation. Intelligence generation may be made a part of the process in the bank and the employees be made aware of this process and participate in it. The employees have not shown awareness and keenness for this component, which may make them as well as the bank obsolete and uncompetitive in the long run.

Secondly, it has been observed that there is a gap in the perceptions of the employees and the customers in terms of their responsiveness. The employees perceive that the bank is highly responsive to the customers' needs, whereas the customers perceive vice-versa. The bank, therefore, needs to strategise the responsiveness factor. While analysing the empathy factor, it has also been concluded that the bank does not show any empathy to the customers. It is necessary for the bank to develop such methods of conducting business which are not rigid and give the employees enough opportunity to understand and serve the customer effectively. Flexibility in the processes should be included which would help the bank improve in terms of perceptions.

Further, the bank has invested huge amounts in technology, which has put it at par with the other leading public and private sector banks. As mentioned earlier, the bank's 90 per cent business is on core banking platform. This initiative should be exploited further to implement customer relationship programmes, which would not only help the bank to provide quality services to them but also effectively manage them.

Finally, the bank should initiate the training of the employees to inculcate a better customer service climate among them. If the bank is already working on this aspect, then some parameters should be introduced to judge the effectiveness of such programmes.

CONCLUSION

Market-orientation is highly influenced by the way the organisation operates. If it perceives that a business can get away with minimal commitment to market-orientation under high-growth conditions, the decrease in the pace of the growth and competitive advantage is lost and the competitive hostility intensifies. Hence, it is imperative for the organisations to have such a perspective for the long run, as it relates positively to innovations and profitability. The present study, which has analysed the impact of market-orientation on service quality in State Bank of India, suggests that the relationship between these two is not only significant but also positive. It further suggests that this changed approach to business by the bank has helped in developing a sustainable competitive advantage for the bank in comparison to its competitors.

REFERENCES

Allred, Anthony T., and H. Lon Addams (2000), "Service Quality at Banks and Credit Unions: What do the Customers Say?" *International Journal of Bank Marketing*, Vol.18, No. 4, pp. 200-207.

Arasli, Haseyin, Salih Turan Katircioglu, and Salime Mehtap Smadi (2005), "A Comparison of Banking Industry – Some Evidence from Turkish and Greek Speaking Areas in Cyprus", *International Journal of Bank Marketing*, Vol. 23, No. 7, pp. 508-526.

Babakus, E., and G.W. Boller (1992), "An Empirical Assessment of the SERVQUAL Scale", *Journal of Business Research*, Vol. 24, pp. 253-268.

Cronin, J.J., and S.A. Taylor (1994), "SERVPERF Vs SERVQUAL: Reconciling Performance based and Perceptions-minus Expectations Measurement of Service Quality", *Journal of Marketing*, Vol. 58, No. 1 (January), pp. 125-131.

Deshpande, Rohit, John. U. Farley, and Fredrick, Jr. Webster (1993), "Corporate Culture, Customer Orientation & Innovativeness in Japanese Firms: A Quadrad Analysis", *Journal of Marketing*, Vol. 57, No. 1 (January), pp. 23-37.

Deshpande, Rohit, and John U. Farley (1998), "Measuring Market-Orientation, Generalisation and Synthesis", *Journal of Market-Focused Management*, Vol. 2, No. 3, pp. 213-232.

Deshpande, Rohit, and John U. Farley (1999), "Corporate Culture and Market-Orientation: Comparing Indian and Firms", *Journal of International Marketing*, Vol. 7, No. 4, pp. 1-18.

Doyle, P., and V. Wong (1988), "Marketing and Competitive Performance: An Empirical Study, *European Journal of Marketing*, Vol. 32, No. 5/6, pp. 514-535.

Fitzsimmons, J.A., and M.J. Fitzsimmons (1994), *Service Management for Competitive Advantage* (New York: McGraw-Hill).

Garvin, David A. (1988), Managing Quality: Strategic and Competitive Edge, in Dale H. Besterfield and Mary Besterfield (eds.), *Total Quality Management* (New York: Free Press/Prentice-Hall)

Gronroos, C. (1984), "A Service Quality Model and Its Marketing Implications", *European Journal of Marketing*, Vol. 18, No. 1, pp. 36-44.

Han, Jin K., Namwoon Kim, and Rajendra K. Srivastava (1998), "Market-Orientation and Organization Performance: Is Innovation a Missing Link?' *Journal of Marketing*, Vol. 62, No. 1, pp. 30-45.

Hedvall, M.B., and M. Paltschik (1989), "An Investigation in and Generation of Service Quality Concepts," in G.J. Avolonitis, et al. (eds.), "Marketing Thought and Practice in the 1990s," *European Journal of Marketing Academy*, Athens, pp. 473-483.

Ibrahim, Essam E., Mathew Joseph, and Kevin I.N. Ibeh (2006), "Customers' Perceptions of Electronic Service Delivery in the UK Retail Banking Sector", *International Journal of Bank Marketing*, Vol. 24, No.7, pp. 475-493.

Jaworski, Bernard J., and Ajay Kohli (1993), "Market-Orientation: Antecedents and Consequences", *Journal of Marketing*, Vol. 57, No.3, pp. 53-70.

Kohli, Ajay, and Bernard J. Jaworski (1990), "Market-Orientation: The Construct, Research Proposition and Managerial Implications," *Journal of Marketing*, Vol. 54, No. 4, pp. 1-18.

Kohli, J.K., Bernard J. Jaworski, and A. Kumar (1993), "MARKOR: A Measure of Market-Orientation", *Journal of Marketing Research*, Vol. 30, No. 1, pp. 467-477.

Leblanc, G., and N. Nguyen (1988), "Customers' Perception of Service Quality in Financial Institutions", *International Journal of Bank Marketing*, Vol. 6, No.4, pp. 127-139.

Narver, John C., and Stanley F. Slater (1990), "The Effect of Market-Orientation on Business Profitability", *Journal of Marketing,* Vol. 54, No. 10, pp. 20-35.

Narver, John C., Stanley F. Slater, and Brian Tietje (1998), "Creating a Market-Orientation", *Journal of Market-Focused Management*, Vol. 2, No. 3, pp. 241-255.

Paliwal, Pramod, and Pratima Harigunani (2004), "Tackling Panic Withdrawals: Some Lessons", *Journal of Services Research*, Vol. 4, No. 2, pp. 157-174.

Parasuraman, A., L.L. Berry, and V.A. Zeithaml (1988), "SERVQUAL: A Multiple-item Scale for Measuring Consumer Perceptions of Service Quality," *Journal of Retailing,* Vol. 63, No. 1, pp. 12-37.

Parasuraman, A., L.L. Berry, and V.A. Zeithaml (1991), "Refinement and Reassessment of the SERVQUAL Scale", *Journal of Retailing*, Vol. 67, No. 4, pp. 420-450.

Parvatiyar, Atul, and Jagdish N. Sheth (2004), "Conceptual Framework of Customer Relationship Management", *Customer Relationship Management: Emerging Concepts, Tools and Applications*, edited by Jagdish N. Sheth, Atul Parvatiyar, and G. Shainesh (New Delhi: Tata McGraw-Hill Publishing Company).

Pelham, Alfred M. (2000), "Market-Orientation and Other Potential Influences on Performance in Small and Medium Sized Manufacturing Firms", *Journal of Small Business Management*, Vol. 38, No. 1, pp. 48-67.

Shapiro, B.P. (1988), "What the Hell is Market-Orientation?" *Harvard Business Review*, Vol. 66, Nov-Dec, pp. 119-125.

Slater, S.F., and J.C. Narver (1994), "Does Competitive Environment Moderate the Market-Orientation – Performance Relationship?" *Journal of Marketing*, Vol. 58, No. 1, pp. 46-55.

Webb, Dave, Cynthia Webster, and Areti Krepapa (2000), "An Exploration of the Meaning and Outcomes of a Customer Defined Market-Orientation", *Journal of Business Research*, Vol. 48, No. 2, pp. 101-112.

Zeithaml, V.A., L.L. Berry, and A. Parasuraman (1993), "The Nature and Determinants of Customer Expectations of Service", *Journal of Academy of Marketing Science*, Vol. 21, No. 1, pp. 1-12.

APPROPRIATE HRM PRACTICES FOR SMALL AND MEDIUM ENTERPRISES
A Study in Africa

Henry Ongori* and J.P.W. Shunda**

Abstract

Although several studies have shown that the survival and success of firms depend, to a large extent, on the effectiveness of their HRM practices, most of the studies have focused on the HRM practices of large corporations. Very little research has been done on the HRM practices of small and medium enterprises (SMEs), particularly in the developing African economies. The main cause of business failure in SMEs is, among others, the lack of sound HRM practices. Large and small firms differ in respect of resources and expertise. Since an SME is not a mere miniaturised form of a large firm; it needs unique and customised HRM practices that suit its unique conditions, resource endowments and environment. An SME needs a customised approach for designing appropriate organisational structure, communication channel, flow of information, selection and recruitment procedure, performance appraisal system, and a training and development scheme. Application of HRM practices and policies of large, multi-product, multi-divisional and multi-national corporations (MNCs) may have serious implementation problem unless they are thoroughly modified and customised to the objective conditions in which an SME is operating. This paper analyses the various HRM practices in general; the characteristics and current HRM practices of SMEs in particular; and develop a conceptual framework integrating the best HRM practices with characteristics of SMEs in a developing economy, like Botswana. The paper presents new insights in the development of appropriate HRM practices for SMEs. Some suggestions are also made for owners, managers, and trainers of SMEs on the critical dimensions of HRM practices and on customising them for situations in which SMEs operate. Implications for future research in the area are also indicated.

Key Words: ***HRM practices, SMEs, Developing economies, Botswana***

CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

RESEARCH on human resource management practices (HRM), which is vital for the survival of small and medium enterprises (SMEs) in a competitive environment, has gained prominence in recent years. Recent trends in globalisation of business have compelled SMEs to have a re-look on their HRM practices and strategies. In a changing business environment, employers feel encouraged to experiment innovative HRM practices to ensure

* Henry Ongori is with the University of Botswana, Department of Management, P.B. 00701, Gaborone, Botswana; e-mail: *ongorih@mopipi.ub.bw*

** J.P.W. Shunda is with the University of Botswana, Department of Management, P.B. 00701, Gaborone, Botswana; e-mail: *shundajp@mopipi.ub.bw*

increased efficiency in SMEs (Okpara and Wynn, 2008). Most of the researchers in the field are unanimous on the premise that HRM practices are vital to the success of SME (Costea, 2002; and Tanova and Nadiri, 2005). SMEs that have been successful in managing their HRM practices effectively are likely to have high level of profitability, productivity and market share. Such SMEs also gain in stature and strength to meet the demands of their stockholders, investors, customers, employees and ultimately the needs of the society, like the economic revival of the region and locality by creating new economic centres and diffusing capital among the lower social strata (Costea, 2002; Coskun and Altnisik, 2002; Tanova and Nadiri, 2005). SMEs, thereby, play a greater role in the economy, especially in the diversification of the economic activities, in supplying the necessary raw material to large firms, in creating a competitive environment, and in providing flexibility in adoption of new technology and production systems. SMEs need to be globally competitive, more productive and economically sustainable in any environment. In order to achieve this, SMEs require a highly skilled, knowledgeable, innovative, and relatively stable workforce. Studies, worldwide, have addressed HRM practices and problems of large, multinational companies, with little attention to the study of the HRM practices in SMEs, particularly in developing countries.

HRM practices have been defined as 'a new way of thinking about how people should be managed as employees in the work place' (Reid, *et al.*, 2002); as 'practices involved in managing human resources to achieve better knowledge-related outcomes in retaining personnel, building their expertise into organisational routines through learning processes and establishing mechanisms for the distribution of benefits aiming at the utilisation of this expertise' (Minbaeva, 2005); and as 'formal strategies developed by organisations for people management in line with organisational strategies, such as manpower planning, skill-mix, policies of equal opportunities, skill retention, job security, industrial relations and redundancies' (Sheridan and Kotey, 2004). HRM practices contribute enormously to employees' job satisfaction and commitment. They boost up the organisation success by minimising employees' intention to quit. Some researchers have attempted to identify such of the HRM practices as are beneficial to SMEs to be employment security, selective hiring, extensive training, performance appraisal, sharing and diffusion of information, incentives and emphasis on promotion and development (Wickramasinghe, 2007; Mazzarol, 2003; and Pfeffer, 1997).

This study seeks to investigate the HRM practices in SMEs, with a special reference to recruitment and selection, training and development, performance management, compensation to employees for their efforts to enhance organisational performance, and minimisation of employees' intentions to quit.

Recruitment and Selection Practices

The owners/managers of the SMEs need to build a long-term commitment to retain their workforce. In order to be strategically positioned and globally competitive in a dynamic environment, SMEs need to adopt scientific recruitment and selection practices. Employee security policies should be based on scientific recruitment and selection. The SMEs managers and policy-makers need to have a long-term strategic view to HRM resources, rather than a short-term operational cost-cutting approach (Fisher and Dowling, 1999). Mak (1995) observes that bad hiring practices are caused by poor analysis of job function, personality skills profile, inadequate interviewing and questioning techniques. Recruitment and selection processes help in the selection of right kind of persons, having the right kind of qualifications and skills (Mazzrol, 2003).

Abdulai (2000) suggests that recruitment and selection processes are intended to identify prospective employees who will fit well with organisational needs. A good employee is trustworthy; can do a good job quickly and efficiently, with a steady background; he is in a good health; he is honest and pleasant to work with others (Wyatts, 1989). Similarly, employers should pay close attention to the behavioural traits of prospective employees during recruitment and selection process (Sheridan and Kotey, 2004). In recruitment and selection of employees, due care should be taken to avoid common pitfalls, such as discrimination on the basis of race, sex or marital status. Moreover, employment advertisements should not be discriminatory in terms of gender-bias. Asking all applicants the same questions should also be avoided.

Informal recruitment is still widely practised in SMEs as complementary to the formal recruitment (Barber, *et al.*, 1999; Carroll, 1999). Formal procedures attract, acquire and evaluate applications which will lead to selecting the right candidate for the job (Tanova and Nadiri, 2005). Recruitment methods, such as realistic job previews, provide accurate and detailed information about the applicant and can be helpful in making decisions for accepting or rejecting the offer because the applicants will be in a position to understand the job expectations (Watson, 1999). On the other hand, formal recruitment methods, such as press advertisements, job-centre and other agencies, could be used besides the informal ones, including recommendations from the existing staff and word of mouth publicity.

Training and Development Practices

Training and development refers to any activity that is intended to develop skills, knowledge and behaviour of employees. Training of employees is very important to both the employees and organisation, as it equips them with necessary skills for the present and future tasks and provides an opportunity to share their experiences with others and increases the degree of organisation cohesiveness (Tanova and Nadiri, 2005). Proper training will minimise their intention to quit and improve their habit of absenteeism (Jackson and Schuler, 2000).

Traditional expectation has been that a worker should receive his education and training before he enters the workforce. However, the increasing pace of technological changes implies that workers will need to update and expand their productive knowledge and skill throughout their working life. Some of this upgrading should be done within the institutions of higher education. In general, training provides employees with knowledge and skill applicable within and outside the current organisation. These act as an incentive to the employees (Reid, *et al.*, 2002). Training enables employees to do their current job in a better way. In the later life, the skills learnt while in service will help the employee even outside the organisation.

Training and development of employees improve customer services of SMEs. Training provides a mix of on-the-job and formal training, building team relationship and new ways of working (Minbaeva, 2005). Training to employees, in addition, leads to high-performance in SMEs. This means that employees should be equipped with necessary skills to enable the organisation to achieve its goal. Knowledge and intellectual capital are becoming increasingly important in SMEs in this era of competitive global markets (Abdulai, 2000).

Compensation Practices

Compensation takes the shape of monetary and non-monetary rewards which an employee gets in exchange for the services rendered by him. Thus, a well designed pay structure of the organisation sends a clear message to SMEs workforce that employees are truly valued as assets of the business. Compensation can take any form such as increase in the basic pay, share ownership, stock options, profit sharing, commissions, bonuses, paying for skills acquisitions and individual or group incentives. Similarly, compensation can be in the form of promotion based on certain accepted policies of the organisation. Promotion of employees which is done properly in line with the human capital strategy of the organisation motivates employees. In addition, in designing pay structure or policies related to compensation, the management should consult employees, trade unions and the stakeholders. Similarly, the pay structure of SMEs should be both internally and externally competitive to minimise employee turnover. Employees should also be motivated by intrinsic rewards for challenging work, autonomy of the work, task significance and job enrichment among others.

Individual employees should be rewarded at the team level, unit level, and at the organisation level (Zobal, 1999). Many researchers agree that compensation should be in line with the individual's effort to enhance organisational performance (Okpara and Wynn, 2008; Schuster and Zingham, 1999). They also agree that extrinsic rewards, such as money, are extremely important in the short run, but intrinsic rewards are more meaningful in nature because they have effect of motivating employees in the long run (Zobal, 1999). HRM practitioners feel that incentives have positive effect in motivating employees and non-financial rewards have many advantages, like flexibility (Pascerella, 1997).

In designing compensation schemes for employees, one should consider benefits, like on-site day-care, on-call baby-sitters for sick-care children, domestic partner benefits, on-site fitness and yoga classes, three-day week end mini-vacations in company-owned cottages, mortgage financing, work visa and other kind of legal assistance will motivate employees if they are provided by the employers (Lockwood and Ansari, 1999).

Performance Appraisal Practices

Performance appraisal is a process that involves identifying the strengths and weaknesses of employees. It is a yardstick to measure the progress of each employee's performance, and is centred on individual employee and his/her contribution to the organisation, as measured against the expected standard of performance. The procedures of performance appraisal also vary from organisation to organisation. Consequently, discussing a person's performance openly is likely to clash head-on with the society's norm of keeping harmony and may be felt by a subordinate as an unacceptable loss of face.

Managers and employees engage in two types of performance appraisal discussions. That is, a top-down discussion in which the candidate's performance is judged by his immediate supervisor, a bilateral discussion in which employee and supervisor explore together "how things are going" and "where the problems are", and during which an employee is allowed to "say his piece of mind" on performance. The manager should be responsible for correcting poor quality work so that employees with any weakness are identified.

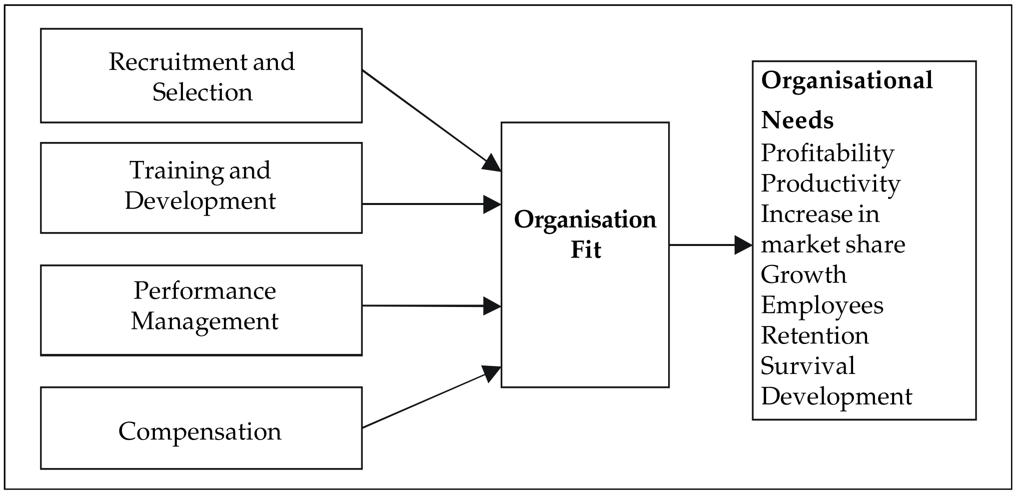
The type of appraisal instrument used to measure performance is also important. The appraisal form should be easy to understand for those who appraise as also for those who are being apprised and should provide an adequate level of behavioural richness to encourage meaningful discussion. A study by Wiersma and Berg (1999) shows that managers prefer behavioural observation scales (BOS) to trait scales and to behaviourally-anchored rating scales (BARS) because the BOS yield more information to provide feedback and set subsequent goals. The BOS are algebraically-summated, Likert-type scales, based on 'critical incident job analysis' and the appraiser indicate the frequency with which the employee has engaged in specific behaviour.

Proposed Conceptual Model

The conceptual framework for this paper is based on the available literature on human resource management practices. The framework, depicted in Figure 1, suggests that if managers and owners of SMEs take HRM practices seriously, the SME s will be in a position to achieve organisational needs by increasing profitability, productivity, and

Figure 1

Conceptual framework



the market share. Thus, in the long run, an SME will be in a position to satisfy the stockholders, government, investors, trade unions, employees, bankers, and the society at large.

RESEARCH METHODOLOGY

The research design, employed for this study, was a cross-sectional survey. The survey instrument used in collecting data was a questionnaire. A questionnaire was the most popular instrument used in the previous related studies (Okapara and Wynn, 2008; Yaganesh and Su, 2008; Ongori and Agolla, 2008; Tanova and Nadiri, 2005). The research instrument was divided into five parts: Part 1 comprised the demographic information of the respondent, Part II dealt with recruitment and selection practice, Part III with training and development, Part IV with compensation, and Part V comprised performance management. A pilot study was conducted with a few managers of SMEs to test the reliability and validity of the instrument. Their suggestions were incorporated before final administration of the questionnaire to the sample of the study. To measure their perception, the Five-point Likert scale (using strongly agree=5 to strongly disagree=1) was developed.

Out of the 360 questionnaires randomly distributed to SME managers and owners in Gaborone, only 155 questionnaires were received back duly completed; giving a response rate of 43 per cent of respondents. The response rate is consistent with similar surveys involving small firms (Desphande and Golhar, 1994; Uyargil, *et al.*, 2001; Yaganesh and Su, 2008; and Tanova and Nadiri, 2005).

Respondents' Profile

The data was collected mostly from the manufacturing SMEs (60 per cent) and service SMEs (40 per cent). Most of the SMEs were owned by corporations (63 per cent), partnership firms (22 per cent), and sole proprietor (15 per cent). Thus, partnership and company ownership accounted for 85 per cent of the sample SMEs. Moreover, most of the SMEs surveyed (64 per cent) indicated that they had been in existence for over 6 years and those less than 6 years accounted for (36 per cent) of the respondents.

The sample consisted of 98 males and 57 females. The age of the managers/owners participated in the survey was between 26 and 35 years (41 per cent) 36 and 45 years (34 per cent), 18 to 25 years (20 per cent), and 46 to 55 years (4 per cent). Most of the sample SMEs were managed and operated by both the genders. The managers who were managing the business of SMEs had the experience of at least one year. However, most of the businesses were operated and managed by employees who had 5-10 years of experience (45 per cent), followed by 1 to 5 years, (35 per cent), and over ten years (20 per cent). Most of the SMES had 25 to 99 employees (74) and 6 to 25 (26 per cent). Most of the sample SMEs were operated and managed by people with a diploma or degree (74 per cent).

RESULTS AND DISCUSSION

The perceived HRM practices investigated in the sample SMEs are summarised in Table 1.

Table 1

Perceived HRM Practices in SMEs (N=155)

HRM Practices	*Combined scores*					
	Agree		*Neutral*		*Disagree*	
	No.	*%*	*No.*	*%*	*No.*	*%*
Training and Development						
Training employees policies	18	12	42	27	95	61
Policies are communicated	29	19	41	26	85	55
Training for better decision-making	115	74	26	17	14	9
Training to handle stress	67	43	49	31	39	25
Achieve organisation objectives	115	74	25	16	15	10
Job rotation best approach	91	59	38	25	27	16
Orientation program as given to employees	83	54	32	20	40	26
Use of mentoring/coaching method	98	63	39	25	18	12
Compensation						
Awareness of employees toward policies	88	56	35	23	32	21
Compensation based on performance	72	46	36	23	47	31
Share profits of employees.	-	-	40	26	115	74
Performance based pay increment	92	59	32	21	28	20
Non-financial rewards applied	110	71	23	15	22	14
Flexible compensation policies	93	60	37	23	25	17
Challenging work form of reward	97	63	28	18	30	19
Recruitment and Selection						
Formal policies in place	100	64	34	22	21	14
Appropriate media used	108	70	30	19	17	11
Internal recruitment practiced	94	61	41	27	20	12
External recruitment practiced	76	49	46	30	33	21
Recruitment/Selection aid orientation	95	61	44	28	16	11
Clear procedures for selection	110	71	30	19	15	10
Reference checks technique used	31	20	34	22	90	58
Employment test used	103	66	29	19	23	15
Technical skills for non-managerial Staff	86	56	52	34	15	10
Performance Appraisal						
Awareness of performance policies	94	61	37	24	15	15
Aims of performance management	108	70	34	22	13	8
Ranking method used	98	63	40	26	17	11
Outside raters used	77	50	42	27	36	23

The respondents were asked to indicate whether they have training policies for their employees. The results indicated that 95 (61 per cent) of the respondents disagreed. This suggests that some SMEs were operating without proper policies for training their employees. This is detrimental to organisational performance. Training of human capital is critical for the survival, growth and sustainability of SMEs. Lack of well-defined policies to train employees in organisation will affect employee relations (Tanova and Nadiri, 2005). In previous empirical studies, training of employees was considered as one of the strategies in enhancing employee loyalty and commitment (Jackson and Schuler, 2000; Okpara and Wynn, 2008; Schuster and Zingham, 1999). On the variable whether training policies are communicated to all employees, it was found that 85 (55 per cent) of the respondents had disagreed. This indicates that although some SMEs had policies on how to train their employees, they did not communicate the fact to their employees. This is not a good strategy for promoting employee relations in SMEs. Management should keep their employees informed of the policies which affect them. Failure to encourage open communication in organisation will lead to organisational conflicts (Ongori, 2008).

A large majority of the respondents (74 per cent) felt that training should be taken seriously by the management, since it enabled employees to make better decisions and perform better. This finding is consistent with that of Reid, *et al.* (2002), who argued that training provided employees with knowledge and skills to enable them to make quality decisions. In addition, Ongori (2007) argued that the lack of training of employees was a major contributing factor to employee turnover in organisations. In the face of many challenges in the present era of globalisation, SMEs stand to benefit if they invest in the development of the human capital.

On the variable whether training of employees will help employees to cope up with stress, only 67 (43 per cent) of the respondents agreed. Needless to stress, occupational stress should be managed properly to promote employee relations and minimise their intentions to quit. In fact, training of employees helps them in developing stress-coping skills. To a large majority of the respondents, (74 per cent) employee training is important for the organisation, especially in enhancing organisational performance. The results also indicated that training is critical for the survival of SMEs. This finding is consistent with that of Wright, *et al.* (1994), who argued that knowledge and intellectual capital development in organisation were becoming increasingly important in highly competitive global markets.

A majority of respondents (59 per cent) is considered job rotation as one of the best methods of training employees. Orientation of employee especially the new ones, was favoured as an aid to training in organisation, by a majority of respondents (54 per cent).

Thus, all new as well as the existing employees who have been given added responsibilities should be oriented. Most of the managers in SMEs (63 per cent) felt that mentoring of employees should be taken seriously. This suggests that managers and owners of SMEs realise the importance of succession planning in organisations.

On the variable of compensation of employees, the results indicated that a majority of employees (56 per cent) were aware of their compensation policies. This highlighted that employees of SMEs were aware about the intrinsic and extrinsic rewards in place. This promotes good employees relations and reduces employees' intentions to quit. Only 42 per cent of the respondents felt that the employees were compensated on the basis of their performance. In this connection, it must be noted that certain scholars (Schuster and Zingham, 1999 and Zobal, 1999) have argued that compensation should be in line with an individual's effort.

On the variable whether the employees share part of the profits, a large majority (74 per cent) of the respondents disagreed with the policy. This suggests that most of the SMEs need to change their approach in compensating their employees. Although sharing of profits may be risky to employees, management should consider it as one of the strategies to minimise employee turnover in organisations.

A majority of respondents (59 per cent) felt that pay increment of employees was based on their performance. Whether non-financial rewards were used in SMEs, a majority of (60 per cent) of the respondents agreed. This finding is consistent with that of Zobal (1999) who stated that since extrinsic rewards would have a short-term effect on the employees, in the long-run, intrinsic rewards should be considered. For instance, employees should be given a challenging work and promotional avenues. Hence, SMEs should apply both intrinsic and extrinsic rewards judiciously in compensating the employees.

The respondents were asked whether there were flexible compensation policies in their organisation. A majority (60 per cent) indicated their affirmation. This finding is consistent with that of Pascerella (1997), who argued that flexible compensation policies were good for the organisation since they can accommodate any changes which might arise due to inflationary adjustments. On the variable whether challenging work was considered as a reward, a majority (63 per cent) of the respondents agreed with the statement. Challenging work has undoubtedly a long-term impact on employees' performance and commitment.

On the recruitment and selection variable, the results indicated that formal policies were in place for recruiting employees (64 per cent). This reflected that both formal and informal policies were practised in the SMEs. Although formal practices were considered to be the best, SMEs prefered informal practices (Barber, *et al.*, 1999). In recruiting employees, a majority (70 per cent) of the respondents found newspapers to be the appropriate medium. This finding is consistent with that of Mak (1995), who argued that for SMEs to survive, grow and develop in this era of globalisation there is need for good recruitment practices. A majority (61 per cent) of the SMEs surveyed agreed that for recruitment of employees the internal sources were given priority. This finding is consistent with that of Watson (1999), who stated that internal recruitment provided accurate and detailed information about the applicant and minimises the recruitment expenses. In addition, external recruitment is also practised in SMEs in only 49 per cent of cases. Thus, managers of SMEs surveyed realised the importance of external recruitment, especially in injecting new skills in the organisation.

On whether recruitment and selection process aids orientation, a majority (61 per cent) of the respondents agreed.

Having a clear and proper procedure of recruitment and selection enabled the organisation to have the right quality and quantity of employees. This was favoured by a large majority (71 per cent) of the respondents. Reference-check technique was not commonly used in 58 per cent of the sample SMEs. Failure to cross-check and verify the information given by the applicants will be classified as bad hires in organisation (Mak, 1995). Reference-check is indeed important in organisation in order to have the right human capital.

Employment tests are used in SMEs' selection process although they are not widely practised (66 per cent). There are various tests which can be applied to aid selection process, like proficiency and aptitude tests. This would help the managers and other personnel entrusted with the responsibility of selection process to make better hiring decisions. Technical skills were highly favoured for non-managerial positions (56 per cent). This practice is good for the operations of SMEs. The performance of SMEs, especially on lower levels of the organisation, depends largely on the technical skills of their employees.

On the performance management variable, a majority (61 per cent) of respondents indicated that the employees were aware about the firm's policies of performance management system. Therefore, the standards set should be specific, measurable, achievable, and realistic and timed (SMART). The performance aims should be clearly spelt out. This motivates employees to work towards achieving the performance standards set since they are based on the SMART principle. Performance appraisals for the employees should highlight their strengths, opportunities to be developed and weakness to be corrected (68 per cent). This approach is good for the SMEs employees because they will be in a position to know their strengths and weaknesses. In evaluating the employees' performance, the ranking method was considered as the most appropriate, by a majority of respondents (63 per cent).

Other methods can also be used. On the variable whether outside raters are used in rating the employees, 50 per cent of the respondents agreed to the statement. This approach, if practised, is good for promoting employee relations in SMEs and will minimise employees' intention to quit.

CONCLUSIONS

HRM practices are critical to SMEs' survival, growth and development, and, at the same time, these help the organisation in increasing profitability, productivity and retention of employees. The policies pertaining to training of employees which are in place are not communicated to the employees. The training of employees in SMEs has a great impact on their retention and on organisational performance. Although various approaches are available for training the employees of SMEs, on-the-job training is considered to be the best for imparting necessary skills to the employees; pre-service approaches can play only a supplementary role. It has been formed that the managers/owners of SMEs apply both intrinsic and extrinsic rewards in compensating their employees. These rewards do have a positive effect on employee performance and retention in SMEs.

For recruitment and selection of employees, the managers/owners of SMEs use both the internal and external sources and both of them are found to be so useful for the organisation because they promote employee relations and inject new talent in the organisation. Poor recruitment can be avoided by conducting detailed job analysis, using appropriate media for advertisement, adequate interviewing, and questioning techniques, employment tests and reference checks (Mak, 1995). Performance management is used as a controlling strategy to assess employees' strengths and weaknesses in SMEs. Performance standards should be specific, measurable, achievable, and realistic, and time-bound. Ranking method has been commonly used in evaluating the employees. Other methods, like point system, should also be used. This will enable the management to assess the employees' strengths and weaknesses. This study is expected to make contribution to the body of knowledge if it prompts the managers of SMEs to come up with appropriate strategies and promote good HRM practices in their organisation. The major limitation of this study is that the sample selected on the basis of convenience sample did not comprise all SMEs in Botswana and, therefore, the suggested premises cannot be generalised for all the SMEs, which were not part of this study. Therefore, there is a need of a longitudinal research to be conducted in future, which has large sample to have a clearer viewpoint on HRM practices in SMEs. In addition, triangulation method needs to be applied in future research to validate these findings.

REFERENCES

Abdulai, A. (2000), "Human Resource Management", *Journal of Public Sector Management,* Vol. 13, No. 5, pp. 5-7.

Barber, A., M. Wesson, Q. Roberson, and S. Taylor (1999), "A Tale of Two Job Markets: Organisational Size and Its Effects on Hiring Practices and Job Search Behaviour", *Journal of Personnel Psychology,* Vol. 52, No. 4, pp. 841-67.

Carroll, M., M. Marchington, J. Earnshaw, and S. Taylor (1999), "Recruitment in Small Firms: Processes, Methods, and Problems", *Journal of Employee Relations*, Vol. 8, No. 6, pp. 272-91.

Coskun, R., and R. Altunisik (2002), "Management Concerns about Issues faced by Turkish SMEs", *International Journal of Small Business Management*, Vol. 8, No. 6, pp. 272-91.

Costea, E.S. (2002), "The Role of HRM in Today's Organisation: The Case of Cyprus in Comparison with European Union", *Journal of European Industrial Training*, Vol. 26, No. 6, pp. 261-268.

Deshpande, S., and D. Golhar (1994), "HRM Practices in Large and Small Manufacturing Firms: A Comparative Study", *Journal of Small Business Management*, Vol. 32, No. 2, pp. 49-56.

Huselid, M.A. (1995), "The Impact of Human Resource Management Practices Turnover, Productivity and Corporate Financial Performance", *Academy of Management Journal,* Vol. 38, No. 3, pp. 35-72.

Jackson, S.E., and R.S. Schuler (2001), *Managing Human Resource: A Partnership Perspective*, (London: South-Western College Publishing).

Karl, J.M. (2002), "Human Resource Practices and Service Quality in Parks", *International Journal of Contemporary Hospitality*, Vol. 14, No. 4, pp. 6-17.

Lockwood, D. and A. Ansari (1999), "Recruiting and Retaining Scarce Information Technology Talent", *Journal of Industrial Management and Data Systems,* Vol. 99, No. 6, pp. 251-256.

Mak, C. (1995), "Successful People Selection in Action", *Journal of Health Manpower Management,* Vol. 21, No. 5, pp. 12-16.

Matt, V. (2004), *Manufacturing Empowerment, 'Employee Involvement' in the Labour Process after Fordism*, University of Wisconsin-Madison, pp. 5-9.

Mazzarol, T. (2003), "A Model of Small Business HR Growth Development", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 9, No. 1, pp. 27-49.

Minbaeva, D.B. (2005), "HRM Practices and MNC Knowledge Transfer", *Personnel Review*, Vol. 34, No. 1, pp. 125-144.

Okpara, J.O., and Wynn (2008), "Human Resource Management Practices in a Transition Economy", *Management Research Review*, Vol. 31, No. 1, pp. 56-76.

Ongori, H. (2008), "Organisational Conflicts and Its Effects on Organisational Performance", *Research Journal of Business Management,* Vol. 2, No. 1, pp. 16-24.

Ongori, H. (2007), "A Literature Review on Employee Turnover", *African Journal of Business Management,* Vol. 1, No. 3, pp. 049-54.

Ongori, H., and J.E. Agolla (2008), "Occupational Stress in Organizations and Its Effects on Organizational Performance", *Indian Journal of Management Research,* Vol. 8, No. 3, pp. 123-135.

Pascarella, P. (1997), *Compensating teams*, Across the Board, pp. 16-22.

Reid, R., T. Morrow, B. Kelly, and Pat Carton (2002), "People Management in SMEs", *Journal of Small Business and Enterprise Development*, Vol. 9, No. 3, pp. 249-259.

Shuster, J.R., and P.K. Zingheim (1999), "Building Pay Environments to Facilitate High Performance Teams", *American Compensation Journal,* pp. 40-50.

Sheridan, A., and A. Kotey (2004), "Changing HRM Practices with Growth", *Journal of Small Business and Enterprise Development*, Vol. 11, No. 4, pp. 474-485.

Tanova, C. and H. Nadiri (2005), "Recruitment and Training Policies and Practices", *Journal of European Industrial Training*, Vol. 29, No. 9, pp. 694-711.

Watson, T. (1989), "Recruitment and Selection", *Personnel Management*, Blackwell, Oxford.

Wiersma, U.J., T. Peter Berg (1999), "Influences and Trends in Human Resources Management Practices in the Netherlands", *Employee's Relations,* Vol. 21, pp. 63-79.

Wright, P.M., G.C. McMahan, and A. McWilliams (1994), "Human Resources and Competitive Advantage: A Resource-based Perspective," *International Journal of Human Resource Management,* Vol. 5, No. 2, pp. 303-326.

Wickramasinghe, V. (2007), "Staffing Practices in the Public Sector in Sri Lanka", *Journal Career Development International,* Vol. 12, No. 2, pp. 108-128.

Yeganesh, H., and Z. Su (2008), "An Examination of Human Resource Management Practices in Iranian Public Sector", *Journal of Personnel Review*, Vol. 37, No. 2, pp. 203-221.

Zobal, C.L. (l999), "The Ideal Term Compensation System Overview", *Journal of Team Performance Management,* Vol. 5, No. 1, pp. 23-45.

DEVELOPING MANAGEMENT INFORMATION SYSTEM FOR FOREIGN EXCHANGE EXPOSURE

Nidhi Jain*

Abstract

Indian firms have often been hesitant in venturing out to the exciting and often mysterious world of global derivatives. The paper is an attempt to induce practitioners in India to attempt informed decision making, through the use of new and improved technologies. Through a structured questionnaire approach, corporate objective; attitude to risk; corporate techniques, organisation structure, and the design of management information system, are studied. The information has been elicited from the Directors (Finance) of various Indian companies. The findings, given in the paper, are not only interesting but useful as well.

Key Words: ***Foreign exchange risk, Hedging methods, Management information system, Transaction exposure, Economic exposure, Multinational company***

THEORETICAL FRAMEWORK

THE study of management information systems started in the 1970s to focus on computer-based information systems aimed at managers. A Management Information System (MIS) combines the theoretical work of computer science, management, and operations research, with a practical orientation toward building a system and its application. It also examines the behavioural issues raised by sociologists, economists, and psychologists. MIS refers to the study of information systems in business and management. It also designates a specific category of information systems, serving management-level functions. The management information system serves the management of the organisation, providing managers with reports or with on-line access to the organisation's current performance and past records. Typically, they are oriented almost exclusively to internal, not environmental or external, events. The MIS primarily serves the managerial functions of planning, controlling and decision-making. Generally, it depends on the underlying transaction-processing systems, for the data.

MIS, essentially, summarises and reports on the company's basic operations. MIS usually serves managers interested in weekly, monthly, and yearly results – not day-to-day activities, and provides answers to routine questions that have been specified in advance and have a pre-defined procedure for answering them. These systems are generally not flexible and have little analytical capability. They use simple routines, such as

* Dr. Nidhi Jain is a Reader in the Department of Financial Studies, Delhi University, South Campus, New Delhi – 110 021; e-mail: *nidhidr@gmail.com*

summaries and comparisons, as opposed to sophisticated mathematical models or statistical techniques.

Having looked into its distinctive features, the concept of management information system can be summed up as the information system at the management level of an organisation that serves the functions of planning, controlling, and decision-making, by providing routine summary and exception reports.

For purpose of the present study, a management information system is distinct from a decision-support system, executive-support system, and a strategic information system. The term 'MIS', for purpose of the study, refers to reports that support decision-making, reports that are based largely on internal data extracted from organisation's transaction-processing system. Thus, it seems apt to think of the management information system as a system, which provides routine summary and exception report, for routine decision-making.

After examining the essential attributes of management information system, we now try to appreciate the nature of Foreign Exchange Exposure Management. The term 'Foreign Exchange Exposure' refers to the exposure to risk, and implies foreign exchange risks that can be quantified. Foreign exchange exposure management, thus, implies risk neutralisation practices (often called 'hedging').The term does not refer to risk-avoidance, risk-transfer, loss-prevention, or loss-reduction. Further, it requires identification, calculation, and reporting of exposure and monitoring development in the exchange markets. This is achieved in the framework of a currency-risk management information system, by which multinational companies assess the possible impact of the swings in exchange rates on their operations.

The next important point in this context pertains to the nature of management information system for foreign exchange exposure management. MIS for foreign exchange exposure management needs to collate information on budgeted cash flows in each foreign currency and list all assets and liabilities denominated in a foreign currency. The frequency of reporting depends on the extent of

Table 1

A Set of Foreign Exchange Exposure Statements

Type of Statement	***Frequency***
Projected Cash flow:	
In each currency	For 6 months ahead
Inter-group cash	For 6 months ahead
Cash to and from third parties	for 6 months ahead
Actual and projected hedging cover:	
Forward contracts	Monthly
Future contracts	Monthly
Currency Options	Monthly
OTC's Traded Options	
Balance sheets:	
Actual figures	every 3 months
Budgeted figures:	For 3, 6 and 12 months ahead
Identifying net monetary position	for 3, 6 and 12 months ahead
By Currency:	
Income statements:	
Actual figures:	Every three moths
Budgeted figures:	For 3, 6 and 12 months ahead
Capital Projects:	
Actual currency liabilities:	Monthly
Budgeted currency liabilities:	As per decisions are taken
Budgeted currency inflows:	Over the life of project
Exposure position:	
Gross exposure in each currency:	Monthly for 6 months ahead
Net of hedging exposure:	
In each currency:	Monthly for 6 months ahead
Foreign exchange gain or loss:	
Projection:	Monthly for 6 months ahead
Currency rates:	
Spot rates:	Daily
Currency forecasts:	For 1, 3, 6, and 12 months ahead
Long-term currency forecasts	: For 1, 3, 5, and 10 months ahead (If available)

foreign trading and the stability of the currencies being monitored.

A list of suggested statements that need to be prepared on a regular basis if the finance officer wishes to monitor and control the currency exposure of his company is given in Table 1.

Some of the findings of McRae and Walker (1980) are pertinent in this context. They, for example, after studying several currency information systems suggest that the following principles should be employed in setting up an effective foreign exchange information system. One, the information should be anticipatory. In other words, the system should concentrate on future not past events. Two, the frequency of the reporting period is important. So, the finance officer must tailor the frequency of reporting to the specific needs of the company and the stability of the currencies used by the company. A standard reporting period for every subsidiary is not likely to work efficiently. Three, the information should be sent directly to the officers controlling foreign financial operations. Some companies, it was found, send all currency information first to the chief accountant or controller who redirects it to the relevant foreign exchange department. This approach, it was felt, shows the control system down and makes it inflexible. The reaction period to new information is slowed down. The managers who need the information must be clearly identified and the information sent directly and speedily to those individuals. Four, the benefits of the foreign exchange information system must be carefully explained to all users of the system. There is evidence that many managers do not fully understand the impact of foreign currency on profit. If the importance of efficient currency management is explained to staff, this should improve the accuracy and speed with which the information is processed through the system. Five, the same type of information system should not be applied to all foreign operations. It is wise to tailor the system to the specific needs and size of each individual foreign operation. This will improve the relevance of the information processed and ensure better co-operation from the foreign operators. A 20-line monthly balance sheet exposure report from a subsidiary, with Rs. 250 crore annual sales may be worthwhile; if the same report is requested from the Rs. 5 crore units, then the management time and motivation are needlessly wasted.

Having understood some noteworthy aspects of the 'management information system for exposure management', as enumerated in literature, we would for the time being, sum up our stance as: The above points though noteworthy, seem to be the general reporting principles; yet, these should be the basis of all exposure information systems.

LITERATURE REVIEW

Previous research has concentrated on studying the hedging practices of some US and UK companies. These include Davis (1989), Belkand Glaum (1990), Bodnar and others (1995), Clifford (1995), and Edelshen (1995). However, only a few of them have examined such practices for Indian companies, e.g., Yadav and Jain, etc. Moreover, little or no empirical research has been carried out to investigate foreign exchange risk management practices of Indian multinational companies. Finally, no study conducted so far has attempted to develop a structured routine decision-support system for exposure management. The paper seeks to fill the research gap.

OBJECTIVES AND HYPOTHESIS

The main objective of the paper is to propose a generic foreign exchange exposure management information system. In particular, the paper seeks to identify and evaluate the following, in respect of select Indian companies:

1. Foreign exchange risk management practices
2. Need for a management information system, where none exists
3. The existing management information system and to determine the most important problem ailing such a system, if any; and

4. Whether the exposure is formally calculated by the management information system (transaction, translation, economic).

The paper also attempts to test the following null hypothesis:

$H_{0:}$ The size of a company has no association in the exposure formally calculated by the Company Information System.

It is hoped that on the basis of generalisations drawn, a generic management information system can be developed.

RESEARCH METHODOLOGY

A questionnaire was sent by post to the Finance Directors of selected Indian companies, included in the Prowess database. The companies selected had significant foreign involvement.

Significant foreign involvement is defined mathematically as:

$$(Exports + Imports) / Sales > 0.5$$

The questionnaire had four sections, viz. (i) profile of sample companies, (ii) foreign exchange risk exposure management practices of Indian companies, (iii) nature of management information system; and (iv) Indian practitioners' opinion on some theoreticians' view.

Given the nature of the task-problem, an Indian multinational company is defined as 'a company which has subsidiaries abroad, but in itself, it is not a subsidiary, of an overseas company.

The Indian multinational companies studied had their subsidiaries in the USA, Mauritius, Thailand, China, the U.K., Central Asia, Cyprus, Malaysia, Nepal, Vietnam, Russia, and Europe. The SPSS package was used for analysis of the survey data. The choice of a tool is dependent on the objective of the enquiry and the data collected. Finally, a case study is analysed in order to have some understanding of a real-life situation.

SURVEY FINDINGS

Information System for Exposure Management

The first question in the series of questions on this section related to the existence of an information system in the company for the management of foreign exchange risk exposure. In this regard, the responses of all the finance directors, and the responses of Indian Multinationals, shows that a vast majority of respondents answered in the affirmative, viz., 76.9 per cent Majority of the respondents that answered in the negative were from Multinational Companies (as out of the total number of respondents who said 'no' to the question 77.8 per cent were CFO's of multinational companies).This question was followed by another one to know whether the companies which did not have an information system for the management of foreign exchange exposure felt the need for one. Of the sample companies that fell in this category and responded to the query, a large majority (75 per cent) felt that they needed such a system. Only 25 per cent of such companies expressed the opinion that they did not need an information system for exposure management. A further enquiry into the response of Indian multinational companies on the issue revealed that this question was responded by multinational companies only. The information in respect of the non - multinational companies, asked to respond to the question was missing.

The study also sought to find the state of the information system for management of foreign exchange risk exposure. By asking a series of questions to the companies which had such a system in place, it was found that 96.7 per cent of all the respondents felt their information system was cost-effective. Likewise, an overwhelming majority of the respondents, (viz., 89.7 per cent) said that their information system was regularly reviewed to ensure its cost effectiveness and a vast majority of all the respondents, (viz., 93.1 per cent) said that they had a formal system for calculation of foreign exchange exposure. The per cent of multinational companies that gave positive response to these questions were found to be 100 per cent, 91.7 per cent, and 91.7 per cent, respectively. The companies that said that they had a formal system for calculation of foreign exchange exposure were further asked to indicate which type of exposure their company calculated. The enquiry revealed that a majority of companies (73.1 per cent) calculates the transaction exposure only, followed by 19.2 per cent companies that calculate transaction and translation exposure. While, no company was found to be calculating economic exposure, only a very small percentage of companies (7.7 per cent) calculated 'translation exposure only'. The responses of Indian multinational companies revealed similar picture. Surprisingly, the information system of one non-Multinational company was found to calculate translation exposure only while two non - multinational companies said that they calculated transaction as well as translation exposure. Further, the results revealed that majority of companies that calculated both transaction and translation exposure were Indian multinational companies, as out of total, 60 per cent such companies were multinational companies.

Some Theoretical Propositions Explored

Proposition 1: "All hedging measures have a cost, whether easily discernible or not. The expected costs associated with internal measures may be lower than external measures of hedging. Also, in the present global environment a variety of innovative tools are available for hedging foreign exchange risk. A new discipline called financial engineering has emerged that allows companies to consider a variety of means of hedging and to contrast and compare the consequences of different hedging vehicles".

Given this, the study asked finance directors to indicate, whether in choosing a particular hedging alternative, their information system took into account, the cost associated with the hedging alternatives. This query revealed that: One-fifth of the total relevant sample companies information system did not take into account the costs associated with hedging alternatives. None of these companies was, however, a Multinational company, as 100 per cent of the relevant Multinational companies, finance directors opined that their information system took into account, the cost associated with hedging alternatives.

Proposition 2: "Determining regulatory constraints is important in foreign exchange risk exposure management. This would basically include the technical parameters within which the company and its affiliates operate and comprise the exchange control, monetary and fiscal restrictions imposed by each government. Some principal regulatory constraints to be considered are: restrictions on leading, lagging, forward cover restrictions, inflow-outflow matching restrictions, restrictions on currency of billing etc. If this information is not available, it results in corporate losses". Given this piece of information, the finance directors were asked to indicate, whether their information system, included information on constraints (if any), and on the use of hedging alternatives. The survey results in this respect revealed that: While majority of respondents (both multinational company and non-multinational company) opined that their information system took into account the constraints, if any, on the use of hedging techniques; the percentage figures were much higher for Indian Multinational companies. In this respect, it is important to mention, that many exchange controls, have been lifted by the Government, thereby reducing the constraints, on the use of hedging techniques.

Proposition 3: "An organisations information system for foreign exchange risk exposure management may range from rudimentary to very complex". The study, accordingly attempted, to identity the typical problem, ailing information systems that are present in Indian companies, for management of foreign exchange risk exposure. A review of literature revealed that the information systems may suffer from: insufficient detail and forecasting; it may generate more information than that is needed for good risk management in a single company with resultant strain on personnel, inefficiency in compilation and unnecessary expense [Prindl (1976)]. Accordingly, five problems were enumerated in the questionnaire and the respondents were asked to rank these problems from 1 to 5 where rank 1 stood for most important problem and rank 5 stood for least important problem. The survey result in this regard for all sample companies reveals that the most important problem ailing the information system for exposure management was that the information was not anticipatory. The multinational companies response on problem ailing their information system revealed that most important problem was information not anticipatory followed by information overload and information not timely, in that order. The mean scores and standard deviation for the five problems besetting the information system for companies and Indian multinational companies are given in Table 2.

Since the most important problem is ranked 1 and the least important one is ranked 5, the importance attached by a company to the problem is in the ascending order of the mean scores. The most important problem is the one with the lowest mean score.

Proposition 4: A few questions were asked to the finance directors of multinational companies who had a centralised set-up for foreign exchange risk exposure management. One, they were asked to indicate whether a group exposure statement was prepared (by the centralised treasury) on the receipt of currency exposure schedules from all around the world. The responses of finance directors to this query are summarised in Table 3.

Proposition 5: Another question posed to the finance directors of multi-national companies with centralised treasury was whether the subsidiary reports distinguish between: intra-company and third-party flows (distinction relevant for lead/lag decision), capital vs. trading flows (distinction relevant because of exchange control restriction, e.g., netting of financial with commercial flows, etc.). Firm's contractual and probable flows (relevant for exposure management purposes because of the exchange controls on, e.g., forward cover and foreign currency borrowing), and covered and uncovered flows (relevant for exposure management purposes). The responses of the finance directors to this query revealed that a majority of multinational company do distinguish between intra-company and third-party flow (relevant for

Table 2

Major Problems of the Information Systems Prevalent in Companies

(N=20)

S.No	*Problems of the Information System*	*All Co. Response (N=21)*			*MNC Response (N=9)*		
		Mean	*S.D.*	*Rank*	*Mean*	*S.D.*	*Rank*
1.	Information not timely	2.67	1.46	II	3.22	1.64	III
2.	Information not anticipatory	1.95	1.07	I	2.22	1.39	I
3.	Information Overload	3.14	1.15	III	2.89	1.62	II
4.	Information not oriented to decision-making	3.90	1.41	V	2.89	1.05	II
5.	Inadequate Information	3.50*	1.15*	IV*	3.78	1.20	IV

Table 3

Preparation of Group Exposure Statement

Is a group exposure statement prepared on receipt of ? currency exposure schedules from all subsidiaries	*Per cent of all MNC's (N=13)*	*Per cent of Indian MNC's (with centralized set-up) Response (N=7)*
Yes	53.8	85.7
No	46.2	14.3
Total	100	100

lead/lag decision). But, the majority of multinational companies were not found to distinguish between: probable vs. contractual (firm) flows (relevant for exposure management purposes because of the exchange controls on, among others, forward cover and foreign currency borrowing); and covered and uncovered flows. However, 100 per cent of sample multinational companies, distinguished between trading and capital flows (relevant for exposure management decisions because of exchange controls, like restrictions on the netting of financial with commercial flows and on the forward purchase or sale of foreign currency).

Hypothesis Testing

To ascertain if there is any association between the size of a company and the exposure formally calculated by the companies' information system, the statistical tool of cross-tabulation and chi-square test for independence were used. The aggregate results of cross tabulation revealed that the following: (i) Small companies calculate transaction exposure only, (ii) amongst the medium companies, one-half calculate translation exposure only while another one-quarter calculate both translation and transaction exposure; (iii) Majority of large companies' information system formally calculates transaction exposure only; and (iv) About one-fifth of the sample respondents calculate both translation and transaction exposure .

Further, in order to test whether the type of exposure formally calculated by the information system is dependent on the size of the company, chi-square test of independence was conducted at the aggregate level. The null hypothesis was that the size of company and the exposure formally calculated by the companies' information system are independent. The results of the Pearson chi-square test of independence are significant at the 5 per cent level since p-value is $0.012 < 0.05$ (for N=26, df=4). Consequently, the null hypothesis is rejected implying that company size and type of exposure formally calculated by the information system for exposure management are not independent. To sum up, hypothesis-testing on the data suggests that company size has bearing on the type of exposure formally calculated by the information system.

Foreign Exchange Risk Exposure Management Practices: Findings

As it was intended to develop MIS for foreign exchange exposure management based on theoretical research and survey findings, a survey of Indian companies was attempted to find the most popular foreign exchange exposure management objective, the attitude of majority of practitioners on risk management and the most popular hedging method, most popular hedging tool, and the most important exposure. The survey revealed that a majority of companies in India had following stance: the companies approach to foreign exchange risk exposure management was identified; to minimise losses from fluctuations in exchange rates. But, in case of multinationals - to profit from fluctuations in exchange rates; their attitude to risk was found as to be risk averse, viz., risk is unacceptable, take hedging action ;their objective was to reduce cash flow volatility; their stance was ascertained as selective hedging; external hedging was most popular hedging method in use and the most frequently used hedging tool was found to be the forward contract; further, the most important exposure was found to be the transaction exposure and the organisation structure was such that an executive of the finance department was fond to have been entrusted with the task of foreign exchange risk management. Moreover, the treasury was in most of the cases found to be centralised.

Given the above survey findings and the suggestions made in the relevant literature, viz., separate MIS is needed for managing transaction exposure, translation exposure and economic exposure; MIS turns out hard copy, routine reports, summary reports drawn from the Company's transaction processing system to support routine decision-making; we take up on the task of developing a management information system, for hedging transaction exposure.

Developing MIS for Exposure Management

As is usual in any research exercise, conceptual framework was first attempted. There are certain management information systems which are proposed in the literature.

Prindl (1976) provides an outline of reports necessary to analyse a company's present and projected exposure, to ascertain the potential impact on its financial statements and operations and to determine the constraints imposed on its response to that potential impact. It suggests that the exchange risks are measurable, if a logical and structured information system is used. It outlines reporting in export/import Company, reporting in company with consolidated subsidiaries, reporting for unconsolidated subsidiaries, reports for forecasting future positions. From the combination of exposure identification reports, the group treasury should be able to depict: (i) the present balance sheet position, by currency of the group and each affiliate; (ii) the future balance sheet position by currency similarly, if more crudely; (iii) a perception of economic exposure, again by currency, faced by the subsidiaries; the future income or dividend stream and their currency breakdown.

The summary position of the group from a translation viewpoint can then be plotted by currency over several time periods. Prindl suggests a model information system with a series of interlocking elements, like:(i) Basic translation exposure reports-detailed balance sheets, balance sheet forecasts, exchange exposure reports, reports on a cash-flow basis, hedging reports ;(ii) economic exposure elements-cash forecasts, and inventory analysis; (iii) ability to adjust inter-company position; (iv) basic constraints on position adjustments; and (v) rolling report on exchange gains and losses. Further, it suggests that the treasurer will wish to have a combination of reports at the following frequencies: (i) Translation Data-present balance sheet by currency, monthly; present income statement, monthly; Exposure reports, including hedges, monthly. (ii) Forecast data-future balance sheet projections, on a monthly or quarterly rolling basis; coming year's income projections, at least by quarter. (iii) Liquidity forecast – cash budget by currency: 5 weeks forward; quarterly by month; annually by quarter; (iv) Reports to understand economic exposure, inventory analysis, etc.; and (v) Structural constraint reports; data bank on parameters updated as change occurs; leading/lagging report, monthly or more frequently.

Buckley (1996) too presents a transaction exposure information system for a multinational company. The reports here distinguish four key data, viz., inter-company vs. third-party flows, capital vs. trading items, firm contractual vs. probable flows and finally, details of covered and uncovered flows. According to him, following reports may be prepared: (i) an exposure forecast: prepared monthly (material changes can later be immediately communicated by telex to the group treasury); (ii) Group exposure statement: prepared monthly (In this table currencies are categorized according to whether a forward market exists or not) according to membership of joint floats such as ERM currencies. Further, he suggests that histogramming techniques may be used by group treasurer to decide what action to take once the company's transaction exposure on a group basis has been identified.

Rathore (1996) prescribed a sample exposure report, on the basis of IFAC's Exposure Draft 3, on proposed International Management Accounting Practice on Foreign Currency Exposure Risk Management. The report should comprise, according to him, (i) an Income Statement Exposure Forecast, (ii) Balance Sheet Exposure Forecast, and (iii) transactional cash-flow exposure forecast. Even Bhalla (2000) has categorised the exposure information system into two functional components. The exposure identification system, which supplies information on the accounting and/or cash flow exposures generated by group companies and the exposure management information system, which provides details of the decision parameters and constraints to be considered in deciding what exposure management action is required. According to him, a comprehensive exposure information system should include: (a) Balance Sheet Exposure Forecast - long term; (b) Balance Sheet Exposure Forecast - short term; (c) Quarterly Income Statement Exposure Forecast; (d) Group Exposure Projection; Exchange Rate Histogramming - individual forecast and summary forecast; and (e) Foreign Exchange Gain/Loss Projection

In the light of the above survey findings and the literature reviewed, the task of developing MIS for foreign-exchange exposure management appears to be meaningful. Further, a few in-depth interviews were also conducted to facilitate the chief objective task. Some meetings were held with Indian practitioners and academicians to get their valuable inputs that would shape the exercise of developing an MIS for foreign-exchange risk exposure management. These meetings/interviews revealed that this daunting task would be futile because an information system for foreign exchange risk exposure management has to be firm specific and it must take into account the size of the company, its constituent units, and personnel strengths. It was, thus, found that both scholars and practitioners are of the view, that no single management information systems will be universally applicable to every business. So, a generic transaction exposure information system cannot be developed was the conclusion of the entire present work.

Given this understanding, then, a case study approach was used to develop a MIS for foreign exchange risk exposure management.

Case Study: Some Findings

A company from the public sector was selected. The company neither had a foreign exchange risk management policy, nor had a management information system for foreign exchange exposure management and the process in progress to lay down such a policy and develop management information system. Keeping track of the developments in the area at the point of time, the management information system as developed for the company was studied.

An attempt was made to find out why certain systems proposed in the literature have not been implemented in the company. It was felt that certain reports and formats suggested in the literature for exposure management [Prindl (1976), Buckley (1976), Rathore (1996), Bhalla (2000)] cannot be applied to the public sector company under study, for the reasons given below:

1. The company is not a multinational company
2. Receipts and payments cannot be clubbed together in case of the Company.
3. Financial Services Department is not functioning as a full-fledged treasury alone. It has other responsibilities, viz., management of surplus cash, development of suitable financial package for project finance, etc.

The development of an MIS for foreign exchange exposure management in this company was guided by the recommendations made by the Expert Committee for Formulating Currency Exposure-Related Risk of Public-Sector Enterprises, set up on January 13, 1998.

On the development of the MIS for foreign exchange risk exposure management, the study concluded that the reports/computer formats used by the company were quite distinct from those suggested in the existing literature [See, for example, Bhalla (2000), Buckley (1998), Prindl (1976)]. This is because the company has adopted benchmark hedge ratio-based approach for management of currency risk and that meant a significant change vis-à-vis the existing practice and procedure. This approach had been recommended by the Expert Committee for Formulating Approach to Management of Foreign Currency Exposure-Related Risks of PSE's. The Committee recommended two benchmark hedge ratios for currency risk exposure, viz., US $ – Rupee Benchmark Hedge Ratio (DRBHR) and Cross Currency Benchmark Hedge Ratio (CCBHR)

The findings of the study by Yadav and Jain (2004) on international operations of public-sector companies are also noteworthy in this context. The major findings of this study include Public-sector companies are not using internal techniques of exchange-risk management in any significant manner ; exchange risk management being done by internal teams as well as with the help of institutional consultants ; imports causing most significant exchange risk in public sector companies. Further, the study revealed that amongst the basic hedging strategies (against the depreciation of local currency that sample companies used (in order of importance) are:

1. Borrowing locally;
2. Invoicing exports in foreign currency and imports in local currency; and
3. Selling local currency forward.

CONCLUSION

In certain respects, Indian companies are radically different from their U.K and U.S counterparts; in some other respects their stances are the same.

The paper is a modest attempt in the direction of disseminating practices of some companies belonging to the sectors as diverse as IT, steel, chemicals, and marine. Just like any other research effort, the work is subject to certain limitations. The study is intended as *a priori* study, as a means to an end. To conclude, the need of the hour is to develop a structured decision-support system that can respond to changes in the regulatory landscape, changes in tax laws, and changes in financial and business risks, with further innovations in derivatives and financial engineering. This task, though complex and daunting, is nonetheless achievable, given the right mindset and the necessary pool of talent.

REFERENCES

Bhalla, V.K. (2000), *International Financial Management Text and Cases* (New Delhi: Anmol Publications).

Bradley, K. (1996), "The Strategic Management of Foreign-exchange Exposure: An Empirical Study", *Centre for Financial Markets Research Management School, Working Paper* 96.14 (December).

Chowdhry, B. (1995), "Corporate Hedging of Exchange Rate Risk when Foreign Currency Cash-flow is Uncertain", *Management Science*, Vol. 41, No. 3, pp. 1083-1090.

Collier, P., E.W. Davis, J.B. Coates, and S.G. Longden (1999), "The Management of Currency Risk: Case Studies of US and UK Multinationals", *Accounting and Business Research,* Vol. 20, No. 6, (Summer).

Deana, R. Nance, Clifford W. Smith, Jr., and Charles W. Smithson (1993), "On the Determinants of Corporate Hedging", *The Journal Of Finance,* Vol. 48, No. 1, pp. 267-284.

Gregory W. Brown (2001), "Managing Foreign-exchange Risk with Derivatives", *Journal of Financial Economics,* Vol. 60, pp. 401-448.

Jain, Nidhi (2007), *Foreign Exchange Risk Management* (New Delhi: New Century Publications).

McRae, T., and D. Walker (1980), *Foreign Exchange Management,* Prentice-Hall.

Phillippe, Jorion (1990), "The Exchange-Rate Exposure of U.S. Multinationals", *Journal of Business,* Vol. 63, No. 3, pp. 143-157.

Prindl, A.R. (1976), *Foreign Exchange Risk*, John Wiley and Sons.

Shehzad, L. Mian (1996), "Evidence on Corporate Hedging Policy", *Journal of Financial and Quantitative Analysis*, Vol. 31, No. 3 (September).

Steil, B. (1993), "Corporate Foreign Exchange Risk Management: A Study in Decision-making under Uncertainty", *Journal of Behavioral Decision Making,* Vol. 6, No. 2, pp. 1-31.

Verrier, Mike (1985), "Is Foreign Exchange Risk Damaging Your Health"?, *Reading in currency Hedging Strategies,* edited by Gillespie I., A Eurostudy Special Report , Eurostudy Publishing Company Limited.

Yadav, S.S., and P.K. Jain (2004), "Risks in International Transactions: A Survey of Management Practices in Public-sector Enterprises in India", *Need the Dough?*, Vol. 7 (June), No. 1, pp. 44-55.

JOB PERFORMANCE AND OCCUPATIONAL STRESS
A Study of Bank Managers in Haryana

Nirmala Chaudhary*

Abstract

Several studies have been conducted on job satisfaction, job performance and related topics but hardly anyone has ascertained the relationship between occupational stress and job-performance. The present study attempts to identify the critical occupational factors that trigger job-related stress and are responsible for deterioration in job performance. The respondents were the bank managers of selected nationalised banks of Haryana. The respondents were surveyed through tested and standardised questionnaires for the purpose of data collection. The study has revealed that there is a significant negative correlation between the major sources of occupational stress and job performance. Among the demographic variables, only income has shown positive and significant correlation with job performance. The relationship of other occupational and demographic variables was in expected direction, though not significant enough. The policy implications of the findings for the management are also attempted.

Key Words: ***Job Performance, Occupational Stress, Neustress, Distress and Eustress***

INTRODUCTION

IT is necessary to keep the employee under minimum stress. The lesser the stress, the more is the productivity. So, occupational stress has occupied a place of importance in every organisation as we are moving towards the twenty-first century. With the advancement in technology, mushrooming trend of privatisation, the government's liberalisation policy, the competition in industrial sector has immensely increased. As a result, stress has increased enormously. It is not so that stress is only increased in private sectors; it has also increased in public organisations, however, indirectly.

Accepting stress as an inevitable part of everyday life, excessive and persistent stress is harmful. An optimum amount of arousal is accompanied by increased efforts in a more focused direction. Since stress accelerates arousal, a little amount of stress may help the individual for adaptation to the changing environmental demands (Selye, 1936). Stress at the optimum level has a functional value and motivational source for the employees.

Although too much stress is obviously undesirable, total absence of stress can also lead to unexpected problems. For example, too little stress may result in boredom and apathy, and be

* Dr. Nirmala Chaudhary is Reader in University School of Management, Kurukshetra University. Kurukshetra; e-mail: *nirmalakuk@yahoo.com*

accompanied by low performance. Although too much stress can cause tension, stress, and low job performance, an optimal level of stress results in high energy, motivation, and high performance.

Just as stress accumulates in our bodies, stress accumulates in organisations, also. At higher levels, it destroys organisational climate, lowers organisational performance and weakens organisational effectiveness. The impact of stress on organisational performance is no less dramatic. Many executives feel that they could make better decisions and perform more effectively if they work under less stress.

When there is no stress, job challenges are absent and performance tends to be low. As stress increases, performance tends to increase, because stress helps a person call up resources to meet job requirements. Stress is a healthy stimulus that encourages an employee to respond to challenges. Eventually stress reaches a plateau that corresponds approximately with a person's day to day performance capability. At this point additional stress tends to produce no more improvement. Finally, if stress becomes too great, performance begins to decline, because stress interferes with job performance and the person becomes unable to make decisions and erratic in behaviour. If stress increase to a breaking point, performance becomes zero; the employee has a break down, becomes too ill to work, is fired, quits or refuses to come to work or to face the stress.

CONCEPTUAL FRAMEWORK

Job Performance

Job performance can be defined as defining in two parts 'job' and 'performance'. While 'job' is a collection of individual tasks that a worker performs, 'performance' refers to employee's manifest behaviour at work. Thus, 'job performance' is the degree to which an individual executes his or her role with reference to certain specified standards set by the organisation (Nayyer, 1994). Performance (or outcome or productivity) is a consequence of a set of some factors, such as, employees' attributes which include aptitude, ability, training, experience and psychological make-up, his or her inclination, the organisational support system, and occupational stress. These variables when combined multiplicatively determine the performance outcomes. So performance is not only a function of the environment itself but also of the interaction of the individual with his or her environment.

Occupational Stress

Stress is derived from the Latin word 'stringere', which means – to draw tight, and was used in the 17th century to describe hardships or afflictions. The term 'occupational stress' refers to both to the employee's strain or reactions to the work environment and to job stressors or elements of environment itself. In psychology, 'stress' refers to a state of the organism, which results from its interaction with the environment. Coffer and Appley (1964) viewed stress as a state of the organism where he perceives his well-being endangered and that he must direct all his energies to its protection. Wolff (1968) considers stress as a dynamic state within the organism in response to a demand for adaptation. These demands may be higher or lower than the resources at hand. However, adaptation to stress depends upon the nature and magnitude of the stressor, type of the strategy adopted, or the individual's perception of the threat element posed by the stressor.

Nuestress, Distress and Eustress

The process of stress was for the first time discussed in scientific terms by Hans Selye (1936), where he talked about three types of stress.

Nuestress: Where the stress response is necessary for day-to-day adaptability of the individual to his environment.

Distress: Where the stress response is unfavorable and potentially disease-producing.

Eustress: Where the stress response is favourable and the individual experiences pleasant feeling. Eustress has a Greek prefix of 'eu' which means good; the positive stress is related to psychological well-being and high job performance (Pamperin, 1983; Mathew, 1985).

REVIEW OF THE LITERATURE

Productivity, efficiency, and performance have been the concerns of all practitioners, policy-makers and researchers. It has amply been demonstrated that individuals feeling moderate level of occupational stress are more productive, better motivated, and more satisfied than the employees who work under little or more stress. Major studies on the subject are reviewed in the following paragraphs. Anxiety, irritation, depression and annoyance in combination with unpleasant emotional experience of work are considered occupational stress. Unchallenging and monotonous tasks produce stress (Gardell, 1976).

A number of studies (see, for example, Vroom, 1964, Harigopal, 1979; Singh, Agarwal and Malhan, 1981; and Hossain, 1997) indicated that increased tense state of mind adversely affects the work efficiency. Moreover, occupational stress is one of the important predictors of job performance.

Srivastva (1983) attempted to explore the stress relationship between performance, considering the latter as a determinant of the former, rather than vice versa. The study hypothesised that employees with high productivity would perceive and experience mild role stress as compared to those with low production capacity. The study was conducted on workers with equal number of high (N=30) and low producers (N=30). Role stresses were measured by administering the occupational stress scale (Srivastva and Singh, 1981), whereas productivity was assessed on the basis of official production record and 'hours saved' by an employee in completing the assigned task over a period of six months. The findings of the study revealed that the employees who maintained constantly a high production level experienced less role stress as compared to the employees with low production capacity.

Jobs having less impact and less involvement also produce stress. Those who reported greater participation in decision making perform their jobs efficiently (French and Caplan, 1972)

Muhammad (1985) studied the relationship between performance and job stress. He obtained four types of relationship between performance and job stress. These relationships are: curvilinear 'U' shaped, negative linear, positive linear, and no relationship. The analysis supported that there was prevalence of a negative linear relationship between job stress and supervisory ratings of the performance.

Glaser, *et al.* (1991) conducted a work simulation to test the effects of workload on stress and performance. Social support was also investigated as a moderate variable. Two hypotheses were tested: (i) Stress is an intervening variable between workload and performance, and (ii) Social support moderates the work load stress relations such that workload leads to lower stress when social support is high. The subjects were 19 to 52 years old temporary employees. For the first hypothesis, a path analysis showed an indirect relation between workload and performance, with stress as an intervening variable. For the second hypothesis, there was a significant 3-way interaction between workload, social support, and time. The interaction showed that, in the early stages of the experiment, high social support led to higher (rather than lower) stress. This "reverse buffering effect" does not occur during later stages of experiment. One practical implication of this study is that managers may need to take into consideration the employee's workload while developing performance goals.

Schuster, *et al.* (1997) studied the management practice, organisational climate and performance. The study used a single time-series quasi-experimental design to measure the effect of a seven-step intervention strategy on the dependent variable of operating income. It is evident that in some instances, organisation performance can be significantly enhanced through the participation and contribution of employee in problem-solving and decision-making process. The findings of the study revealed that 75 per cent of the variation in financial performance was due to changes in the conditions of the human organisation.

Wright and Bonett (1997) observed that burnout is related to a decline in work performance. They studied the relationship among three dimensions of burnout and work performance. They concluded that there is a negative relationship between the dimensions of burnout, emotional-exhaustion, and subsequent work performance.

Hoque (1998) sought to assess the interrelationships between work performance and some variables. The sample consisted of 200 production workers of two textile mills in Bangladesh. The data concerning the performance of each worker were collected from the assistant manager (production) of each mill. The assistant manager (production) was requested to provide actual production records of the sample of workers on the basis of their last three months records of production. Results indicated that all but two of the variables selected are significantly correlated with performance and are relevant for explaining various in the level of performance. Motivation and performance have the highest correlation (0.48). Performance has significant positive correlation with both perceived degree of employee-oriented supervision (0.39). The two variables, which are not significantly related to employee performance, are: (1) Production-oriented supervision, and (2) group cohesiveness of the workers.

Tuber, *et al.* (2000) conducted a meta-analysis of correlations between role ambiguity and job performance, and between role conflict and job performance. The study revealed a negative relationship between role ambiguity and job performance and the influences due to job type and rating source. A negligible relationship was observed for the role conflict and the job performance.

OBJECTIVES OF THE STUDY

The major objectives of the study are four, namely:

1. To ascertain the relationship between job performance and occupational stress of managers of nationalised banks,
2. To examine the relationship among psycho-demographic variables, occupational stress and job performance of managers of selected nationalised banks.
3. To find out the predictive value of various sources of occupational stress for job performance of managers of selected nationalised banks.
4. To suggest some specific workable measures for improvement of job performance and to control occupational stress in nationalised banks.

HYPOTHESES

On the basis of the objectives of the study and the literature available on the subject, the following three null hypotheses were formulated.

H_{01}: There is no correlation between job performance and measures of occupational stress of bank officials.

H_{02}: There is no relationship among job performance, occupational stress and demographic measures of bank officials.

H_{03}: Various dimensions of occupational stress together do not account for the variance in job performance of bank officials.

RESEARCH METHODOLOGY

Population Framework and Questionnaires Used.

For the study, a fragment random sample of 175 bank officers (Scale I, II, III, and IV) was drawn from the selected nationalised banks in the state of Haryana. In order to have a fair assessment of job performance and occupational stress, the standardised tests were used, to arrive at fair assessment of the variables included in the study. The data were collected by administering the two standardised measures. The Job Performance Rating Scale (JPRS) developed by Singh and Pestonjee (1988) and the Occupational Stress Index (OSI) prepared by Srivastava and Singh (1981) were used to collect the data for the study. There were 14 parameters of job performance included in the scale to measure job performance.

Reliability Check of the Scales Used

The reported Cronbach's alpha coefficient of the JPRS is 0.99, which indicates high-level reliability of the scale. The Occupational Stress Index includes 46 items, which measures occupational stress. The odd-even method was used to compute split-half reliability, which was found to be 0.94, which indicates high level of reliability of the scale.

Data Analysis Techniques

In order to achieve the main objectives of the study, the data were processed for the computation of mean, product-moment correlation, and multiple regression correlation.

MAJOR FINDINGS

Independent Correlation of Each Variable with Job Performance

The major objective of the present study was to investigate the relationship of job performance and occupational stress. The inter-correlations among the scores of total 18 variables, including 12 variables of occupational stress, along with one variable of total occupational stress, 4 demographic variables, and job performance, were computed by applying Pearson's Product Moment method of correlation. These correlations were computed for 175 bank officers.

Table 1

Correlation between Job Performance and Occupational Stress of Bank Managers

Sr. No.	*Dimensions of Occupational Stress*	*Correlations with job performance*
1.	Age	0.107
2.	Job experience	0.124
3.	Number of dependents	-0.013
4.	Total Income	0.177*
5.	Role overload	-0.194**
6.	Role ambiguity	-0.218**
7.	Role conflict	-0.153*
8.	Group and political pressure	-0.098
9.	Responsibility for persons	0.127
10.	Under participation	-0.104
11.	Power lessons	-0.034
12.	Poor peer relations	-0.234**
13.	Intrinsic impoverishment	-0.170*
14.	Low status	-0.019
15.	Strenuous working conditions	-0.002
16.	Unprofitability	-0.091
	Total occupational stress	-0.197**

Note: **significant at 0.01 level = 0.194
*Significant at 0.05 level = 0.143

The inter-correlation matrix for officers is presented in Table l. It may be noted that the degrees of freedom being 173, correlation co-efficient of 0.143 and 0.194, are significant at 0.05 and 0.1 level, respectively. The table also reveals the inter-correlations among the 16 measures of occupational stress and one measure of total occupational stress of officers. A careful inspection of the table reveals that the inter correlations among 16 variables of occupational stress and one variable of job performance range from -0.002 to -0.234. Out of total 16 inter-correlations, only 3 are significant at 0.05 level, and 3 at the 0.01 level. Moreover, all the significant correlations are negative except 1. The highest correlation is -0.234 ($P<0.01$) between job performance and poor peer relations; whereas the lowest correlation is -0.002 ($P> 0.05$), between job performance and strenuous working conditions. Job performance correlates total income 0.177 ($P < 0.05$) with role overload -0.194 ($P <0.01$), role ambiguity -0.218 ($P <0.01$) with role conflict -0.153 ($P< 0.05$), and intrinsic impoverishment -0.170 ($P < 0.05$) with overall occupational stress -0.197 ($P < 0.01$). Thus, the significant negative relationship between the measure of job performance and six measures of occupational stress, namely, role overload, role ambiguity, role conflict, poor peer relations, intrinsic impoverishment, and overall occupational stress, suggest that under high stressful conditions, performance of officers would decrease.

Among demographic variables, the highest correlation is (0.177) between job performance and total income. This suggests that higher the total income better will be the job performance. The value of inter-correlations between job performance and other three demographic variables (age, job experience and the number of dependents) are too short to qualify even the 0.05 level of significance. This suggests that these variables have nothing to do with the job performance of officers.

However, the very low level of inter-correlations between job performance and some measures of occupational stress, namely, group and political pressure, responsibility for persons, under participation, powerlessness, low status, strenuous working conditions and unprofitability, suggest that these measures of occupational stress have nothing to do with job performance and are functionally independent for officers .

Joint Contribution of Predictors in Job Performance

The second major objective of the study was to investigate the predictive value of various sources of occupational stress for job performance. For having information about the joint contribution of the 16 predictors (age, experience, number of dependents, total income, role overload, role ambiguity, role conflict, group and political pressures, responsibility for persons, under-participation, powerlessness, poor peer relations, intrinsic impoverishment, low status, strenuous working conditions, and unprofitability, in determining job performance of officers, multiple regression equation, and multiple R were applied. The solution for multiple regressions was carried out by the SPSS (1996 version).

Dependent measure (Job performance) M = 33.85

Table 2

Parameters/Coefficients in Multiple Regressions of Managers

(N=175)

Sr. No.	*Predictors*	*Regression Coefficients*	*Mean*
1.	Age	0.147	43.22
2.	Job experience	0.072	20.49
3.	Number of dependents	0.225	3.17
4.	Total Income	0.206	15.12
5.	Role overload	-0.230	18.92
6.	Role ambiguity	-0.290	9.20
7.	Role conflict	-0.044	12.06
8.	Group and political pressure	-0.005	10.56
9.	Responsibility for persons	0.252	9.85
10.	Under participation	-0.148	11.09
11.	Powerlessness	-0.144	9.36
12.	Poor peer relations	-0.578	9.62
13.	Intrinsic impoverishment	-0.082	10.31
14.	Low status	-0.259	6.89
15.	Strenuous working conditions	-0.338	10.34
16.	Unprofitability	-0.171	5.09

Multiple R = 0.45 R2 = 0.20

SEest = 4.55 df = 17 and 157 F = 2.33

Table 2 presents the values of regression co-efficients, means, R2 and F ratio, of the officers. A general equation of multiple regression that involves all the 16 predictors (X_1 to X_{16}) and one dependent measure (Y_1) can be stated as under:

$$Y_1 = a + b_1X_1 + b_2X_2 + \ldots\ldots\ldots\ldots\ldots\ldots + b_{16}X_{16}$$

To complete the regression equation, the value of constant, *a*, may be computed by using the general formula:

$$a = Y_1 - b_1X_1 - b_2X_2 \text{———————} b_{16}X_{16}$$

By substituting the value of the regression co-efficients of all the 16 predictors, the regression equation reads:

Y_1=a+ (.147X_1) + (.072X_2) + (.225X_3) + (.206X_4) + (-.230X_5) + (-.290X_6) + (-.044X_7) + (-O.005X_8) + (.252X_9) + (-148X_{10}) + (-.I44X_{11}) + (-.578X_{12}) + (-O.82X_{13}) + (-.259X_{14})+ (.338X_{15})+ (-171X_{I6})

By inserting the value given in the table, it is found:

33.85-(.147 x 43.22) - (.072 x 20.49) - (.225 x 3.17) -(.206 x 15.12)-(-.230x18.92) - (-.290 x 9.20) - (-.044 x 12.06) -(-0.005 x 10.56) - (.252 x 9.85) - (-.148 x 11.9)-(-.144 x 9.36) -(-.578 x 9.62) - (-0.32 x 10.31) - (-.259 x 6.89) - (.338 x 10.34) -(-.171 x 5.09) = 18.63.

The complete regression equation, then, reads:

Y_1=18.63 (.147X_1) + (.072 X_2) + (.225 X_3) + (.206X_4; + (¬.230X_5) + (-.290X_6) + (-.044X_7) + (0.005X_8) + (.252X_9) + (-148X_{10}) + (-.144X_{11}) + (.578X_{I2}) + (-.082X_{13}) + (-.259 X_{14}) + (.338 X_{15}) +(.171X_{I6})

The regression equation in the score form indicates that for every unit increase in the age, the job performance (y_1) increases by 0.147 units. Similarly, for every unit increase in the job experience, it increases by 0.072; for the number of dependents, it increases by 0.225; for total income it increases by 0.206. Here, the aged, job experience, number of dependents, and the total income arrived as post time predictors of job performance. For every unit increase for role overload, it decreases by 0.230; for role ambiguity, it decreases by 0.290; for role conflict, it decreases by 0.044; for responsibility for persons it increases by 0.252; for under-participation, it decreases by 0.148; for powerlessness, it decreases by 0.144; for poor peer relations, it decreases by 0.578; for intrinsic impoverishment, it decreases by 0.082; for low status, it decreases by 0.259; for strenuous working conditions, it decreases by 0.338; and for unprofitability, it decreases by 0.171. It may be noted that the predictors , i.e., job experience, role conflict, group and political pressure and intrinsic impoverishment, contribute very little in predicting job performance of officers. 'The standard error of estimate equals to 4.55n' suggests that the predicted scores may deviate from the actual one, with the divergence of 4.55.

The multiple correlations between the predictors and dependent measure is 0.45. The obtained F ratio for the significance of multiple R equals to 2.33. The degree of freedom being 17 and 157, the F is significant beyond the 0.05 significance level. The findings indicate that the total 16 measures of occupational stress jointly predict the variance in job performance significantly. The square of multiple R (R2) being 0.20, suggest that all the 16 predictors jointly account for 20 per cent of the total variance in the job performance of officers. The I-R2, also known as co-efficient of non-determination, equals to 0.80 suggests that 80 per cent of the variance in job performance is accounted by the variance in other variables not included in the present study.

INTERPRETATION OF THE RESULTS

The study shows that the relationship between 'job performances' and overall 'occupational stress' is significant and negative in the case of bank officers. It is further reported that six dimensions, out of the sixteen, are significantly related to job performance of the officers. Role overload, role ambiguity, role conflict, poor peer relations and intrinsic impoverishment, and the over-all occupational stress are all significant but negatively related to job performance. These findings are consistent with earlier researches. The correlation between job performance and total income is significantly positive among the officers. It is found that the perceived degree of pay inequity has significant negative correlation with job performance of workers. This suggests that the higher the degree of inequity as perceived by the employees regressing their pay, the lower will be the job performance. The result is in line with the equity theory predictions (Adams, 1963). Habibullah, (1980) reported that productivity was significantly correlated with the workers' satisfaction with their pay. Anand and Sohal (1981) had concluded in their study that pay scale was correlated significantly with the teachers' publication performance. Similar results were obtained by Andrew (1967), Evans and Simon (1969), and Harder (1991).

In his 'person-environment-fit' research, Harrison (1978) indicated that too much 'role ambiguity' relating to the employee's preferred level was associated with depression, tension, anger and irritation. 'Role conflict' causes cognitive strain, i.e., the person involved finds it difficult to locate himself because of the conflicting cues from his environment as his location. It seems that the subjects included in the present study tend to perceive a greater amount of role conflict due to their middle position. Kahn and Quinn (1970) and Miles (1976) had reported that the role conflict was likely to exist among the employees who work at the boundaries between the organisations.

Labovitz and Orth (1972) found that intra-group conflicts or poor peer relations lead to occupational stress. The positive correlation between occupational stress and 'intrinsic impoverishment' may be explained in the way that an employee perceives less opportunity to utilise his abilities and experience, and this leads to a negative feeling towards the job.

Multiple regression analysis and multiple correlations show that various sources of occupational stress jointly account for the variation in job performance significantly. The coefficient of multiple determinations of officers comes to be 0.20, which suggests that 20 per cent of the variance in job performance is accounted for these predicting variables.

CONCLUSION

There is a significant negative relationship between job performance and occupational stress of bank managers. The role overload, role ambiguity, role conf1ict, poor peer relations, and intrinsic impoverishment are the major predictors of occupational stress and have a negative and significant correlation with the job performance of the managers. Demographic measures have very little relationship with the job performance of the officers. The predictive value is 20 per cent for the managers. It means that all the above-mentioned variables account for 20 per cent of the variance for job performance of the officers.

Managerial Implications of the Findings

To enable the organisation make the best use of their officials and to attain a higher level of performance for successfully achieving their purposes and objectives, it is imperative that inherent preferences for clarity, certainty, good feeling of peer relations, and perfection, are allowed to subjugate the inherent nature of human relationship involving ambiguity, uncertainty, imperfection and much occupational stress.

The foremost amongst the implication of the study is that it should help to reduce or to eliminate the occupational stress so that the human resources can be utilised effectively.

We suggest four major strategies for dealing with life stress: (1) Personal management skills, which are self-regulation skills for organising the time and energy expenditure, (2) Relationship skills, which are 'scene changing' skills for altering the environment and interacting with it, (3) Outlook skills are the 'change your mind' skills for controlling attitudes and perceptions, and (4) Stamina and body building skills, which strengthen resistance and relieve tension. Skills from any or all of these groups can be a potential component of an individualised plan for promoting vitality and preventing burnout. The final choice of the coping styles, which an individual has at his disposal, may be categorised into: (1) Drug or medication methods, i.e., using drugs under medical supervision, (2) Non-drug or meditation methods. The non-drug methods of coping are more advantageous and safer. These are often referred to as bio-feedback techniques, acupuncture, yoga, meditation, physical exercise, etc.

REFERENCES

Adams, J.S. (1963), "Toward an Understanding of Inequity", *Journal of Abnormal and Social Psychology*, Vol. 67, pp. 442-456.

Anand, U., and T.S. Sohal (1981), "Relationship between Some Personal Traits, Job Satisfaction and Job Performance of Employees", *Indian Journal of Applied Psychology*, Vol. 18, No. 1, pp. 11-15.

Andrew, I.R. (1967), "Wages inequity and Job Performance: An Experimental Study", *Journal of Applied Psychology*, Vol. 51, pp. 39-45.

Coffer, C.N., and Appley (1964), *Motivation: Theory and Research* (New York: Wiley).

Evans, W.M., and R.G. Simons (1969), "Organisational Effects of Inequitable Rewards: Two Experiments in Status Inconsistence", *Administrative Science Quarterly,* Vol. 14, pp. 224-237.

French, J.R.P., Jr., and R.D. Caplan (1972), Organisational Stress and Individual Strain, in A.J. Marrow (ed.), *The Failure of Success* (New York: AMACOM).

Gardell (1976), "The Identification of Traits Related to Managerial Success", *Journal of Applied Psychology,* Vol. 46, No. 6, pp. 428-432.

Glaser, Dale N., Charles B. Tatum, and Delbert M. Nebeker (1991), "Work Load and Social Support: Effects on Performance and Stress", *Human Performance*, Vol. 12, No. 2, pp. 155-176.

Habibullah, M. (1980), *Employee-Centered Supervision and Productivity in the Jute Industry* (Dhaka: Bureau of Business Research, University of Dhaka).

Harder, K. (1991), "Role Theory versus Expectancy Theory: The Case of Major League Base Able Free Agents", *Journal of Applied Psychology*, Vol. 76, pp. 458-464.

Harigopal, K. (1979), "Role Stress Variables and Company Satisfaction and Job Involvement: Personality Factors as Moderators", *Managerial Psychology*, Vol. 10, No. 2, p. 25.

Harrison, R.V. (1978), "Person-environment Fit and Job Stress", in C.L. Cooper and R. Payne (eds.), *Stress at Work* (New York: Wiley).

Hossain, M.M. (1997), "Some Correlates of Performance in Manufacturing Industries", *Journal of Behavioural Sciences*, Vol. 8, pp. 35-41.

Hoque, M.E. (1988), "Some Correlates of Work Performance as Perceived by Industrial Workers of Bangladesh, *Indian Journal of Industrial Relations*, Vol. 34, No. 2, pp. 213-222.

Kahn, R.L., H.D. Wolfe, R.P. Quinn, D.J. Snoek, and K.R. Rosenthal (1964), *Organisational Stress: Studies in Role Conflict and Role Ambiguity* (New York: Wiley).

Kahn, R.L., H.D. Wolfe, and R.P. Quinn (1970), "Role Stress: A Framework for Analysis", in A. McLean (eds.), *Mental Health and Work Organisations* (Chicago: Rand McNally).

Labovitz, G.H., and C.D. Orth, (1972), "Work Conditions and Personality Characteristics Affecting Job Satisfaction of Student in Terms of Extended Healthcare Facilities", *Journal of Applied Psychology*, Vol. 56, No. 5, pp. 434-435.

Mathews, K.A. (1985), "Psychological Perspectives on the Type-A Behaviour Pattern", *Psychological Bulletin*, Vol. 91, pp. 293-323.

Miles, R.H., and W.D. Perrault (1976), "Organisational Role Conflict: Its Antecedents and Consequences", *Organisational Behaviour and Human Performance*, Vol. 17, pp. 19-44.

Muhammad, J. (1985), "Relationship of Job Stress to Job Performance: A Study of Manager", *Human Relations,* Vol. 38, No. 5, pp. 409-424.

Nayyer, M.R. (1994), "Some Correlates of Work Performance Perceived by First Line Supervisors: A Study. *Management and Labour Studies*, Vol. 19, No. 1, pp. 50-54.

Schuster, F.E., K.E. Dunning, D.L. Morden, M.C. Hagan, T.E. Baker, and I.S. Mckay (1997), "Management Practice, Organisation Climate, and Performance", *Journal of Applied Behavioural Science*, Vol. 33, No. 2, pp. 209-226.

Selye, H. (1936), *The Stress of Life* (New York: McGraw-Hill).

Singh, A.P., and D.M. Pestonjee (1981, 1988), "Performance Rating Scale," in Pestonjee's *Handbook of Psychological and Social Instrument* (1993), pp. 275-276 (New Delhi: Concept Publishing Company).

Singh, B., V.N. Agarwal, and N.K. Malhan (1981), "The Nature of Managerial Role Conflict", *Indian Journal of Industrial Relations,* Vol. 17, pp. 1-26.

Srivastva, A.K., and A.P. Singh (1981), "Construction and Standardization of an Occupational Stress Index: A Pilot Study", *Indian Journal Clinical Psychology*, Vol. 8, pp. 133-136.

Srivastva, P.K., and M.M. Sinha (1983), "Occupational Levels and Job Satisfaction", *Journal of Psychological Researchers*, Vol. 20, No. 2, pp. 56-59.

Tuber, Travis C., and J.M. Collins (2000), "A Study of Organisational Stress and Job Performance", *Journal of Management,* Vol. 26, No. 1, pp. 155-169.

Vroom, V.H. (1964), *Work and Motivation* (New York: Wiley).

Wright, Thomes A., and Douglas G. Bonett (1997), "The Contribution of Burnout to Work Performance", *Journal of Organisational Behaviour*, Vol. 18, No. 5, pp. 491-499.

REVIEW OF INDIAN STOCK MARKET DURING 2007 AND 2008
From Boom to Bust

Harvinder Kaur*

Abstract

The period spanning the years 2007-2008 presents a unique opportunity to examine the performance of the Indian stock market relative to other world markets. From January 2007 to January 2008, the Indian market rose steadily to reach historic highs. Then, it started falling, the descent accelerating towards the end of 2008, due to the global fallout of the US mortgage crisis. In this article, a snapshot of the market performance during the two-year period is presented and compared with major overseas markets. A number of parameters are used to capture the market performance, such as daily returns, volatility of daily returns, market capitalization, FII fund flows, and F&O and mutual fund activity. The study reveals that market volatility was the highest during October 2008 – about 5 per cent on both indices. Volatility was higher when the market was falling and lower when it was rising, suggesting investors' asymmetrical response to negative and positive news. Investors preferred debt mutual funds over equity funds, probably to take advantage of the rising interest rate regime. Redemptions were the strongest in October 2008, right after the breakout of the US mortgage crisis. The Indian market underperformed most of the global markets when reckoned from the beginning of January 2007 baseline. However, on a monthly basis, the Indian market delivered the highest returns and matched DJIA's average returns over the total period. Volatility was the highest on a full-period basis and on a monthly basis comparable to Hang Seng's, but still higher than that of other developed markets.

Key Words: ***Stock Market, Return, Volatility, Contagion.***

INTRODUCTION

IN this article, a snapshot of the Indian stock market' performance, during the two-year period from January 2007 to December 2008, is presented and compared with major overseas markets. The period from January 2007 to December 2008 showed Indian market's march toward the highest-ever levels of market capitalisation and stock indices in 2007, and, thereafter, a precipitous fall in 2008. Right from 2007, a number of factors fuelled the boom. These include strong economic fundamentals, relatively stable political climate and, hence, large foreign funds inflow. All these made the Indian stock market among the most lucrative ones by investors around the world. However, the situation changed towards the beginning of 2008, when the foreign funds, in particular, resorted to some serious profit

* Dr. Harvinder Kaur is Reader in the Department of Commerce, Sri Guru Gobind Singh College of Commerce, University of Delhi, Delhi; e-mail: *harvinder_delhi@yahoo.com*.

booking, knocking the market off its historic highs. To make matters worse, massive financial losses resulting from the US housing mortgage crisis, involving transnational investors with interest in the Indian market, lent a body blow to the already shaky market and brought it to its knees. As a result, in January 2009, the Sensex was barely able to sustain the 9000-10000 level, despite explicit support by the Indian Government.

A number of parameters are used to capture the market performance during the period of study, such as daily returns, volatility of daily returns, market turnover, FII fund flows, F&O activity and mutual fund activity. Finally, the market performance in terms of average daily return and volatility is compared with other global markets.

THE CONCEPT OF VOLATILITY

Volatility is defined in terms of the statistical measures of the variability of percentage price changes or rates of return. The most commonly used statistical measure of volatility is the standard deviation of returns, in part because it is used as a standard measure of risk in theories of portfolio selection and asset pricing. The standard deviation measures the dispersion of returns or the degree to which they vary from period to period, the period being a month, a day and even an hour or a minute. Thus, volatility can be calculated for month-to-month returns, day-to-day returns, and even minute-to-minute returns. For instance, if the standard deviation based on daily close-to-close percentage price change for a month is 10 per cent, it is very unlikely (that is, there is about a 5 per cent chance) that an investor will experience returns outside a range of 20 per cent (two standard deviations) over that month. This is because if stock returns are normally distributed, about 95 per cent of the returns lie between 2 standard deviations.

Volatility, *per se*, is not unnatural or unwanted. However, excessive volatility caused by irrational (speculative) behaviour of the traders and investors, trading mechanism imperfections and lack of information transparency is not desirable. If stock market volatility increases, it may have important consequences for investors and policy makers. Investors may equate higher volatility with greater risk and may alter their investment decisions due to increased volatility. Policy-makers may be concerned that stock market volatility will spill over into the real economy and harm economic performance. Alternatively, policy-makers may feel that increased stock volatility threatens the viability of financial institutions and the smooth functioning of financial markets.

Stock exchanges sometimes experience very short-lived but sharp changes in prices of individual stocks. 'Hyper volatility' refers to price movements, which in their magnitude; speed and disorderliness, are symptomatic of a pathological state where the circumstances necessary to arrive at rational purchase or sale decisions do not exist (Kurt, 1991). This may be due to a grossly destabilising occurrence in respect of:

1. Economic, political, physical, or psychological environment, e.g., assassination of the Head of State. Such occurrences are incapable of being anticipated or assessed and, thus, cannot be controlled; and
2. Market's structure or functioning, *i.e.*, the occurrence is such that it causes system-breakdown. The examples are: the Securities Scam of 1992 in the Indian stock market and the October 1987 crash, experienced in the United States. Such occurrences are capable of analysis and, therefore, controllable.

Episodes of hyper volatility seriously affect public confidence in the stock market. Loss of public confidence adversely affects exchanges in their role as providers of liquidity and price discovery mechanisms. It is, therefore, important to find means to prevent or, at least, contain hyper-volatility.

The major factors that affect the short-term and the long-term volatility are briefly described below.

Factors affecting Long-term Volatility

Corporate Leverage

Financial and operating leverage effect the volatility of stock returns. The use of debt-financing to increase the expected return and risk of equity capital is known as financial leverage. The use of fixed assets to increase the expected profitability and risk of production and marketing activities is known as operating leverage. Schwert (1989) has shown that aggregate financial leverage is correlated with stock return volatility, a finding that is in conformity with the financial leverage theory.

Personal Leverage

Personal leverage refers to the use of personal debt to increase the expected return and risk of an individual's investment portfolio. Much recent debate has focused on the effects of margin requirements on the volatility of aggregate stock prices.

Business Conditions

There is strong evidence that stock volatility increases during economic recessions. Evidence (Schwert, 1989b) shows that the Great Depression was a period of extremely high volatility. In recent years, the 1973-74 OPEC (Organisation of Petroleum Exporting Countries) recession was a period of falling stock prices and high volatility. This relationship may in part reflect operating leverage, as recessions are typically associated with excess capacity and unemployment.

Factors affecting Short-term Volatility

Several bursts in stock volatility in some markets around the world have spurred the recent interest in stock volatility during the last few years. The 1992 boom and the subsequent crash in the Indian stock market and the US stock market crashes of October 1987 and October 1989 are prominent examples. These bursts of volatility are hard to relate to longer-term phenomena, such as recessions or leverage. Instead, most people have tried to relate them to the structure of securities trading. Some of the factors that may cause short-term volatility are discussed below.

Trading Volume

It has been argued that increased trading activity and stock return volatility occur together (Karpoff, 1987). It is difficult, however, to determine what causes this association. Some observers conclude that trading volume, *i.e.*, the number of stocks traded multiplied by the traded price, directly causes volatility but it is only when all traders want to buy (or sell) that the prices change rapidly. Otherwise, large trading volumes show a very efficient market, bringing together buyers and sellers.

Trading Halts: Circuit Breakers and Circuit Filters

Stock exchanges apply market-wide (*i.e.*, applied to market indices) or scrip-specific trading halts for providing a "cooling-off" period that allows the investors to re-evaluate market information and to re-formulate a new investment strategy. A trading halt may be applied in the form of a circuit breaker or a circuit filter. There is no trading halt during circuit filters, rather trades can take place in the permitted direction only, *i.e.*, if downward circuit filter is applied at a certain price level, the stock cannot be sold below that level but can be bought. On the other hand, trading is suspended for the designated period upon the application of a circuit breaker. Circuit filters are also referred to as "price limits" since these are applied whenever the stock price change exceeds certain preset percentage limit in either direction.

Computerised (On-line) Trading

The remarkable advances in information technology have made it much easier for a larger number of people to learn about and react to the information quickly. They have also made it possible for financial markets to provide liquidity for investors around the world. These changes have had two by-products. First, there are large incentives for investors to get new information and act upon them. Second, since new information spreads much faster, the rate at which prices change in response to the information would also accelerate. The liquidity of organised securities market plays an important part in supporting the value of traded securities, but it also means that prices can change quickly. From this perspective, volatility is a symptom of a highly liquid securities market.

Noise Trading

Another explanation for stock prices overshooting could be that some investors infer information from changes in stock prices and base their expectations for changes in stock prices on past changes, e.g., some investors may extrapolate recent changes in stock prices. This reaction of investors has been encapsulated as 'the trend is your friend' syndrome and been given the name 'noise trading'. Noise is contrasted with information. Noise trading is trading on noise as if it were information.

International Linkages: The Contagion Effect

Nowadays, investors have regard to the increasing internationalisation of security markets. Increased integration has resulted in the removal of controls on the international movement of capital by the Indian and other governments. The stocks of leading Indian companies are now quoted on foreign stock markets; movements of Indian stock prices are influenced by movements of stock prices on the Wall Street and other overseas markets. One effect of the greater international integration of stock markets is that the information relevant to investment decisions in Indian stocks has expanded to include information about foreign securities and markets.

Takeovers

Takeover bids are usually made at a premium to the pre-bid price of the target compan y's shares. Changing assessments of the likelihood of a takeover can lead to fluctuations in the price of the stocks of the individual companies. A spate of takeovers may for some time raise prices generally, as investors bid up the prices of the stocks of companies, which they expect may be taken over.

Supply of Equities

So far, the explanation for the volatility of stock prices has been in terms of the forces affecting demand for stocks from investors. A feature of the stock market is that the total stock of stocks is inelastic - the supply of new stocks does not respond quickly to changes in prices. Certainly, new issues of stocks are made and directors of firms do tend to raise new capital or float their companies when stock prices are high, but the response is not rapid, partly because it takes time to prepare prospectuses, etc. When stock prices are considered by the directors of companies to be low, companies may buy more of their own stocks and reduce the supply. Nevertheless, the supply of new stocks is much more inelastic than the supply of say, new cars to the market, and this inelasticity of supply exacerbates changes in prices caused by changes in demand.

The Media

Large sections of many newspapers and various TV Channels are devoted to reporting financial news and views. If the investors and fund managers were to act on the same investment advice delivered by the media, it could lead to herd-type behaviour and significant fluctuations in stock prices. The role of the press in generating fluctuations of stock prices could be significant. The extensive coverage of stock market news even in the non-financial dailies indicates that the newspapers are an important source of information and comment upon the stock market, at least for private (as opposed to institutional) investors.

Other Factors

In the recent past, the numbers of market players has gone up and with the rapid dissemination of information, market movements have become faster. Ideally, more number of players should mean reduced volatility. But ironically in India, online information about domestic and international corporate and economic developments is available to only a few people who act fast, and others follow. This time lag in the availability of information to different market participants also results in volatility.

REVIEW OF LITERATURE

A number of studies deal with the level of volatility prevalent in a stock market and how does it compare with volatility levels of the other markets. The dependence of volatility upon a number of factors such as trading mechanism, traded volume, dividend payout, various types of leverages available to companies and investors, day of the week, arrival of information, etc. has been covered under these studies. Some of these studies focus upon the descriptive aspects of stock market volatility, while some others have attempted to relate the extent of volatility over various time horizons with the design and efficacy of regulatory interventions that may be resorted to curb excessive volatility. The following paragraphs briefly discuss some of the important studies on the subject.

The Study by French and Roll

French and Roll (1986) analyse the volatility of equity returns during exchange trading and non-trading hours. The study finds that equity returns are more volatile during exchange trading hours then during non-trading hours. They provided three explanations for the empirical phenomenon that prices are more volatile during exchange trading hours. The first possibility is that more public information arrives during normal business hours. Under this hypothesis most return volatility is caused by factors like judicial decisions and tender offers and these announcements are clustered during the trading day. The second explanation assumes that most return volatility is caused by private information and that this information only affects prices through the trading of informed investors. If the informed investors are more likely to trade when the exchanges are open, return variances will be high during this period. The third possibility is that the process of trading introduces noise into stock returns, e.g., investors may over-react to each other's trade. This trading noise would increase return variances when the exchanges are open.

The Study by Amihud and Mendelson

This study examines the effects of the mechanism by which securities are traded on their price behaviour. Amihud and Mendelson (1987) compare the behaviour of open-to-open and close-to-close returns of NYSE stocks, given the differences in execution methods applied in the opening and closing transactions. Their results show that the trading mechanism has a significant effect on a number of characteristics of stock returns. Trading at the opening exposes trader to a greater variance (volatility) than in the close, reflecting the differences between the trading mechanisms. Both the nature of lagged price adjustment and the level of transitory noise are different. Thus, when considering the implications of changing the method of trading in a market, the effects on return behaviour should not be overlooked.

The Study by Jones and Wilson

The study by Jones and Wilson (1989) assesses whether the stock-price volatility has increased, and whether it is currently above or below historical levels. They have measured volatility using two methods: (1) the percentage spread between high and low daily prices in each month and (2) the standard deviation of the daily prices within each month. Their volatility measures over the 1885-1989 period suggest that, while the daily volatility has increased slightly since 1980, it is bit different from the volatility that has existed for more than 100 years.

Schwert's Study

In this study, Schwert (1989) characterises the changes in stock market volatility through time. In particular, it relates the stock market volatility to the time-varying volatility of a variety of economic variables. It analyses the relation of stock volatility with real and nominal macroeconomic volatility, economic activity, financial leverage and stock trading activity, using the monthly data of Standard and Poor's (S&P) Composite Portfolio from 1857 to 1987. Although the study analyses many factors related to stock volatility, it does not test for causes of stock price volatility. Stock market volatility is related to the level of economic activity. Stock market volatility is higher during recessions since most of the estimates are positive. Thus, stock market volatility is related to the general health of the economy. One interpretation of this evidence is that 'operating leverage' increases during recessions. The author also shows that financial leverage affects stock volatility. When stock prices fall relative to bond prices or when firms issue new debt securities in larger proportion to new equity than their prior capital structure, stock volatility increases. However, this effect explains only a small proportion of the changes in the stock volatility over time. There exists a relationship between trading activity and stock volatility. The number of trading days in the month is positively related to stock volatility especially in 1953-1987. Also share trading volume growth in positively related to stock volatility.

Schwert's Study

Schwert (1990), in his study, has surveyed the academic evidence on stock market volatility. Volatility has been measured by the standard deviation of rates of return to a broad stock market index such as the Standard and Poor's 500. Three return series - daily returns, monthly returns, and 15-minute returns - have been used to calculate different volatility estimates. The various estimates of standard deviation show that volatility as measured using the standard deviation of rates of return has been stable since the mid – 19th century in the United States. The major exception was the great depression period from 1929 to 1939. Moreover, the growth in stock index futures and options trading has not been associated with an upward trend in stock volatility. The evidence indicates that future returns are more volatile than stock index returns when there are big price movements. There is also little evidence that computerised trading *per se* increases volatility except perhaps within the trading day. The evidence so far given is inconclusive as to whether trading halts or circuit breakers can reduce volatility in a beneficial way. He also states that several economic factors may lay behind slow changes in stock market volatility - that is, changes that become noticeable over many months or years. These factors include the financial leverage, operating leverage, personal leverage, and the condition of the economy. But the bursts of volatility, for example, the crashes of October 1987 and, to a much lesser extent, October 1989, are hard to relate to longer-term phenomena, such as recessions or leverage.

The Study by Roy and Karmakar

Based on the measurement of stock market volatility for the period 1935 to 1992, Roy and Karmakar (1995) focus on the measurement of the average level of volatility in the Indian stock market and whether it has increased in the current period. Market volatility has been measured for a span of 58 years. Volatility has been measured by the standard deviation of rates of return. Their decade-wise analysis show violent changes in share prices cluster around the boom of the 40's and share mania of the 80's that continued up to 1992. For a relatively current period, 1961-92, volatility has been measured based on daily return within each month. Their analyses show that out of a total of 25 volatile months, only 2 pertain to the calm period of the 60's and the 70's.

In the 90's the year 1992 is the most current and volatile year in the history of Indian capital market.

Goyal's Study

Goyal (1995) examines the nature and trend of the stock return volatility in the Indian stock market and assesses the role of "carry-forward system" in causing variations in the volatility levels. From the analysis of the volatility in stock returns, it is revealed that the erstwhile carry forward system contributed to volatility in the market. Union Government Budget and declarations of book closures by firms produce seasonality patterns in monthly volatility estimates of stock returns. Volatility in stock returns peaks every year in the month of March and next peak occurs in the month of July. The apprehension that globalisation of the Indian capital market has added to stock market activity is not substantiated. This is in line with the findings of Kim and Singal (1994) in regard to other emerging markets.

Reddy's Study

Reddy (1998) has analysed the effects of market microstructure on the stock market volatility. The influence of establishment of the NSE and introduction of the BSE On-Line Trading (BOLT) on the volatility of securities traded on the BSE has been analysed. The results of influence of the establishment of NSE on the volatility in BSE are mixed. The establishment of the NSE, though fragmented the stock market structure in India, has not really affected the working of BSE, as his analysis could not find sufficient evidence for an increase in the volatility of the securities traded on the BSE. The results show that on-line trading has indeed led to an increase in the volatility of securities traded. Thus, automation of trading has influenced the functioning of BSE on the expected line.

Kaur's Study

The study by Kaur (2004) describes the extent and pattern of stock return volatility of the Indian stock market during the last decade of the previous millennium, *i.e.*, from 1990 to 2000. The market is represented by two most prominent spot price indices, viz., BSE Sensex and S&P CNX Nifty. It is found that stock market volatility was the highest during 1992, followed by 1990 and 2000, in that order. It fell sharply after 1992 until 1995, after which it started increasing again. Among the months, April has been the most volatile followed by March and February. This could probably be due to the occurrence of most significant economic event in the year, namely, the presentation of the Union Budget, which is usually presented on the last day of February every year.

OBJECTIVES OF THE STUDY

The study seeks to analyse the following aspects of the Indian stock market for the years 2007 and 2008:

1. The extent and pattern of daily returns on Sensex and Nifty and their volatility;
2. Comparison of Indian market performance with global markets in terms of price trend, daily returns, and their volatility;
3. The trends in the cash and derivatives markets turnover;
4. Mutual Fund investment trends; and
5. FII investment trends.

RESEARCH METHODOLOGY

The Sample

The Indian stock market is taken to be represented by the two most popular, accepted and quoted indices, viz., BSE Sensex ("Sensex") and S&P CNX Nifty ("Nifty"). The market indices are fairly representative of the various industry sectors and trading activity mostly revolves around the stocks comprising the indices.

The Data

The closing price data (adjusted) for NSE Nifty has been taken from the NSE website (*www.nse-india.com*) and for BSE Sensex (*www.bseindia.com*) and other world indices from yahoo! finance website *finance@yahoo.com*. Summary statistics on market activity in various trade segments are taken from periodic reports published by the respective stock exchanges and The Securities & Exchange Board of India (SEBI) (*www.sebi.gov.in*).

Measures of Daily Return and Volatility

The volatility of daily stock returns over a month has been calculated as the standard deviation of daily returns on market indices. The returns are calculated as log price differences in order to treat positive and negative returns with equanimity.

Thus, standard deviation (volatility) σ is defined as:

$$\sigma = \sqrt{\frac{1}{n}\sum_{t=1}^{n}(n-\bar{r})^2}$$

And, the daily return

$$rt = \log e\left(\frac{Pt}{Pt-1}\right)$$

where:

n = number of observations

r_t = return on day t

$\bar{r}$ = average return during the period of observation

p_t = price on day t

p_{t-1} = price on the day before day t, *i.e.*, day t-1

RESULTS AND DISCUSSION

Sensex and Nifty Daily Returns and their Volatility

This section presents the results of the measurement of daily returns on the domestic (Sensex and Nifty) and some other global indices (DJIA, BOVESPA, FTSE, Hang Seng and Nikkei) and their volatility during the period of study. The daily returns have been calculated as the difference between the natural logarithms of the daily closing prices on the consecutive trading days. From these, average daily return (e.g., simply the mathematical average) and volatility of daily returns (e.g., standard deviation) in a month, year and over the full period of study (2007-2008) have been calculated.

Figure 1 shows the price movement, and Figure 2, the daily returns on the domestic indices during January 2007 - December 2008. During this period, the journey of the domestic market has been pretty eventful, to say the least. Starting the year 2007 on a buoyant note, the market strengthened further by around 700 points (Sensex) during first two weeks of February. After this, the market went into the usual around-the-Budget bout of volatility shedding around a whopping 1527 points (accounted from the 2nd January baseline) until 5th March. Things started

Figure 1 - Sensex & Nifty Price: 2007-2008

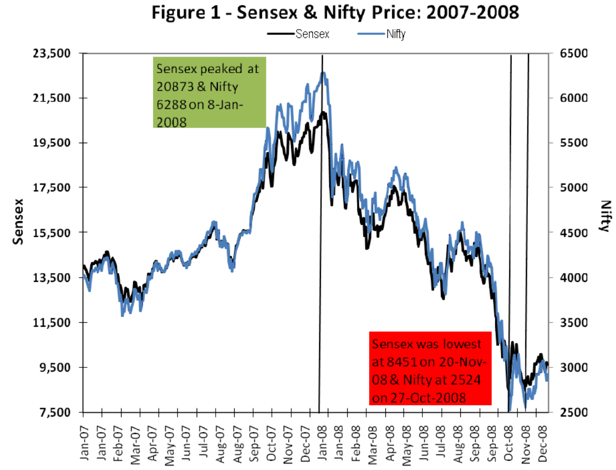
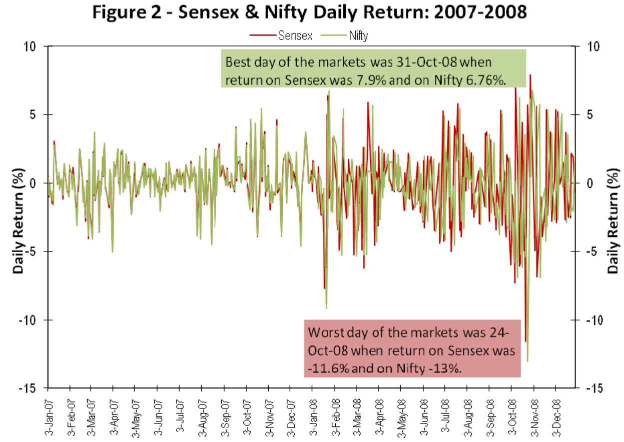


Figure 2 - Sensex & Nifty Daily Return: 2007-2008



looking up May onwards and the market rose steadily through rest of year, taking a breather in July-August, to reach the magic number 20,000, in January 2008. Sensex recorded its peak of 20873 and Nifty scaled 6288 on 8 January, 2008.

Unfortunately, it was all downhill after the "Peak 20K" was scaled. Right through the year 2008, market went down until September, when it got caught in the mayhem, triggered by the US sub-prime mortgage crisis in September and October and lost value even more steeply. October 2008 saw intense volatility and had the distinction of exhibiting worst daily return-on 24th October (-11.6 per cent on Sensex and -13 per cent on Nifty) and also the best daily return-on 31st October (7.9 per cent on Sensex and 6.76 per cent on Nifty). By the end of year 2008, market had lost everything it had gained during 2007 and ended even lower than where it had begun in 1-Jan-2007. The indices touched their nadir on 27th October 2008 (Nifty at 2524) and 20th November 2008 (Sensex at 8451), having lost nearly 60 per cent of their January 2008 peak values.

Table 1 shows the average daily returns and their volatility over a month, for Sensex and Nifty. This will help in taking a closer look at the market performance during the period of study.

From table 2, it is evident that October 2008, when the US mortgage crisis was unveiled, was by far the worst month for investors. While returns were most negative (-1.36 per cent on Sensex and -1.53 per cent on Nifty), volatility was the highest – around 5 per cent on both indices. While October 2007 gave the best returns, volatility was the least during May 2007 (Sensex, 0.8 per cent) and June-2007 (Nifty, 0.72 per cent).

Further, year 2007 had only 3 months that yielded negative returns, 2008 had as many as 8; and, of the ten most volatile months during the period of study, 2008 had the lion's share with 9 of 10 for Nifty and 8 of 10 for Sensex.

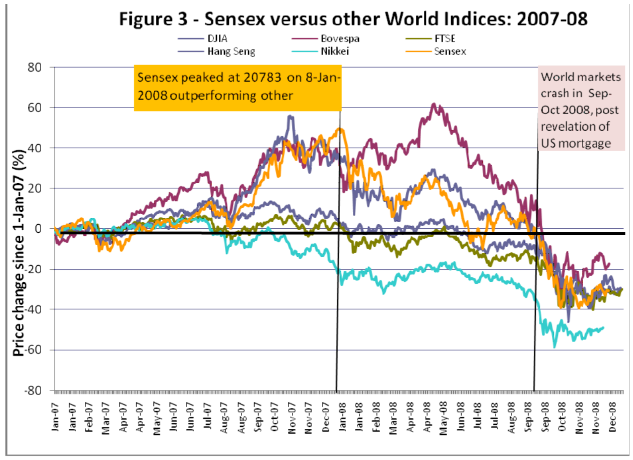
In sum, while 2007 was a great year for investors, 2008 has proven to be traumatic, with investors not only losing value but also having to bear with heightened volatility at the same time.

Table 1

Sensex and Nifty:
Average Daily Returns and Volatility in a Month
(January 2007 - December 2008)

Month	*Daily Returns (%)*		*Volatility (%)*	
	Sensex	*Nifty*	*Sensex*	*Nifty*
January-07	0.06	0.10	1.17	1.16
February-07	-0.45	-0.45	1.54	1.56
March-07	0.05	0.10	1.95	2.00
April-07	0.30	0.34	1.68	1.75
May-07	0.23	0.24	**0.80**	0.85
June-07	0.03	0.27	0.82	**0.72**
July-07	0.27	0.22	1.38	1.42
August-07	-0.07	-0.07	2.00	2.06
September-07	0.61	0.22	1.04	1.28
October-07	**0.62**	**0.73**	2.34	2.46
November-07	-0.11	-0.11	1.73	1.72
December-07	0.25	0.33	1.49	1.67
January-08	-0.63	-0.77	2.95	3.29
February-08	-0.02	0.08	2.38	2.46
March-08	-0.65	-0.55	3.21	3.06
April-08	0.50	0.44	1.40	1.28
May-08	-0.26	-0.29	1.31	1.21
June-08	-0.94	-0.89	1.93	1.91
July-08	0.28	0.30	3.30	2.97
August-08	0.07	0.03	1.73	1.61
September-08	-0.59	-0.51	2.50	2.32
October-08	-1.36	-1.53	5.19	5.03
November-08	-0.41	-0.26	3.85	3.83
December-08	0.28	0.34	2.53	1.38
Max. Value	0.62% (Oct-07)	0.73% (Oct-07)	5.19% (Oct-08)	5.03% (Oct-08)
Min. Value	-1.36% (Oct-08)	-1.53% (Oct-08)	0.80% (May-07)	0.72% (June-07)

Figure 3 - Sensex versus other World Indices: 2007-08



Sensex and Global Indices' Daily Returns and their Volatility

We now take a look at the performance of the Indian stock market apropos other global markets. Figure 3 depicts the price movement of Sensex (representing the Indian market) relative to the other overseas indices, with 2nd January 2007 prices as the baseline for respective indices. It shows that while the Sensex mostly exhibited middle of the road performance during the period of study, it outperformed other indices during its leap to "Peak 20K" from the end of 2007 until January 2008. Thereafter, it underperformed BOVESPA (Brazil) and Hang Seng (Hong Kong) but outperformed Nikkei (Japan), FTSE (UK) and DJIA (US). Of course, all indices have followed the global trend and fell in the latter half of 2008.

Table 2 shows the average daily return and their volatility during 2007 and 2008 and the full period of study for Sensex, DJIA, BOVESPA, FTSE, Hang Seng and Nikkei 225.

Table 2

Sensex and World Indices: Average Daily Returns and Volatility (January 2007 - December 2008)

Stock Index	*2007*		*2008*		*Overall (2007-08)*	
	Daily Return (%)	*Volatility (%)*	*Daily Return (%)*	*Volatility (%)*	*Daily Return (%)*	*Volatility (%)*
DJIA	0.025	0.920	-0.163	2.381	-0.073	1.811
BOVESPA	0.140	1.735	-0.213	3.291	-0.041	2.643
FTSE	0.009	1.101	-0.149	2.364	-0.072	1.846
Hang Seng	0.125	1.635	-0.263	3.193	-0.071	2.541
Nikkei	-0.051	1.166	-0.224	2.935	-0.141	2.235
Sensex	0.151	1.549	-0.305	2.865	-0.074	2.308
Max. Value	0.151% (Sensex)	1.735% (BOVESPA)	-0.149% (FTSE)	3.291% (BOVESPA)	-0.041% (BOVESPA)	2.643% (BOVESPA)
Min. Value	-0.051% (Nikkei)	0.920% (DJIA)	-0.305% (Sensex)	2.364% (FTSE)	-0.141% (Nikkei)	1.811% (DJIA)

Table 3

NSE Derivatives and Cash Turnover

Month (end of period)	*NSE Cash Market Capitalization (Rs Crore)*	*NSE Derivatives Turnover (Rs. Crore) (Rs Crore)*	*NSE Cash Turnover (Rs Crore)*	*Derivatives turnover as % of Cash turnover (%)*
Jan-07	3,571,487	627,456	175,147	358
Feb-07	3,296,931	703,492	180,170	390
March-07	3,367,350	693,763	167,954	413
April-07	3,650,368	616,287	168,567	366
May-07	3,898,078	723,443	207,585	349
June-07	3,978,381	806,542	193,648	416
July-07	4,317,571	1,015,077	267,227	380
August-07	4,296,994	1,056,731	231,241	457
September-07	4,886,561	1,072,889	266,050	403
October-07	5,722,227	1,833,663	455,589	402
November-07	5,876,742	1,517,304	414,420	366
December-07	6,543,272	1,274,230	366,385	348
Jan-08	5,295,387	1,453,881	447,138	325

Feb-08	5,419,942	899,217	280,176	321
March-08	4,858,122	821,215	253,012	325
April-08	5,442,780	766,431	271,227	283
May-08	5,098,873	797,908	277,923	287
June-08	4,103,651	1,084,064	264,428	410
July-08	4,432,427	1,160,174	295,816	392
August-08	4,472,461	957,445	234,251	409
September-08	3,900,185	1,197,872	262,261	457
October-08	2,820,388	941,646	216,198	436
November-08	2,653,281	745,356	173,123	431

Cash and Derivatives Turnover

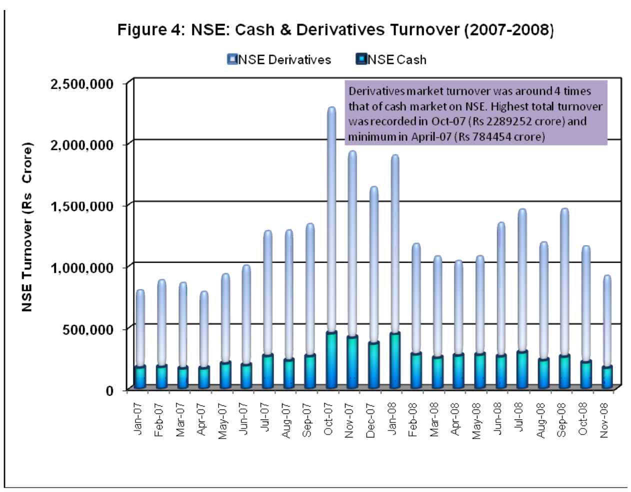
Table 3 summarises the market capitalisation and derivatives and cash market turnover of NSE at the end of each month from January 2007 through December 2008.

We consider derivatives turnover of NSE, as NSE is by far the leader in derivative trades and clocks turnover around 45 times that of BSE. At the end of June 2007, Both BSE's and NSE's cash market capitalization reached the landmark of US$ one trillion, an achievement that reflects the growing clout of Indian economy and immense investor fancy for the Indian bourses. Derivatives turnover on NSE was the highest during the final assault on "Peak 20K" from October 2007 through January 2008, averaging around Rs 1,500,000 Crore, around 4 times that of the cash market turnover. The market capitalisation and turnover however, shrunk after January 2008, to around half of their peak values (Figure 4).

Mutual Fund Investments

Table 4 shows the summary statistics of the mutual fund market investments during the period of study. Figure 5 depicts the trend in equity and debt segments.

Net investments in equity and debt mutual funds during the period of study indicate strong preference for debt mutual funds over equity funds. Note that during 2007-2008 we had rising interest rate regime and market volatility was increasing. It is, therefore, natural to expect preference for debt schemes. In 2007, investments in debt mutual funds were around 10 times than that in equity funds and amounted to around Rs 64,000 crore. In 2008, these were around 3.5 times and amounted to around Rs 49,000 crore. Interestingly, October 2008, in the midst of market crash in the aftermath of US sub-prime crisis and period of extreme volatility, massive redemption took place in debt funds to the tune of Rs 26,000



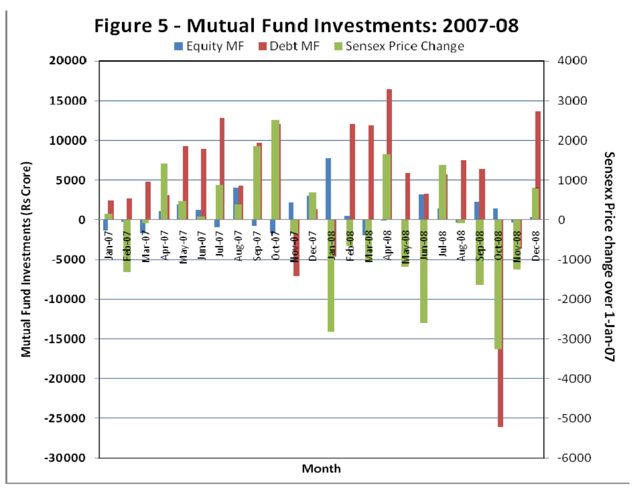


Table 4

Mutual Fund Investments in 2007 and 2008

End of Month	*EQUITY*			*DEBT*		
	Gross Purchases (Rs Crore)	*Gross Sales (Rs Crore)*	*Net Investment (Rs Crore)*	*Gross Purchases (Rs Crore)*	*Gross Sales (Rs Crore)*	*Net Investment (Rs Crore)*
Jan-07	11499	12919	-1420	10831	8428	2403
Feb-07	12698	12971	-273	10352	7683	2669
Mar-07	10047	11752	-1705	15565	10779	4786
Apr-07	12216	11185	1031	15986	12859	3127
May-07	15436	13529	1907	23912	14678	9234
Jun-07	12196	10983	1213	25282	16328	8954
Jul-07	16892	17793	-901	29859	17054	12805
Aug-07	16676	12582	4094	20839	16480	4359
Sep-07	15847	16611	-764	24510	14797	9713
Oct-07	23221	24936	-1715	33058	20968	12090
Nov-07	19329	17160	2169	17915	25031	-7116
Dec-07	20745	17721	3024	17744	16456	1288
Jan-08	32721	25019	7702	26139	30760	-4621
Feb-08	16752	16238	514	25413	13340	12073
Mar-08	15548	17519	-1971	37948	26066	11882
Apr-08	13407	13518	-111	36801	20363	16438
May-08	13470	13406	64	30920	25002	5918
Jun-08	14811	11632	3179	24287	21023	3264
Jul-08	17189	15777	1412	23529	17740	5789
Aug-08	10660	11029	-369	23387	15923	7464
Sep-08	14656	12364	2292	29332	22915	6417
Oct-08	13177	11746	1431	15621	41703	-26082
Nov-08	8454	8826	-372	13883	17482	-3599
Dec-08	10210	9870	340	29887	16237	13650
2007 Net	186802	180142	6660	245853	181541	64312
2008 Net	181055	166944	14111	317147	268554	48593
Overall Net	367857	347086	20771	563000	450095	112905

Source: SEBI website

crore. However, heavy investments were made again in December 2008 (Rs 13,650 crore) in debt funds.

FII Investments

Foreign Institutional Investors' (FIIs) investments play an important role in determining market return and volatility. The data contained in Table 5 and the graphical representation in Figure 6 indicate that daily returns in a month had somewhat positive relationship with FIIs' purchases and volatility with their sales.

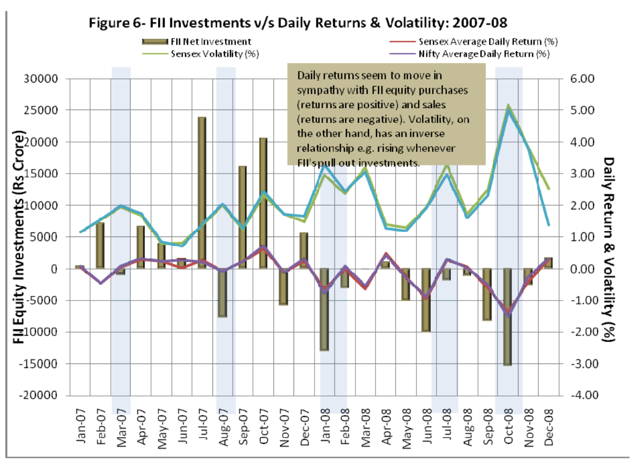


Table 5

FII Investments in 2007 and 2008

Month	*Gross Purchases (Rs Crore)*	*Gross Sales (Rs Crore)*	*Net Invest-ment (Rs Crore)*	*Net Investment US $m at month exchange rate*
Jan-07	45052	44560	492	113
Feb-07	55804	48564	7239.6	1620
Mar-07	50679	51760	-1082	-244
Apr-07	48141	41462	6679	1516
May-07	49752	45792	3960	942
Jun-07	49250	47607	1643	401
Jul-07	85280	61408	23872	5855
Aug-07	58825	66595	-7771	-1922
Sep-07	67411	51278	16133	3957
Oct-07	131787	111196	20591	5067
Nov-07	87313	93163	-5850	-1450
Dec-07	85586	80007	5579	1383
Jan-08	103678	116714	-13036	-3232
Feb-08	62078	65190	-3112	-771
Mar-08	71159	71290	-130	-32
Apr-08	62516	61441	1075	267
May-08	58814	63825	-5012	-1242
Jun-08	62841	72937	-10096	-2503
Jul-08	63563	65400	-1837	-455
Aug-08	47560	48772	-1212	-300
Sep-08	66496	74775	-8278	-2052
Oct-08	49431	64779	-15347	-3805
Nov-08	30416	33014	-2598	-644
Dec-08	31355	29605	1750	434

Source: www.sebi.gov.in (Daily trends in FII investments)

The bouts of high volatility in Jan to Feb 2008, June to July and Sep to Oct 2008 were all characterisd by net sales by FIIs, while comparatively calmer period saw sizeable gross purchases, e.g., most part of 2007.

CONCLUSIONS

The period of two years (2007 and 2008) has been very eventful for the Indian stock market. These two years saw contrasting market action: 2007 being the good year and 2008, the bad one, from the investors' perspective. The svolatility was the highest during October 2008—around 5 per cent on both indices.

It is observed that volatility was higher when the market was falling. Conversely, market was less volatile while rising. This is because investors' asymmetrical response to negative and positive news. While the Sensex mostly exhibited middle of the road performance during the period of study, it outperformed other global indices during its leap to "Peak 20K" during the end of 2007 until January 2008.

Derivatives turnover on NSE was the highest during the final stretch to "Peak 20K" from October 2007 through January 2008, averaging around Rs 1,500,000 crore, around 4 times that of the cash market turnover. The market capitalisation and turnover however, shrunk after January 2008, to around half of their peak values.

Net investments in equity and debt mutual funds during the period indicate strong preference for debt mutual funds over equity funds in line with the rising interest rate regime and increasing market volatility during the years 2007 and 2008. In October 2008, in the midst of market crash in the aftermath of the US sub-prime crisis and the period of extreme volatility, massive redemptions took place in debt funds to the tune of Rs 26,000 crore.

The daily returns in a month had somewhat positive relation with FIIs' purchases and volatility with their sales. While the bouts of high volatility in Janary-February 2008, June-July and September-October 2008 were all characterised by net sales by FIIs, comparatively calmer period saw sizeable gross purchases by them.

REFERENCES

Aggarwal, R., and K. Tandon (1994), "Anomalies or Illusions? Evidence from Stock Markets in Eighteen Countries", *Journal of International Money and Finance*, Vol. 13, pp. 83-106.

Amihud, Y., and H. Mendelson (1987), "Trading Mechanisms and Stock Returns: An Empirical Investigation", *The Journal of Finance*, Vol. 42, No. 3, pp. 533-555.

Ballie, R.T., and R. P. DeGennaro (1990), "Stock Returns and Volatility", *Journal of Financial and Quantitative Analysis*, Vol. 25, pp. 203-214.

Black, F. (1976), "Studies of Stock Price Volatility Changes", *Proceedings of the 1976 Meetings of the American Statistical Association, Business and Economics Statistics Section* (Washington D.C., American Statistical Association), pp. 177-181.

Booth, G.G., T. Martikainen, and Y. Tse (1997), "Price and Volatility Spillovers in Scandinavian Stock Markets", *Journal of Banking and Finance*, Vol. 21, pp. 811-23.

Fama, E. (1965), "The Behaviour of Stock Market Prices", *Journal of Business*, Vol. 38, pp. 34-105.

French, K., G. Schwert and R. Stambaugh (1987), "Expected Stock Returns and Volatility", *Journal of Financial Economics*, Vol. 19, pp. 3-29.

French, K. and R. Roll (1986), "Stock Return Variances: the Arrival of Information and the Reaction of Traders", *Journal of Financial Economics*, Vol. 17, pp. 5-26.

Geyer, A.L.J. (1994), "Volatility Estimates of the Vienna Stock Market", *Applied Financial Economics*, Vol. 4, pp. 449-55.

Goyal, R. (1995), "Volatility in Stock Market Returns", *Reserve Bank of India Occasional Papers*, Vol. 16, No. 3, pp. 175-95.

Hansda, S.K., and P. Ray (2002), "BSE and Nasdaq: Globalisation, Information Technology and Stock Prices", *Economic and Political Weekly*, February 2, p. 459.

Karpoff, J.M. (1987), "The Relation Between Price Changes and Trading Volume: A Survey", *Journal of Financial & Quantitative Analysis*, Vol. 22, No. 1, p. 109.

Kaur, H. (2002), "Modelling Stock Market Volatility in India", *Review of Commerce Studies,* Vol. 21, No. 2 (June-December), pp. 1-40.

Kaur, H. (2002), "Stock Market Volatility in India" (New Delhi: Deep & Deep Publications).

Kaur, H. (2003), "Effect of Foreign Institutional Investments on Stock Market Volatility in India", *Review of Commerce Studies*, Vol. 22, No. 1(January-June), pp. 1-19.

Kaur, H. (2004), "Effect of Company Size on Stock Market Volatility", *Finance India*, Vol. 18, No.1 (March), pp. 103-114.

Kaur, H. (2004), "Stock Market Volatility in India", *Indian Journal of Commerce*, Vol. 57, No. 4 (October-December), pp. 55-70.

Kaur, H. (2004), "Time Varying Volatility in the Indian Stock Market." Vikalpa, Vol. 29, No. 4 (October-December), pp. 25-42.

Kaur, H. (2007), "Review of Indian Stock Market during January-June 2007." *Business Horizon*, Vol. 1 (July-December), pp. 185-197.

Kumar, K.K., and C. Mukhopadhay (2002), "A Case of US and India", *Paper published by NSE Research Initiative*. Available at www.nse-india.com.

Kurt, S. (1991), "Hyper Volatility of Securities Market", *The Bombay Stock Exchange Review*, July, pp. 1-9.

Mandelbrot, B. (1963), "The Variation of Certain Speculative Prices", *Journal of Business*, Vol. 36, pp. 394-419.

Pandey, A. (2002), "Extreme Value Estimators and their Empirical Performance in Indian Capital Markets", *Paper published by NSE Research Initiative*. Available at *www.nseindia.com.*

Parkinson, M. (1980), "The Extreme Value Method for Estimating the Variance of the Rate of Return", *Journal of Business*, Vol. 53, pp. 61-65.

Pattanaik, S., and B. Chatterji (2000), "Stock Returns and Volatility in India: An Empirical Puzzle?" *Reserve Bank of India Occasional Papers*, Vol. 21, No. 1 (Summer), pp. 37-60.

Poshakwale, S. (1996), "Evidence on Weak Form Efficiency and Day of the Week Effect in the Indian Stock Market", *Finance India*, Vol. 10, No. 3, pp. 605-616.

Rao, B.S.R., and U. Naik (1990), "Inter-relatedness of Stock Markets: Spectral Investigation of USA, Japanese and Indian Markets - A Note", *Arth Vignana*, Vol. 32 (3&4), pp. 309-321.

Reddy, Y. S. (1998), "Effects of Microstructure on Stock Market Liquidity and Volatility", *Prajnan*, Vol. 26, No. 2, pp. 217-31.

Rogers, L.C.G. , and S.E. Satchell, (1991), "Estimating Variance from High, Low and Closing Prices", *Annals of Applied Probability*, Vol. 1, pp. 504-12.

Roll, R., (1988), "The International Crash of October 1987", *Financial Analysts' Journal*, September-October pp. 19-35.

Roy, M. K., and M. Karmakar, (1995), "Stock Market Volatility, Roots and Results", *Vikalpa*, Vol. 20, No.1 (January-March), pp. 37-48.

Schwert, W. G. (1989), "Why Does Stock Market Volatility Change Over Time?" *The Journal of Finance*, Vol. 44, No. 5, pp. 1115-51.

Schwert, W. G. (1990), "Stock Market Volatility", *Financial Analysts Journal*, (May-June), pp. 23-34.

Securities and Exchange Board of India (SEBI), *Annual Reports*. Available at www.sebi.gov.in.

Sharma, J.L., and R.E. Kennedy (1977), "Comparative Analysis of Stock Price Behaviour on the Bombay, London and New York Stock Exchanges", *Journal of Financial and Quantitative Analysis*, (September), pp. 391-403.

Shenbagaraman, P. (2003), "Do Futures and Options Trading Increase Stock Market Volatility?" *Paper published by NSE Research Initiative*. Available at *www.nseindia.com.*

Thomas, S. (1998), "Volatility Forecasting in Indian Financial Markets", *Derivative Markets in India* (Tata McGraw Hill, India).

SERVICE QUALITY IN TELECOM INDUSTRY
A Study of Telecom Service-providers in Dehradun City

Prakash Tiwari* and Hemraj Verma**

Abstract

Due to increased competition in the telecom industry, customers are being wooed through numerous measures like cutting the call charges and making other attractive and innovative offers. Service quality has come to stay as a significant differentiator of service organisations. Studies have been undertaken by various researchers to identify key drivers of service quality. This study seeks to identify the probable variables affecting the service quality through factor analysis, and the major factors/indicators of service quality. Service quality of six major mobile service-providers, operating in the Dehradun city, is sought to be measured across these factors.

Key Words: ***Customer perception, Service quality, Service quality scale, Telecom industry***

INTRODUCTION

THE Competition in the Indian telecom sector has immensely increased recently. While Airtel and MTNL were the only key players during the nineties, there are around 30 players of foreign and domestic origin operating in India. Due to intense competition in the industry, the service-providers are now coming up with attractive and innovative offerings to woo the customers, thereby grabbing a larger share of the pie.

The telecom network in India, with over 11 million connections, is the fifth largest network in the world. In terms of quality, the telecom industry measures up to global standards. The industry is currently estimated to contribute nearly one per cent to India's GDP. The total subscriber-base reached the 250 million mark in 2007. While developing the Broadband Policy, 2004, the Government of India aimed at 9 million broadband and 18 million Internet connections by 2007. Similarly, the wireless subscriber base also increased to 62.57 million in 2004-2005. Thereafter, for three years, two out of every three new telephone subscribers were wireless subscribers. Now, the wireless users account for 54.6 per cent of the total telephone subscriber base, as compared to 40 per cent in 2003. Wireless subscriber growth was expected to be over 2.5 million new subscribers per month by 2007. The wireless technologies currently in use are Global System for Mobile Communications (GSM) and Code Division Multiple Access (CDMA). There are 9

* Mr. Prakash Tiwari is Assistant Professor in Management in Dehradun Institute of Technology, Dehradun, Uttarakhand, e-mail: *prakashtwr@yahoo.com*

** Mr. Hemraj Verma is Senior Lecturer in Management in Dehradun Institute of Technology Dehradun, Uttarakhand, e-mail: *hemrajverma@gmail.com*

GSM and 5 CDMA operators in India providing mobile services in 19 telecom circles and 4 metro cities, covering about 2000 towns across the country. The present study was conducted the city of Dehradun, the capital town of Uttarakhand State, where three types of service-providers, were operating: State-owned company (BSNL), private Indian companies (Reliance Infocom, Tata Teleservices, Airtel, Idea) and foreign companies (Vodafone and Bharti Tele-Ventures).

REVIEW OF LITERATURE

The term 'quality' seems to be kaleidoscopic in scope, as different authors have dealt with it in their own ways. Berry, Parasuraman, and Zeithaml (1985) stated that it inappropriate to use product-based definition of quality when studying the service sector, and therefore, they developed the concept of 'service quality'. It is one of the most important aspects which can give a company unmatchable competitive an advantage. According to Berry, *et al*. (1985, 1988) service quality is the key differentiating competitive instrument which all organisations would like to own. Service quality has been defined as the gap between the expected and the perceived level of service (Gronroos, 1984; Lewis and Mitchell, 1990; Parasuraman, *et al*., 1991; Dotchin and Oakland, 1994; Donnelly, 1996). Since services are perishable and intangible, they have a different connotation in relation to quality. Zeithaml and Bitner (1996) find it posing a problem to organisations in their delivering consistent service quality.

Beardon, *et al*. (1979), Woodside, *et al*. (1989), Bitner and Mary Jo (1990), Reinchheld and Sasser (1990), Yi (1990), Bolton and Drew (1991), Cronin and Taylor (1992), Boulding, *et al.* (1993), Zeithaml and Bitner (1996), Spreng and Mackoy (1996), Zeithaml, *et al.* (1996), Cronin, *et al.* (2000), Bruhn and Grand (2000), and Suresh Chandar, *et al.* (2002) have tried to establish relationship between service quality and some other customer focused construct, viz., customer satisfaction, customer loyalty customer retention, etc. Cronin and Taylor (1992), Teas (1993), Parasuraman, *et al*. (1994), Harvey (1998), and Wisniewski (2001) also differ on how to measure service quality. However, the lack of consensus between different researchers does not belittle the importance of the measurement of service quality as the analysis and measurement is always an important first step towards developing quality in services (Edvardsson, *et al.*, 1994). This study also focuses on generating a customised index to measure the service quality, based on the dimensions of the SERVEQUAL scale, of telecom service-providers in the Dehradun Circle of Indian telecom industry and on the measurement of their service quality level.

OBJECTIVES AND HYPOTHESES

The study was conducted with the following objectives:

1. To identify the major factors Constituting service quality of telecom.
2. To measure customer perception of the service quality of different companies through the identified representative factors for selected telecom service-providers.
3. To ascertain whether consumer perception of the service quality of different companies on the basis of the service factors varies significantly.

Based on the above objectives, the following hypotheses were formulatd:

H_{01}: There is no significant difference in respect of the information and records dimension among the different service-providers.

H_{02}: There is no significant difference in respect of the network dimension among the different service-providers.

H_{03}: There is no significant difference in respect of the promotion dimension among the different service-providers.

H_{04}: There is no significant difference in respect of the appearance dimension among the different service-providers.

H_{05}: There is no significant difference in respect of the problem-solving dimension among the different service-providers.

RESEARCH METHODOLOGY

The nature of this research is exploratory as an effort has been made to explore the problems further. The population for the study consists of the customers of all the telecom service providers of Dehradun city. The study focuses on customer-service quality parameter for both the private and the government sector telecom operators in the Uttarakhand circle of Indian telecom industry. The operators present in this area are Airtel, BSNL, Vodafone, Idea, Tata Indicom and Reliance. Data was collected by systematic random sampling of 200 respondents. After eliminating the incomplete responses and non-responses, a total of 172 responses were considered for the analysis.

The scale required to measure the service quality level was devised by generation of items from the existing models and from discussion with industry experts. The first step after understanding service quality construct was to generate items (categories) that will help in effectively measuring the service quality.

The Five-point Likert scale was used to measure the perceived quality for different items over four dimensions, viz., appearance, performance, knowledge and courtesy, and responsiveness (Parvinder Arora, Ajay Garg, and Amrita Singh, 2007). These dimensions have been adapted by the researchers from the five dimensions, viz., tangiblity, reliability, responsiveness, assurance, and empathy of the SERVQUAL scale given by Parasuraman (1985). However, keeping the superiority of SERVPERF in mind, only customer perception aspect has been measured and customer expectation has been excluded. The list of variables used in the construction of scale is listed in Exhibit I:

Exhibit 1

List of Variables (Components of Service Quality used for Construction of Scale)

Appearance	**Performance**
1. Promotional material (brochures, pamphlets, invoices, and print advertisements); 2. Employee dress (uniformity and appearance of the personnel working at service centres); 3. Interior design (design of the service centre); 4. Proximity (location of the service centre).	1. Error free records (comprise bills, invoices); 2. Understandable (bills, invoices, etc. should be easy to read and understand); 3. Prior knowledge of service termination; 4. Network coverage, voice clarity; 5. Disconnection; 6. First instance call connectivity; 7. SMS delivery and commitment (delivering whatever it is promising and at the right time).
Knowledge and courtesy	**Responsiveness**
1. Timely information (information provided should be timely); 2. Accurate information (information provided should be accurate); 3. Complete information (information provided should be complete); 4. Courtesy (employees should be courteous while addressing the customer concerns); 5. Query handling knowledge (employees should have sufficient knowledge to answer the queries of customers).	1. Problem address (the responses to customer problems should be prompt); 2. Timely action (appropriate action should be taken immediately after addressing the problem); 3. Problem solving ability (the service provider should be able to solve the customer problems); 4. Availability of employees (the staff should always be available for addressing the customer problems).

The data were entered into SPSS 13.0 for analysis and various statistical tools were used to gain further insights.

DATA ANALYSIS AND INTERPRETATION

A demographic profile of the respondents is given in Table 1.

Table 1

Demographic Profile of Respondents

S.No	Demographics	Number	Percentage
1.	**Sex**		
	Male	108	62.8
	Female	64	37.2
2.	**Education**		
	Higher secondary or less	8	4.7
	Graduation	83	48.3
	Post graduation	74	43
	Doctoral	7	4.1
3.	**Occupation**		
	Service	54	31.4
	Business	44	25.6
	Student	40	34.9
	Others	14	8.1
4.	**Age**		
	Below 25 years	79	45.9
	26 to 35 years	53	30.8
	36 to 45 years	25	14.5
	46 to 60 years	14	8.1
	Above 60 years	1	0.6
5.	**Monthly Family Income**		
	Less than Rs 10000	18	10.5
	Rs 10000-25000	73	42.4
	Rs 25001-50000	52	30.2
	Rs 50001-1 Lakh	19	11
	More than Rs. 1 Lakh	10	5.8

The distribution of respondents by their service-providers is shown in Table 2.

Factor Analysis

In order to reduce the total number of variables to a smaller and manageable number, factor analysis was carried out through SPSS. The results are given in Table 3.

Table 2

Distribution of Respondents by Service-providers

Service provider	Number of Respondents	Percent
BSNL	24	14.0
Reliance	33	19.2
Tata Indicom	18	10.5
Airtel	56	32.6
Idea	23	13.4
Vodafone	17	9.9
Others	1	.6
Total	172	100.0

As shown in the variance table, six factors were extracted (with more than one Eigen value), accounting for 55 per cent of the total variance, thus, making our model a reliable one.

All factors were rotated through the Varimax Rotation Method to find out how well each variable has loaded on to components thus extracted. The Rotated Component Matrix is shown in Table 4.

IDENTIFICATION OF DIMENSIONS

After a careful examination of the factor loadings, the 22 variables were associated with the respective dimensions (problem-solving, network, appearance, convenience, information and records, and promotion). These are listed in Table 5.

As is evident (Table 6) from the mean ratings of various mobile service providers across the six extracted factors, while BSNL, Reliance and Tata Indicom are perceived to be the best on network dimension, Idea and Vodafone are rated as the best in respect of information and records. As for Airtel, it has been perceived to be the best in respect of consumer problem-solving.

While Reliance, Idea and BSNL got poor ratings in respect of the appearance dimension, Tata Indicom and Airtel were perceived poor in respect of promotion. Vodafone has been rated poor on consumer problem-solving.

Further, from a comparative analysis of the six service-providers on the basis of overall means

Table 3

Total Variance Explained

Component	*Initial Eigen Values*			*Extraction Sums of Squared Loadings*			*Rotation Sums of Squared Loadings*		
	Total	*Per cent of Variance*	*Cumulative Per cent*	*Total*	*Per cent of Variance*	*Cumulative Per cent*	*Total*	*Per cent of Variance*	*Cumulative Per cent*
1.	5.312	25.294	25.294	5.312	25.294	25.294	3.104	14.780	14.780
2.	1.795	8.546	33.840	1.795	8.546	33.840	2.628	12.512	27.292
3.	1.290	6.141	39.981	1.290	6.141	39.981	2.168	10.324	37.616
4.	1.183	5.634	45.615	1.183	5.634	45.615	1.411	6.717	44.333
5.	1.128	5.372	50.987	1.128	5.372	50.987	1.273	6.061	50.394
6.	1.037	4.940	55.927	1.037	4.940	55.927	1.162	5.533	55.927
7.	0.996	4.741	60.668						
8.	0.974	4.639	65.307						
9.	0.895	4.264	69.571						
10.	0.848	4.040	73.611						
11.	0.776	3.695	77.306						
12.	0.707	3.365	80.671						
13.	0.644	3.066	83.737						
14.	0.636	3.030	86.768						
15.	0.546	2.598	89.365						
16.	0.465	2.217	91.582						
17.	0.415	1.978	93.560						
18.	0.398	1.898	95.458						
19.	0.373	1.778	97.236						
20.	0.324	1.540	98.776						
21.	0.257	1.224	100.000						

Extraction Method: Principal Component Analysis

Table 4

Rotated Component Matrix

	Component 1	*Component 2*	*Component 3*	*Component 4*	*Component 5*	*Component 6*
'Promotional material is attractive enough'	6.054E-02	6.222E-02	1.789E-02	7.054E-02	7.068E-02	.777
'Employees are well dressed'	2.403E-03	9.663E-02	.172	.750	-.130	-1.079E-02
'Service centre is well designed'	.281	5.468E-02	-2.285E-02	.663	.135	.161
'Location of service centres is convenient'	7.284E-02	.244	.548	.213	-2.326E-02	.363
'Records are error free'	9.916E-02	.421	6.685E-02	3.936E-02	.496	.138
'Received documents are error free'	-1.537E-02	.555	.321	-3.538E-02	4.489E-02	.229
'Service is terminated with your knowledge'	.178	.107	.181	-4.013E-02	.745	1.727E-02
'Network is available every time'	.108	.727	3.535E-02	8.704E-02	3.892E-02	-3.899E-02
'Voice is clearly audible'	.101	.532	.327	.110	.246	-.286
'Calls are connected in first attempt'	7.339E-02	.674	6.099E-02	8.612E-02	-2.231E-02	.123
'SMS delivery is very fast'	.287	.703	-.211	-1.064E-02	.102	-4.676E-03
'Promises made are fulfilled in time'	.168	8.832E-02	.783	7.916E-02	.135	-2.405E-02
'Information is provided by the staff in time'	.538	7.756E-02	.498	-.163	2.731E-02	-7.242E-02
'The staff provides complete information'	.677	9.602E-02	.138	.135	.100	.355

'The staff provides accurate information'	.667	.145	.211	.278	.102	7.182E-02
'Employees are courteous while addressing'	.229	-6.902E-02	.525	8.375E-02	2.442E-02	-5.370E-04
'Employees have full knowledge about query'	.662	2.486E-02	5.460E-02	.266	.145	-.218
'Employees response to problems is prompt'	.705	.129	.102	-2.029E-02	-5.657E-03	6.314E-02
'Timely action is taken to solve the problems'	.544	.290	.421	5.799E-02	.156	-4.865E-02
' The service provider is capable of solving problems'	.468	.166	.329	-.155	-.360	.161
'Employees are always available'	.376	.341	.205	.304	-.376	-.116

Extraction Method: Principal Component Analysis, Rotation Method: Varimax with Kaiser Normalisation. a Rotation converged in 8 iterations.

Table 5

Principal Components and Associated Variables

Customer Problem-solving	*Network*	*Convenience*	*Information and records*	*Appearance*	*Promotion*
'Staff provide complete information'	Network is always available	Promises made are fulfilled in right time	Service is terminated with customer's knowledge	Employees are well dressed	Promotional material are attractive enough
'Employees have full knowledge of the subject'	SMS delivery is fast	Employees are courteous	Records are error-free	Service centre is well-designed	
'Staff provides accurate information'	Calls are connected in first attempt	Location of the service center is convenient			
'Timely action is taken to solve the problem'	Voice is clearly audible				
'Information provided by the staff is timely'	Received documents are easily understandable				
'Service provider is capable of solving the problem'	Frequent disconnection				
'Employees are always available'					
'Employees promptly respond to the problem'					

Service Quality of Mobile Operators on Six Extracted Factors

Table 6

Analysis of Overall Means of Service-Quality Dimensions

Service	*Customer Problem-solving*	*Network*	*Convenience*	*Information and Records*	*Appearance.*	*Promotion*	*Overall Means*	*Rank*
BSNL	2.69	2.86	2.61	2.79	2.50	2.54	2.65	1
Reliance	2.42	2.76	2.47	2.70	2.21	2.21	2.46	2
Tata Indicom	2.63	2.67	2.31	2.58	2.36	2.00	2.42	3
Airtel	2.46	2.19	2.40	2.46	2.29	2.07	2.30	5
Idea	2.51	2.36	2.55	2.67	2.07	2.30	2.41	4
Vodafone	2.07	2.22	2.12	2.26	1.85	1.82	2.05	6

of dimensions, it can be inferred that BSNL holds the first position among the service-providers operating in Dehradun, in providing quality service. Both, Reliance and Tata Indicom have overall been perceived as 2nd and 3rd best, respectively. Vodafone was poorly rated by customers on the six extracted dimensions

HYPOTHESIS TESTING

One-way ANOVA was applied to test the significance of the difference between the mean values of various service-providers across the six extracted factors.

One-way ANOVA for Information and Records

The necessary computations are shown in Table 7.

Hypothesis 1 (H_{01}): There is no significant difference in the information and records dimension between the different service-providers.

One-way ANOVA results

Calculated value: 1.255

Degree of freedom: 6

Table value: 2.10

Inference: Since the calculated value is less than the table value the null hypothesis is accepted. Hence, there is no significant difference in respect of the information and records dimension, among the different service-providers.

One-way ANOVA for 'Network'

The relevant computations are shown in Table 8.

Hypothesis 2 (H_{02}): There is no significant difference in respect of the network dimension among the different service-providers.

Results

Calculated value: 6.482

Degree of freedom: 6

Table value: 2.10

Inference: Since the calculated value is greater than the table value, the null hypothesis is rejected. Hence, there is a significant difference on the network dimension between the different service-providers.

Hypothesis 3 (H_{03}): There is no significant difference in respect of the consumer problem-solving among the different service-providers.

Table 7

One-way ANOVA for 'Information and Records'

	Sum of the squares	*DF*	*Mean square*	*F*	*Sig*
Between groups	5.136	6	0.856	1.255	0.281
Within groups	112.555	165	0.682		
Total	117.69	171			

Table 8

One-way ANOVA for 'Network'

	Sum of the squares	*DF*	*Mean square*	*F*	*sig*
Between groups	13,150	6	2.192	6.482	0.00
Within groups	55.791	165	.338		
Total	68.941	171			

Table 9

One-way ANOVA for 'Consumer Problem-Solving'

	Sum of the squares	*DF*	*Mean square*	*F*	*Sig*
Between groups	4.464	6	0.744	2.153	0.05
Within groups	57.024	165	0.346		
Total	61.488	171			

Results

Calculated value: 2.153

Degree of freedom: 6

Tabulated value: 2.10

Inference: Since the calculated value is greater than the table value, the null hypothesis is rejected. Hence, there is a significant difference in respect of consumer problem-solving dimension among the different service-providers.

Hypothesis 4 (H_{04}): There is no significant difference in respect of the appearance dimension among the different service-providers.

Results

Calculated value: 3.045

Degree of freedom: 6

Tabulated value: 2.10

Inference: Since the calculated value is greater than the table value, the null hypothesis is rejected. Hence, there is a significant difference in respect of the appearance dimension among the different service-providers.

Hypothesis 5 (H_{05}): There is no significant difference in respect of the promotional materials among the various service-providers.

Since the calculated value at 6 degree of freedom is 2.595, which is greater than the table value of 2.10, the null hypothesis is rejected. Hence, there is a significant difference in respect of the 'promotional material' dimension among the different service-providers.

FINDINGS

After factor analysis, six components, viz., consumer problem-solving, network, information and records, appearance, convenience and promotion, were identified. These components were able to explain 55 per cent of total variance of 22 variables.

Individually, while BSNL, Reliance, and Tata Indicom were perceived to be the best service-providers of telecom on their network dimension, Vodafone and Idea on their information and records dimension, Airtel was rated as the best on its 'consumer problem-solving' dimension. Overall, BSNL held the first position among all the service-providers in Dehradun city in terms of the service quality, followed by Reliance and Tata Indicom. Vodafone has been rated as the poorest in service quality. Customer's perception did not vary significantly on information and records dimension of different service-providers. However, perception has varied quite significantly across the rest of the dimensions.

Table 10

One-way ANOVA for 'Appearance'

	Sum of the Squares	*DF*	*Mean Square*	*F*	*Sig*
Between groups	5.856	6	.976	3.045	0.08
Within groups	52.881	165	.320		
Total	58.737	171			

Table 11

One-way ANOVA for 'Promotional Materials'

	Sum of the Squares	*DF*	*Mean Square*	*F*	*sig*
Between groups	10.240	6	1.707	2.595	0.020
Within groups	108.528	165	.658		
Total	118.767	171			

CONCLUSIONS

The study sought to measure the service-quality construct for the Indian telecom operators with the help of the scale devised by Parvinder Arora, Ajay Garg, and Amrita Singh (2007). After examining the various service-quality models like SERVQUAL, SERVPERF and Garvini, the scale is constructed so as to consist of different items on six dimensions of consumer problem-solving, network, information and records, appearance, convenience and promotional materials. The measurement of service quality is based on the difference between the expected and perceived levels of service quality parameters. However, because of the superiority of SERVPERF scale in measuring service quality, while only customer's perception is captured the expectations of customers have been ignored. The study identified the BSNL as the clear winner. After beating its competitors on six out of the six quality dimensions, its main challenge now remains to maintain its winning position by working on the records and information dimension. Reliance has got the second position after beating its competitors on two out of the six dimensions. These dimensions are 'network' and 'information and records'. However, prime concerns for Reliance are its ratings on 'appearance' and 'promotional material', whereas it manages to meet the customer expectations on 'convenience' and 'problem-solving dimensions'. Tata Indicom holds the third place, with a strong position on its network and problem-solving dimensions, but it needs to improve on other four dimensions. Vodafone has been rated rather poor on its service quality on all dimensions. Though the scale developed is comprehensive enough in its reliability and validity, still remains to be tested in a future research. Also, it remains to be seen if this scale produces similar results in other cities also.

REFERENCES

Arora, Parvinder, Ajay Garg, and Amrita Singh (2007), "Service Quality in Panjab Telecom Circle", *Indian Journal of Marketing*, Vol. 5, No. 2, pp. 19-35.

Asubonteng, P., K.J. McCleary, and J.E. Swan (1996), "SERQUAL Revisited: A Critical Review of Service Quality", *Journal of Service Marketing*, Vol. 10, No. 6, pp. 62-81.

Bearden, W.O., M. Crockett, and J.E. Teel (1979), "Alternative Framework for Predicting Consumer Complaining", in Beckwith N (eds.), *et al*., *Educator Conference Proceedings*, pp. 239-243.

Berry, L.L., A. Parasuraman, and V. Zeithaml (1985), "Quality Counts in Services Too", *Business Horizons* (May-June), pp. 44-52.

Berry, L.L., A. Parasuraman, and V. Zeithaml (1988), "The Services Quality Puzzle", *Business Horizons*, (September-October), pp. 35-43.

Bitner, M.J., and Mary Jo (1990), "Evaluating Services Encounter: The Effect of Physical Surroundings and Employee Responses", *Journal of Marketing*, Vol. 54, April, pp. 69-82.

Bolton, Ruth N., and James H. Drew (1991a), "A Longitudinal Analysis of the Impact Service Changes on Customer Attitude", *Journal of Marketing*, Vol. 55 (January), pp. 1-9.

Bolton, Ruth N., and James H. Drew (1991b), "A Multistage Model of Customer's Assessment of Service Quality and Value", *Journal of Consumer Research*, Vol. 17 (March), pp. 375-385.

Boulding, W., A. Kala, R. Staelin, and V. Zeithaml (1993), "A Dynamic Process Model of Service Quality: Form Expectations to Behavioral Intentions", *Journal of Marketing Research*, Vol. 30, pp. 7-27.

Bruhn, M., and M.A. Grand (2000), "Theory Development and Implementation of National Customer Satisfaction Indices: The Swiss Index of Customer Satisfaction", *Total Quality Management*, Vol. 11, No. 7 pp. S1017-1028.

Cronin, J., and S.A. Taylor, Jr. (1992), "Measuring Service Quality: A Re-examination and Extension", *Journal of Marketing*, Vol. 56, pp. 56-68.

Cronin, J., M. Brady, and G.T. Hult (2000), Assessing the Effects of Quality, Value and Customer Satisfaction on Consumer Behavioral Intentions in Service Environments, *Journal of Retailing*, Vol. 76, No. 2, pp. 193-218.

Dotchin, J.A., and J.S. Oakland (1994a), "Total Quality Management in Services, Part I: Understanding and Classifying Services", *International Journal of Quality and Reliability Management*, Vol. 11, No. 3, pp. 9-26.

Dotchin, J.A., and J.S. Oakland (1994b), "Total Quality Management in Services, Part II: Service Quality", *International Journal of Quality and Reliability Management*, Vol. 11, No. 3, pp. 27-42.

Dotchin, J.A., and J.S. Oakland (1994c), "Total Quality Management in Services, Part III: Distinguishing Perception of Service Quality", *International Journal of*

Quality and Reliability Management, Vol. 11, No. 4, pp. 6-28.

Edvardsson, B., B. Thomasson, and J. Ovretveit (1994), Quality of Services, Barrie Dale (London: Barrie Dale).

Gronroos, C. (1984), "A Service Quality Modal and Its Market Implications," *European Journal of Marketing*, Vol. 18, pp. 36-44.

Harvey, J. (1998), "Service Quality: A Tutorial", *Journal of Operations Management*, Vol. 16, pp. 583-597.

Juran, J.M. (1988), *Juran on Planning for Quality*. (New York: The Free Press).

Lewis, Barbara R., and Vincent W. Mitchell (1990), "Defining and Measuring the Quality of Customer Service," *Marketing Intelligence and Planning* (November).

Parasuraman, A., L.L. Berry, and V. Zeithaml (1991a), "Perceived Service Quality as a Customer-based Performance Measure: An Empirical Examination of Organisational Barriers Using an Extended Service Quality Modal," *Human Resource Management* (Fall), pp. 335-64.

Parasuraman, A., L.L. Berry, and V. Zeithaml (1991b), "Refinement and Reassessment of the SERVQUAL Scale," *Journal of Retailing* (winter), pp. 420-450.

Parasuraman, A., L.L. Berry and V. Zeithaml (1994), "Refinement of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Future Research," *Journal of Marketing,* Vol. 58 (January), pp. 111-124.

Reichheld, F., and W. Sasser (1990), "Zero Defects: Quality Comes to Services", *Harvard Business Review* (September-October), pp. 105-111.

Spreng, Richard A., and Robert D. Mackoy (1996), "An Empirical Examination of a Modal of Perceived Service Quality and Satisfaction," *Journal of Retailing*, Vol. 72, No. 2, pp. 201-214.

Suresh Chandar, G.S., C. Rajendran, and R.N. Anantharaman (2002), "The Relationship between Management's Perception of Total Quality Service and Customer Perceptions of Service Quality", *Total Quality Management*, Vol. 13 No.1, pp. 69-88.

Teas, R.K. (1993), "Expectations, Performance Evaluation, and Consumers' Perceptions of Quality", *Journal of Marketing*, Vol. 57, pp. 18-34.

Wisniewski, M. (2001), "Using SERVQUAL to Assess Customer Satisfaction with Public Sector Services", *Managing Service Quality*, Vol. 11, No. 6, pp. 380-391.

Wisniewski, M., and M. Donnelly (1996), "Measuring Service Quality in the Public Sector: The Potential for SERVQUAL", *Total Quality Management*, Vol. 7, pp. 357-365.

Woodside, A.G., L.L. Frey, and R.T. Daly (1989), "Linking Service Quality, Customer Satisfaction", *Journal of Health Care Marketing*, December, pp. 5-17.

Yi, Y. (1990), "A Critical Review of Customer Satisfaction", in Zeithaml V. (Eds), pp. 68-123, *Review of Marketing* (Chicago: American Marketing Association).

Zeithaml, V.A., and M.J. Binter (1996), *Service Marketing* (New Delhi: Tata McGraw-Hill Publishing Company).

Zeithaml V.A., L.L. Berry, and A. Parasuraman (1996), "The Behavioral Consequences of Quality," *Journal of Marketing,* Vol. 60 (April), pp. 31-46.

Within a virtual market the real world truly is irrelevant,
and the invisible hand becomes a blind hand, with no reason
to take account of how it affects other people, or future generations.

Geoff Mulgan, Connexity

★ ★ ★ ★ ★

Where wealth and freedom reign, contentment fails,
and honour sinks where commerce long prevails.

Oliver Goldsmith, *The Traveller*

★ ★ ★ ★ ★

COMMUNICATION

MARKETING AND ECONOMY INTERLINKAGES
A View of Rural India

Indrani Majumder*

Abstract

Marketing activities help in the quantification of the flow of physical elements within an economy, and provides value addition within an economy, thus promoting the economic growth. This paper tries to explore the interrelationship between marketing activities of the organisations and the economic magnification of a nation in the light of the rural marketing activities of organisations within Indian geographical territory. The study reveals the pace of economic progress of the rural counterpart of India after independence and simultaneously gives a focus on the marketing performance of some business organisations ranging from FMCG to consumer durables as well as services. Ultimately in the present study an attempt has been made to find out the direction of their relationship. The study also seeks to explore whether the marketing activities of the organisation really empowered the rural India or not. The study suggests that 'up-to-the-mark' marketing activities are the pre-requisite for a high level of economic activity. It concludes that in today's highly competitive IT milieu, the superfluous and efficient marketing activities, along with the product-enhancement strategies, can pull the business concerns to the peak of the power curve and thus the nation as a whole. It further concludes that the customer is the only foundation of any business unit; it is the customer who possesses the right to create employment and considering the society's norms the organisations have to take the responsibility to people so that they can supply wealth-empowering producing resources to the organisations and the nation.

Key Words: ***Silent revolution, Economic modernisation, Rural totality, Capitalist interests, Empowerment.***

INTRODUCTION

MARKETING consist of all the activities including processing and distribution which help to transfer the products from the producers' nest to the basket of final users. The physical element of marketing enables the transformation of goods and services into a form desirable to the consumer, and thus helps to give a boost to the human well-being. In view of that, up-to-the-mark marketing activities are the prerequisite for high economic development.

For an individual producer or marketer, the motivation behind the marketing activities may

* Indrani Mazumdar is Lecturer, Barrackpore Rastraguru Surendranath College, Barrackpore, North 24 PGNS, West Bengal 741 235; e-mail:*ndrnmjmdr@yahoo.com*

be to get the most out of his own economic benefits by utilising the available physical and human resources, but from the society's viewpoint, the objective lies in encouraging the efficient allocation of available resources, which is essential for economic development. Mar keting improves distribution of income between different sectors of the economy indirectly. Only through properly planned marketing activities, stability of supply and demand for the goods and services can be maintained and thus, an economy can be pushed into a stable pathway. Value addition is possible only through this exchange process, because marketing is the only way of quantification of the flow of physical elements within an economy and thus, it promotes the economic growth and creates wealth.

The emergence of market and marketing activities provide comparative advantage, which in turn can make possible the development of an economy in isolation and overall world development in integration. It's the marketing that makes mass production possible that usually gives positive return to the economy in both ways – revenue as well as cost. The benefits of the economies of scale can be enjoyed only if the market is there. And this, in the reverse direction, creates a space for marketing activities and opportunity to the marketer. It has the power to convert today's luxuries into tomorrow's necessities. Without marketing, either in local, national or in the international context, self-sufficiency and diversification, for an individual or for a local community or for a nation, to produce for their own needs is essential which obviously lacks the reimbursement of comparative advantage. Specialisation results in efficiency in the utilisation of the resources which is the only way to economic growth and development and exclusively through marketing activities this can be gained. Empl oyment opportunities to a large extent, are created by marketing activities. In a country like the USA, almost one-third to one-fourth of the total employed population are engaged in the field of marketing (Gupta and Nair, 2002).

For market development to occur in its true sense, rural areas must be effectively linked, especially in an economy like India where more than 70 per cent of the total population lives in rural areas. The rural development can be ensured only if the marketer can work efficiently to satisfy the people's needs. From developmental perspective, instead of a merchant, an organisation or entrepreneur must be a solution-provider while entering into the rural region. If the entrepreneurs can take the responsibility to make the rural people remarkable in the presence and assistance of government activities, rural places can be the significant source of money flow in the near future. Rural markets can generate inter-cyclical flow of return and an advanced rural economy may take care of the rural marketer which in turn can get a comparatively uplifted standard of living that stands to be the main requirement for the development of an economy, provided it is associated with the equality concern.

OBJECTIVE OF THE STUDY

Like any other economy, rural Indian economy is a comprehensive theme that virtually encompasses workforce development, land use, agriculture, education, infrastructure, and demographics. The Indian Census reports portray the village communities of India as comparatively less densed, agriculture-dependant, less educated, with comparatively higher dependency ratio. And the fact is that small and backward communities alone are generally deficient in taking action effectively. Such communities need to have adequate authority that can tackle the concerns of all-round development of the entities of those communities. If the business organisations can take this responsibility along with the government bodies, then only it may make a platform for those organisations which they can use for acting in the forthcoming days. Powerful economy creates strong market, but the cause-and-effect relationship in the reverse way cannot be denied. The investment made to make the rural people aware about the goods and services can generate demand within the market which can be fulfilled by ensuring sufficient and uninterrupted supply of those products. The opportunity to put the human resources in economic activities may get daylight. This implies a generation of income which is considered to be the main determinant of the standard of living for an individual and the position of an economy in a plural sense. This may further create a market that may yield significant benefits to the organisations.

As an economy is all about people, likewise the market consists of people only and an interdependence of these two cannot be overlooked. It is the market whose existence makes the people of an economy able to get their necessities and to maintain their standard of living. It is the marketing that generates income. And it is the income that guides the taste and preferences of the households and individuals, the affordability along with some other factors. In the light of the above objectives of the study are the following:

1. To review the trends of India's rural economy after independence.
2. To explore the consumption scenario in rural India.
3. To examine the relationship between the rural Indian economy and the rural marketing.

LITERATURE REVIEW

Progressive nations have shown a highly positive, as high as 0.7, correlation between levels of economic development and the levels of entrepreneurial activities. Active and dynamic entrepreneurial activities resulted in stronger economic performance where rural economy cannot remain as an exception. This indicates a need of setting activities by the organisations for the rural region. Tactics required to meet the demands for the rural consumers must be aligned with the implicit developmental strategies. The rural marketplace put forward enough opportunity to involve the rural folk, addresses the issues like unemployment, and sustainable generation and mobilisation of resources. This brings all-round economic development (Srivastava, 2006).

The contribution made by rural India for the expansion and nourishment of the Indian economy is enormous (Das, 2006). Rural sector accounts for nearly 20 per cent of India's economy (Firodia, 2007). Social scientists of the yester years drew the picture of the Indian villages as virtually self-sufficient with very few ties to the outside world. But a new affluence is budding across the rural India. The deep hole in between India's blooming cities and gloomy rural hinterland is gradually narrowing. Where in 1990 a single village person earned \$100, its urbanite could do \$ 82 extra and now the difference has come down into \$56. No longer the city dwellers can may picture the country's rural counterpart as primitive, impoverished and irrelevant. Urban prosperity is trickling down to the countryside (Giridharadas, 2005) though currently some parts are in the center of a crisis as a result of the failure of minimum support pricing system, and tendency of making profit out of poverty and out of livelihood security system (Chatterjee, 2007).

In the history of commerce the "Bottom of the Pyramid" — the sheer size—is considered to be the biggest potential market opportunity. The very poor represent value-conscious consumers. Chinese, Indian, Brazilian, Mexican, Russian, Indonesian, Turkeys, South African and Thai, all together in one set, have more purchasing power in comparison with the set that consists of Japanese, German, Italian, French and British (Prahalad, 2004). If the "Bottom of the Pyramid" is looked at in a combined set, not each and every element in isolation, then considerable amount of the purchasing power can be found. What is required is the proper innovation. Innovative ideas in all respects, ranging from the creation of utility to the delivery of all those utilities, can materialise the renovation of goods and services into money. The entry may ensure a cyclical flow of benefits. The entry can offer a quality life and thus a regional economic development on one hand which tactfully the marketer can bag on the other hand (Prahalad and Stuart, 2002). Mass-scale and extensive entrepreneurship is at the heart of the solution to poverty. Several such instances are there on this earth. A partnering approach, in association with governmental and civil society organisations' support, can create the largest and fastest growing market (Prahalad, 2004).

The global phenomenon is that the lower and middle-income groups only made the FMCG sector successful, where India cannot remain as an exception. Over 50 per cent of the FMCG sales are made to the rural India. The specialist rural marketing and rural development consultancy, MART, has studied that about 53 per cent of FMCG sales and 59 per cent of consumer durables sales were positioned in the rural areas. Apart from some lifestyle-based goods and services, the leadership in rural India is the prime ingredient to gain leadership in the product or brand (Raj, Selvaraj, 2007). Hindustan Lever Limited, the doyen of rural marketing, has been among the most effective consumer-brand companies in reaching the poorest of the poor in India by its 'Operation Bharat', 'Operation Shakti', 'Operation Streamline', and in certain other developing countries (Prahalad, 2004). Leading private sector entities, such as Reliance, Shriram, Bharti, Mahindra, Nestle and Amul, Tata, ITC, and any other source agro-products and in this way are nourishing the rural lives and gradually empowering the rural people which, in turn, help all these organisations by placing the produce of these companies into their consideration set (Das, 2006). ITC is engaged in conveying a ground-breaking dimension to its rural partnership. The 'e-choupal' initiative of ITC is leveraging information technology to lift the Indian farmer to a new order of empowerment, and transforming the rural economies. The company's agro-based businesses constitute a sustainable platform to the Indian rural sector (Deveshwar, 2002). Tata group is well known for initiatives such as building schools, women empowerment, etc. (Srivastava, 2006).

Rural market emerged as a commercial proposition to Indian marketers in the early 70s. As a result of Green Revolution in the mid 60s in some parts of rural India, the increased purchasing power changed the consumption aspiration of the people in these areas. The large amount of credit to rural areas, development of infrastructural facilities, remittances from outside played a vital role to transform the rural India into a cash economy. Urban consumption values have been percolated to rural India. And quite naturally the marketers became aggressive to bag that cash by playing the game with strategies that suit the changed values (Anitha, 1995). 700 million people have the power to tip India's role in the sphere of global economy from seller to buyer. These can make the transformation of India happen from a vendor of outsourced skills to a source of consumers for the world's merchandise. India's villagers now account for the majority of consumers spending in the country. The figure is more than $ 100 billion per year. Liberalisation policy of 1991 has started to harvest its result in rural India and rural people have started moving gradually towards delight from the economics of necessity. Multinational corporations, from Coca-Cola to Nokia, arrive on the scene increasingly eager to understand Indian villagers (Giridhardas, 2005).

A good successful business forms a part of society. It exists to meet society's needs. It is the purpose of business at the highest level (Browne, 2006). And every business enterprise has two basic functions, viz., marketing and innovation. Moreover it's the marketing activities that make the business enterprises unique and help to distinguish the enterprise from the pull of other like entrepreneurs (Drucker, 2006). So marketing of goods and services determines the society's development (Browne, 2006).

RURAL INDIAN ECONOMY

The village India is traditionally imaged as "our common bread giver". Around 700 million people's rural India (Figure 1) that directs the economic development of the country, presents an enormous challenge and consequently presents an equally great opportunity, as like the urban counterpart of India, for making a difference in the lives of hundreds of its habitats. So the economic aspect of such a close knit community has been the concern of many researchers. Rural India has always been viewed from the perspective of a social unit which has existed cohesively for centuries together.

Regardless of all political and social gospels this 70 per cent of the Indian economy, namely rural economy, is predominantly in the red vigilant and really need a serious put-right. Though decentralised infrastructural investment along with decentralised delivery enterprises is the key to the revival of any economy, very little change has taken place in the past decades in the villages of India in these aspects. Though the movement away from dependency to empowerment is evident in many Indian villages, but very little change has taken place in the past decades in the villages of India as a whole. Still the villagers of India, for their sustenance, are more or less dependent on agriculture (Table 1), though the figure is not 100 per cent. Unlike in the past, when the ratio between those who involved in agriculture and in other business was 75-25, today the estimated ratio is closer to 60:40[1] (Table 2, Figure 2). The majority own some land, usually in scattered parcels (Table 3), but substantial number rent all or part of the land they farm, either for cash or for an agreed-upon share of the harvest. Shares typically range from one-third to one half the harvests. Many families and scheduled castes have no land at all, and both adults and children are bound to sell their labor to the larger farmers. With drought, a common occurrence across all the geographical area of India, the villagers sustain their life only with 12-18,000 (USD 240-360, USD1 = INR50) per annum, as compared to the national average of Rs 25,000.[2] In different media the phrase 'Rural India' is synonymous with extreme poverty.

It is a vast tract of woefully poor people, who labour under the scorching sun with rude ploughs and emaciated bullocks. But some Part of rural region has undergone significant social and economic restructuring in last few years.

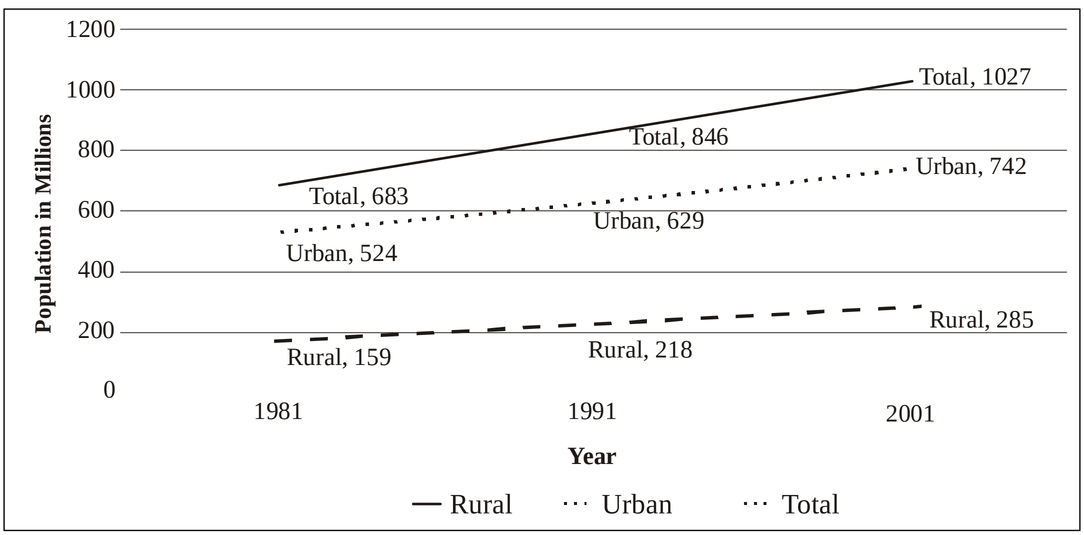


Figure 1: Time Series Scenario of Rural Population in India

Source: http://www.ud.camcom.it/internazionaliz/int_iniz/allegati%20india/furniture_report.pdf
Indo Italian Chamber of Commerce and Industry in Mumbai (India) on November 2006
Report on furniture industry in India

Table 1

Per 1000 Distribution of Rural HH and population by HH type during 1993- 94, 1999-00 and 2004-05

Self Employed in:	*Household*			*Population*		
	1993-94	*1999-00*	*2004-05*	*1993-94*	*1999-00*	*2004-05*
Agriculture	378	327	359	424	371	398
Non-agriculture	127	134	158	131	139	167
Self Employed	505	461	517	554	509	565
Agricultural Labour	303	322	258	275	301	241
Other labour	80	80	109	75	76	106
Rural Labour	383	402	367	350	376	346
Others	112	137	116	95	114	88
All	1000	1000	1000	1000	1000	1000

Source: NSS Report No. 515: Employment and Unemployment situation in India.

Table 2

Shares of Non-agricultural Workers in Rural India

Year	*Rural*			*Rural + Urban*		
	Male	*Female*	*Person*	*Male*	*Female*	*Person*
1961	20.34	13.05	17.85	32.57	16.91	27.64
1971	18.82	12.84	17.53	32.51	19.18	29.88
1981	20.92	11.89	18.32	36.37	18.06	31.65
1991	22.49	10.88	18.74	39.15	17.57	32.99
2001	30.32	20.14	26.67	47.84	28.06	41.60

Source: Journal of Rural Development: (A Quarterly of National Institute of Rural Development), Vol. 24, Oct-Dec, No. 4, 2005

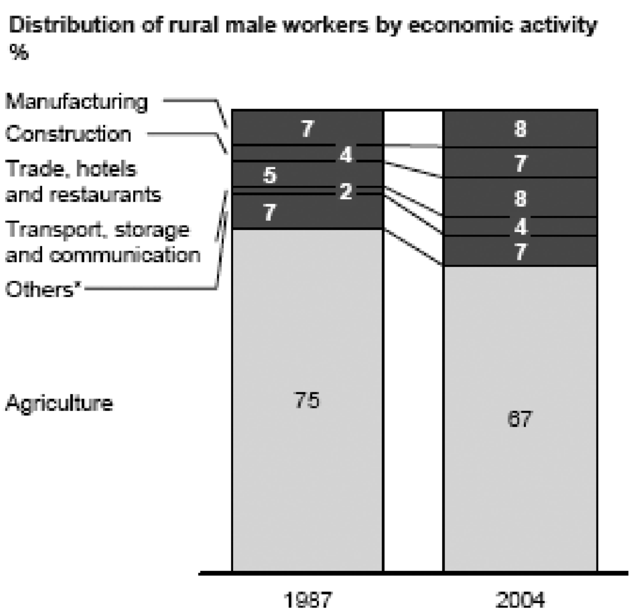


Figure 2: Rural Employment in India

Table 3

Per Thousand Distribution of Rural HH by Size Class of Land Cultivated During the Agricultural Years 1992-93, 1998-99, 2003-04

Size Class of land cultivated hectares	*1992-93*	*1998-99*	*2003-04*
Up to 0.40	575	632	621
0.41-1.00	171	168	171
1.01-2.00	135	112	113
0.412.01-4.00	76	59	65
0.414.01 & above	43	30	30
All Classes	10000	1000	1000

Note: The HH with size class of land cultivated up to 0.40 hectares comprise HH cultivated land-less than 0.40 hectares as well as HH reported no information on land cultivated

Source: NSS Report no. 515: Employment and Unemployment Situation in India.

Though the natural or physical attributes, the technological infrastructures that penetrate and/or manipulate rural spaces, and the social relationships among persons embedded in local and extra-local networks still reflect the rural distances, the time series data reflects the fact that it has conceived economic modernisation, as a process of gradual change from a simple, "village economy" to a diversified economy of urban centres. With an ascending overall Indian economic trajectory, rising foreign exchange reserves, reducing inflation rates, global recognition of technological competence and the interest shown by developed countries to invest here, rural territories do not remain just the sites of production, rather rural spaces have become deeply complex and are subject to plural and overlapping political and economic claims. The rural spaces are being "mapped and re-mapped" along with the lines of both local and societal struggles over political rights and economic access. However, in some nonagricultural parts, traditionally urban functions , such as housing, manufacturing, services, recreation , etc. are evident. In some other parts, 'rural population turn around'[3] is the scenario. Literacy rate

Table 4

Literacy Rate (per 1000 persons) by Sex and for Rural India during 1983 to 2004-05

NSS Round (Year)	*Not literate*	*Literate & up to primary*	*Middle*	*Secondary & Above*
Rural Male				
61st (2004-05)	364 (320)	361(277)	140(191)	134(211)
55th (1999-00)	412 (372)	342(262)	126(178)	117(189)
50th (1993-94)	455 (411)	337(276)	109(154)	98(157)
Rural Female				
61st (2004-05)	550(585)	293199)	89(113)	67(102)
55th (1999-00)	615(652)	260174)	75(96)	50(77)
50th (1993-94)	679(788)	230(166)	56(73)	34(53)

Note: For 38th, 43rd and 50th Rounds no separate category of social group 'OBC' was there and the category 'others' included OBC category also.

Source: NSS Report, 61st Round (July 2004- June 2005)

Table 5

Number of persons employed per 1000 persons (WPR) according to the usual status (PS+SS) for different social groups during 1983 to 2004-05

NSS Round (Year)	*ST*	*SC*	*OBC*	*Others*	*All (incl. n.r.)*
Rural Male					
61st (2004-05)	562	545	537	557	546
55th (1999-00)	558	531	532	520	531
50th (1993-94)	591	554	–	547	553
43rd (1987-88)	567	538	–	5356	539
38th (1983)	588	551	–	540	547
Rural Female					
61st (2004-05)	4646	333	330	262	327
55th (1999-00)	438	325	302	223	299
50th (1993-94)	482	355	–	297	328
43rd (1987-88)	454	358	–	294	323
38th (1983)	478	381	–	310	340

Note: For 38th, 43rd and 50th Rounds no separate category of social group 'OBC' was there and the category others included OBC category also.

Source: NSS Report, 61st Round (July 2004- June 2005) gradually increases in the rural India (Table 4). Rural employment has gradually increased (Table 5). A lot of people, around 50-60 per cent, belonging to the second generation, are getting white-collar jobs in nearby towns. There is a growing middle class, with regular income and the rural rich are becoming richer (Table 6). Between 1993-94 and 2000-2001, the per capita rural income grew at the same pace as the urban income (Goswami and Bijapurkar, 2005) and it is expected to grow further (Figure 3). The trends in development, the decrease in the below-poverty-line percentage (Table 7, Figure 4) and its pace in India's rural spaces can be said to growing be by the process of urban-rural integration and counter urbanization. While the rural totality comprises three facets, viz., (1) rural localities reflected through distinctive practices, linked to production and/or consumption, (2) formal representations of the rural, such as those expressed by capitalist interests, cultural arbiters, planners or politicians and (3) everyday lives of the rural, these three are gradually changing positively.

Table 6

Rising Rural Prosperity

Income Group	*1994-95*	*2001-02*	*2006-07*
Above Rs 1,00,000	1.6	3.8	5.6
Rs 77,001-1,00,000	2.7	4.7	5.8
Rs 50,001-77,000	8.3	13.0	22.4
Rs 25,001-50,000	26.0	41.1	-
Rs 25,000-below	61.4	37.4	20.2

Note: Projections based on 7.2 per cent GDP growth
Source: Kumar, 2004

In India, we have the developed rural India and the undeveloped rural India. Punjab, Haryana, Tamil Nadu, Andhra Pradesh, Kerela and parts of Maharashtra come under the developed rural India but the rest are undeveloped where power, infrastructure, etc, are

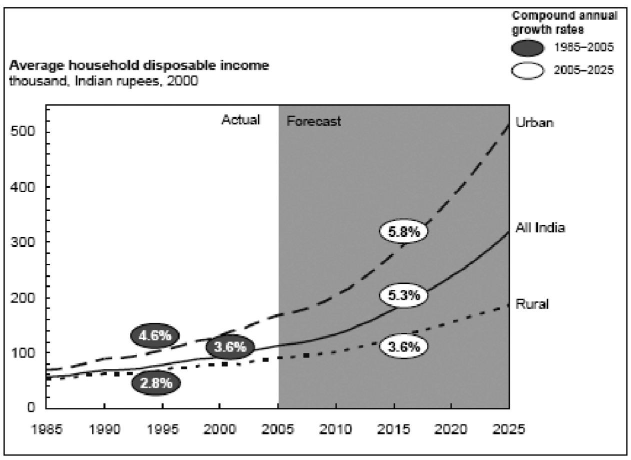


Figure 3: Projected Household Income Growth in Rural India

Source: Mckinsey Global Institute http://www.scribd.com/doc/47945/McKinsey-MGI-india-consumer- full-report

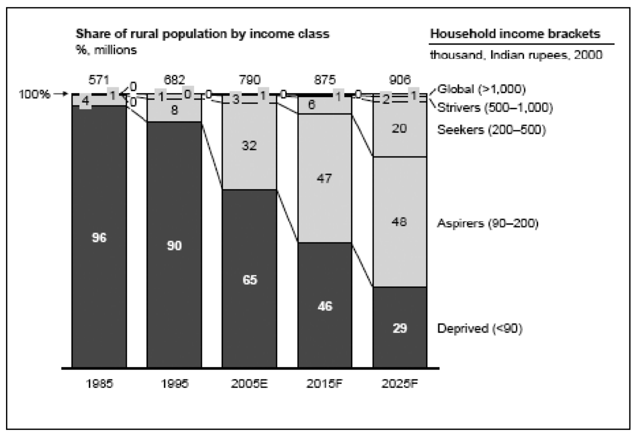


Figure 4: Projected Rural Poverty in India

Note: Figures are rounded to the nearest integer and may not add up to 100 per cent.

Source: MGI India Consumer Demand Model, v1.0 http://www.scribd.com/doc/47945/McKinsey-MGI-india-consumer-full-report

Table 7

Poverty (Proportion of Population Below Poverty Line)

India (official)	*1951-1952*	*1961-1962*	*1973-1974*	*1977-1978*	*1983*	*1987-1988*	*1993-1994*	*1999-2000*	*2004-2005*
Rural India	47.4	47.2	55.7	53.1	45.7	39.1	37.3	27.1	…….
Urban India	35.5	43.6	48.0	45.2	46.8	38.2	32.4	23.6	…….
Combined	45.3	46.5	54.1	51.3	44.5	38.9	36.0	26.1	22.0

Source: http://www.imf.org/external/np/tr/2006/pdf/india.pdf

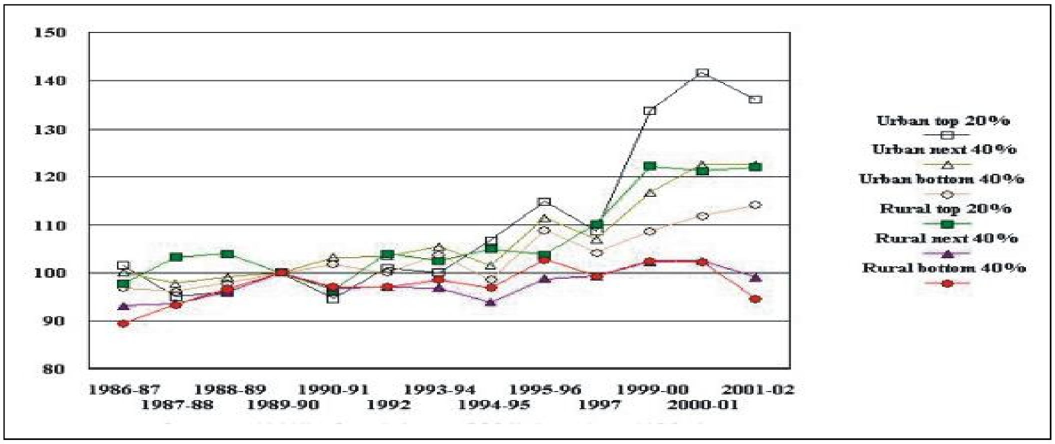


Figure 5: Indices of Real Per Capita Consumption by Fractile Groups

Source: Ghosh, 2004

big problems. Rural India is like a pyramid. The top of the pyramid is occupied by the rich farmers and businessmen. They constitute 5 per cent of the population. The next level belongs to those with a regular income and the base of the pyramid is occupied by the vast majority of the people who are daily wage labourers.

Rural India is caught in so called development trap. Low incomes of the rural households are due to the lack of economic opportunities. Most of the people in rural India are unable to pay for goods and services. As a result organisations feel it costly to do business in rural areas which leads to inadequate provision of infrastructure and that in turn leads to the lack of economic opportunities and so on. Studies indicate that even urban poverty is predominantly due to the fact of impoverishment of rural peasantry which forces them to move out of villages to seek some subsistence living in towns and cities. Though there have been a number of schemes and programmes which have been attempted by the state and the central governments and a few foreign agencies to address the question of rural poverty, many of them have only marginal effects. Maximum percentage of the people in the poorly connected villages live on a low productivity agriculture, cattle rearing and related casual work. Due to inability to value addition, most of the villages are always at subsistence levels. Poor village people always do distress sale. But in future the rising consumption of rural India (Figure 5) and rising trends in economic performances can provide ray of hope.

Rural Indian Market

Rural Indian market is morphing at an unthinkable rapid rate. In last few years India's rural markets have seen a lot of activities. In several categories, rural India has already accounted for the lion's share. Within 1993-94 and 2000-2001 per capita income of rural India grew at the same pace as urban income. With

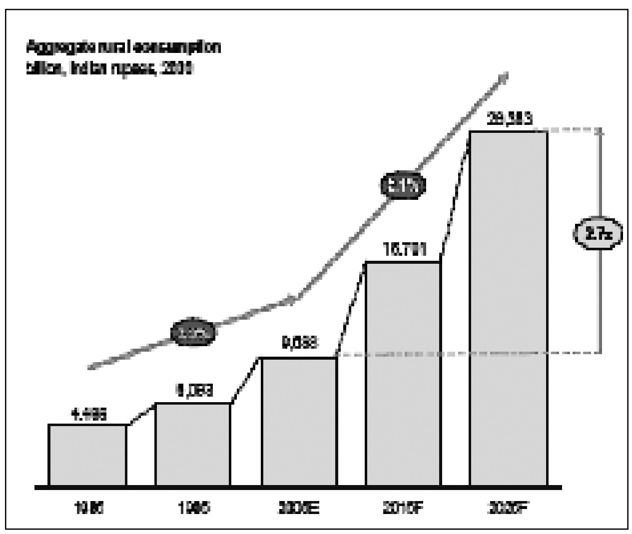


Figure 6: Projected Consumption Growth in Rural India

Source: MGI India Consumer Demand Model, v1.0 *http://www.scribd.com/doc/47945/McKinsey-MGI-india-consumer-full-report*

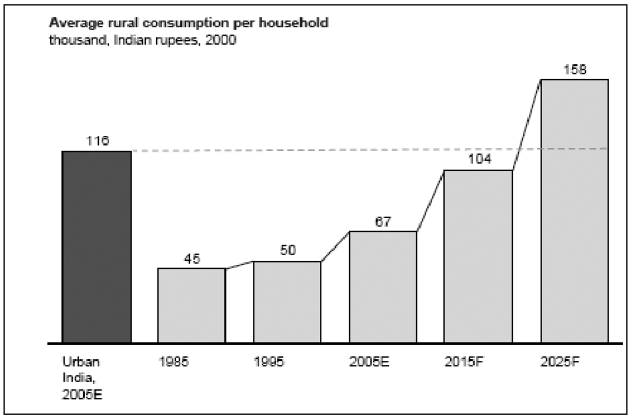


Figure 7: Project Per Capita Consumption in Rural India

Source: MGI India Consumer Demand Model, v1.0 http://www.scribd.com/doc/47945/McKinsey-MGI-india-consumer-full-report

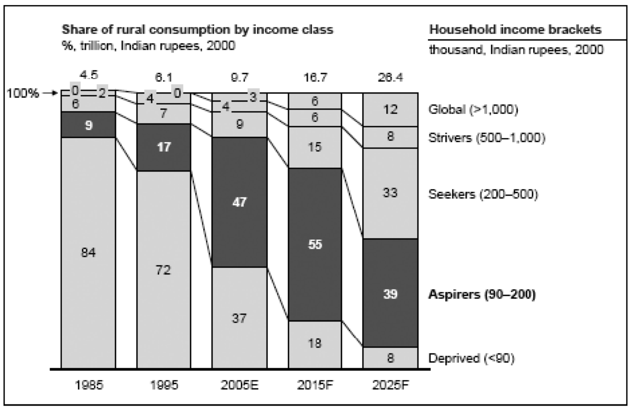


Figure 8: Aspirers Will Drive Rural Spending Over the Next Two Decades

Note: Figures are rounded to the nearest integer and may not add up to 100%.

Source: MGI India Consumer Demand Model, v1.0 *http://www.scribd.com/doc/47945/McKinsey-MGI-india-consumer-full-report*

this reality the rural consumption is also growing at a faster pace and as per McKinsey MGI, India's study, in the next 10 years it may increase at a rate of more than 5 per cent (Figure 6 & 7). The rural persons, belonging to the top quartile of rural India have been higher spenders than the average. Their expenditure patterns are quite similar to that of urban India (Goswami and Bijapurkar, 2005). And another hope is that the rural aspires will drive the spending in next decades (Figure 8). Penetration levels are pretty high in most product categories in the urban areas. But the rural scenario is not at all

Table 8

Product Penetration Rate, 2006 (%)

Category	*All India (%)*	*Urban (%)*	*Rural (%)*
Deodorants	2.1	5.5	0.6
Toothpaste	48.6	74.9	37.6
Skin cream	22.0	31.5	17.8
Shampoo	38.0	52.1	31.9
Utensil Cleaner	28.0	59.9	14.6
Instant Coffee	6.6	15.5	2.8
Washing Powder	86.1	90.7	
Detergent Bar	88.6	91.4	87.4
Toilet soap	91.5	97.4	88.9

Source: MRUC, Hansa Research – Guide to Indian Markets 2006, HLL investor presentation, June 2006

Table 9

Estimated Size of the Rural Market

FMCG	Rs. 50,000 crores
Durables	Rs. 50,000 crores
Agri-inputs (incl. tractors)	Rs. 45,000 crores
2&4 wheelers	Rs. 8,000 crores
Total	Rs. 1,08,000 crores

Source: NCAER, IMDR 2002, Francis Kanoi, 2002

Table 10

Product Penetration in Rural India in 2002

Category	*Market Size (US$ Million)*	*Urban pene-tration (%)*	*Rural pene-tration (%)*	*Total pene-tration (%)*
Fabric Wash	1210	89.6	82.9	84.9
Personal Wash	938	97.9	90.7	92.8
Packet Tea	635	91.2	82.2	84.9
Tooth Paste	409	69.8	32.3	43.5
Skin	312	36.6	19.8	24.7
Hair Wash	230	40.1	16.3	23.3
Talcum Powder	148	66	36.8	45.1
Branded Atta	107	44	30.2	34.3
Dish Wash	102	54.6	11.5	24.4
Instant Coffee	55	–	–	–
R & G Coffee	30	–	–	–
Ketchups	25	12.5	0.7	4.2
Deodorants	19	–	–	–
Jam	13	–	–	–

Source: Fast Moving Consumer Goods *http://www.arc.unisg.ch/org/arc/web.nsf/f1d9ed904340e51ac1256a8d00504269/43cfocaeed566facc 12571d30061daac/$FILE/India%20symposium_IBEF_Sectoral%20Reports_FMCG.pdf* negligible. With the passage of time, it is gradually increasing (Table 8, 9, 10) and the future growth can come only from deeper rural penetration and higher consumption. In association, the road development projects and the distribution networks improve and rural income increases, the penetration levels are set to increase.

With the presence of 12.2% of the world population in the villages of India, the Indian rural FMCG market provides a vast opportunity (equitymaster.com, 2007). As per ASSOCHAM estimation, rural market scenario for the current year 2007 is revealing the fact of 52 per cent of total FMCG market in India and an expectation is that it will grow by 10 per cent by the year 2010. The domestic FMCG total size in terms of

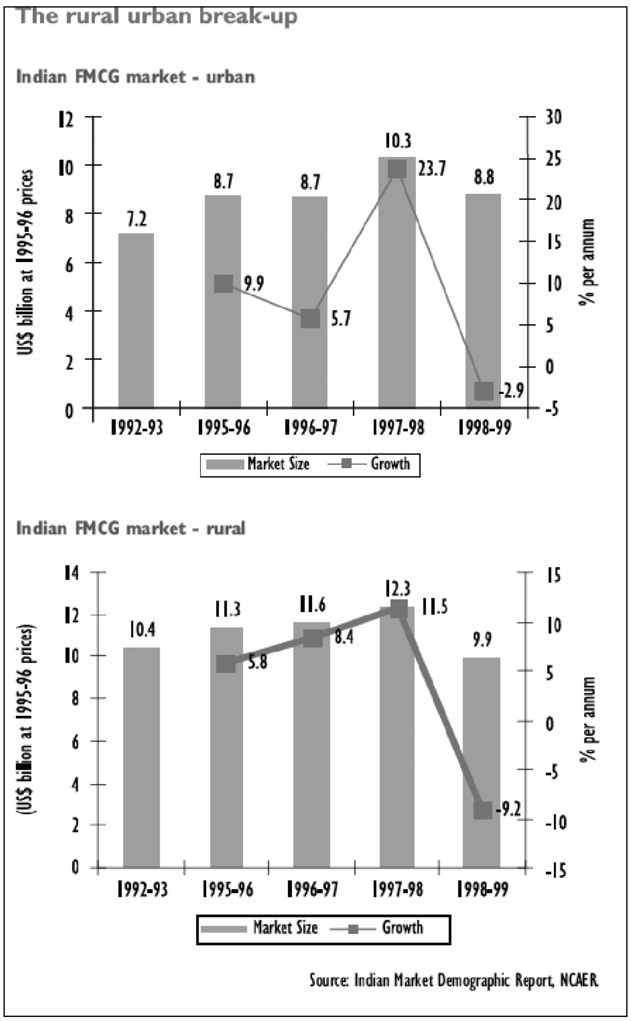


Figure 9: FMCG Market Scenario in Rural India

volume is currently (2007) US$ 15 billion of which US$ 7.9 billion is rural contribution as against US$ 4.2 billion of urban and metros and US$ 2.85 billion is the semi-urban FMCG market. And in some cases such as for personal care, fabric care, hot beverages, rural India's share is more than 40 per cent (Economic Times, March 10, 2006). And the expectation that the total number of rural households will rise from 135 million in 2001-02 to 153 million in 2009-10, is obviously depicting the increase in Indian rural market potentiality. The annual size of the rural FMCG market has been estimated at US$ 10.5 billion in the year 2001-02 after a certain decline in the past 3 years (Figure 9). And with the rising tendency of income of the rural people one can expect a further expansion of rural market in India.

In Mumbai and New Delhi corner offices, executives have long recognized that to build real sales volumes they will have to reach outside the big cities. According to MART, a New Delhi-based research organization that offers rural solutions to the corporate world, rural India buys 46 per cent of all soft drinks sold, 49 per cent of motorcycles and 59 per cent of cigarettes. This trend is not limited just to utilitarian products. 11 per cent women in rural India use lipstick and perhaps the figure is quite significant (Whaston, 2009).

One study by NCAER in 2001-02 revealed the fact that rural Indian market accounted for 55 per cent of LIC's total policy sales. And as per NCAER report the story is more or less same for wristwatches, dry cells, cassette recorders and for such other things. For food and beverages also the picture is not so ignorable (Table 11). According to New Delhi based BS Corporate Bureau, by doubling the number of outlets in rural areas from 80,000 in 2001 to 1,60,000 in 2003 Coca-Cola India became able to achieve a higher penetration rate from 13 to 25 per cent. Rs. 5 pack enabled the company to reap rich dividends in terms of sales. From multinational high-tech consumer durable companies to Chinese mobile-phone makers; from global information

Table 11

Food And Beverages (Rural India and Zonal Penetration)

	Packaged Edible Oil (%)		*Packaged Biscuits (%)*		*Soft Drinks (%)*		*Chocolates (%)*	
Rural	2000	2005	2000	2005	2000	2005	2000	2005
India	8.7	13.7	39.1	54.2	9.8	12.2	2	2.7
North	5.4	10	53	66.6	7.5	12.6	1.6	1.9
South	7.2	22.9	25.5	44.3	18.9	22.6	3.6	4.7
East	6.4	9.1	36.6	55.9	4.2	6.6	1.1	1.9
West	17	13.9	42.2	47.9	10.2	8.4	2.2	2.6

Source: Guide to Indian markets 2006: An indispensable guide with distilled insights on Indian consumers and markets: Presented by Hansa Research and Media Research Users Council *http://www.hansaresearch.com/IM_2006_Booklet.pdf.*

technology giants such as Microsoft to back-office service providers; global telecom and biotechnology companies, and even India's IT-sector lobbyist, the National Association of Software Services Companies (NASSCOM), are stepping out of the cities and moving to the villages of India (Basu, 2007). The penetration scenario of durables in rural Indian market is quite pretty (Table 12, 13). As per a research report by Hansa Research Guide to Indian Markets, 2006, Color TV sales were by 200 per cent, motorcycle sales, by 77 per cent, and refrigerator sales, by 31 per cent. The recreation sector is also gradually entering into the rural hinterland (Figure 10). The rural people are gradually becoming health conscious and making the health sector interested to take entry there (Figure 11). The telecom sector is also penetrating at a higher pace (Table 14).

ECONOMY AND MARKETING EQUIVALENCE OF RURAL INDIA

Studies conducted so long have revealed the fact that more than 50 per cent of our national income is originating from rural India. This was the truth of early centuries and this is also the truth of this 21st century. At present a silent revolution is taking place all over the rural India - a revolution that empowers rural people to a greater extent and help to make their lives better. The basic nature of rural economy has undergone a fundamental transformation. With the transfers of rural employment towards the manufacturing sector and especially in the service sector, the scenario which can be noticed is the mobility of rural economy towards higher income groups. Facts and figures of rural India are telling us that the rural income is gradually increasing, though at a lower pace. Below the poverty line figure is gradually decreasing in

Table 12

Durables and Transportation (Rural India and Zonal Penetration)

	Refrigerator %		*Motor Cycles %*		*Tractor %*		*Bicycle %*	
Rural	2000	2005	2000	2005	2000	2005	2000	2005
India	3.2	4.2	3	5.3	1.8	2.3	43.7	51.1
North	5.7	7.6	3.5	6	3.2	4.9	53.8	60.6
South	3.7	4.6	2.6	4.6	1.9	1	35	36.4
East	0.7	1	1.6	3.4	0.5	0.8	47.8	60
West	2.5	4	4.7	7.7	1.6	2.8	37.8	44.1

Source: Guide to Indian Markets 2006: An Indispensable Guide with Distilled Insights on Indian Consumers and markets: Presented by Hansa Research and Media Research Users Council http://www.hansaresearch.com/IM_2006_Booklet.pdf

Table 13

Penetration Rate of Refrigerators in Villages of India , 2006

	All India	*Refri-gerator owner-ship*	*Refrigerator type*		*Refrigerator Size*			*Year since acquired*	
			Only Frost free %	*Only Defrost %*	*165 & less %*	*166-279 Lts %*	*280 lts & more %*	*Up to 2 years %*	*10 yrs & more %*
HHs (000s)	207206	24385	5221	19093	20436	3028	829	5338	5333
Pop Strata									
5,000+ villages	31778	2288	19.5	80.5	87.2	10.5	2.2	23.3	17.6
1000-5000 villages	85514	3093	14.2	85.8	91.7	7.3	1.0	27.4	15.2
Below 1000 villages	28457	770	13.4	86.6	94.2	5.7	-	34.2	8.7

Penetration rate of Top 5 Brands of Refrigerator

	All India			*North*		*South*		*East*		*West*	
	All	*U*	*R*	*U*	*R*	*U*	*R*	*U*	*R*	*U*	*R*
HHs	207206	61457	145749	15719	37740	17932	34954	9781	42109	18025	30946
Brands											
Godrej	7460	5588	1871	2038	993	1085	463	559	77	1906	339
Kelvinator	4711	3540	1172	1638	571	510	252	481	105	911	244
Whirlpool	3533	2557	976	1010	486	494	257	319	81	735	152
LG	1850	1427	423	577	177	250	79	146	37	455	130
Videcon	1801	1317	485	400	163	269	150	111	24	356	147

Source: Guide to Indian markets 2006: An indispensable guide with distilled insights on Indian consumers and markets: Presented by Hansa Research and Media Research Users Council *http://www.hansaresearch.com/IM_2006_Booklet.pdf*

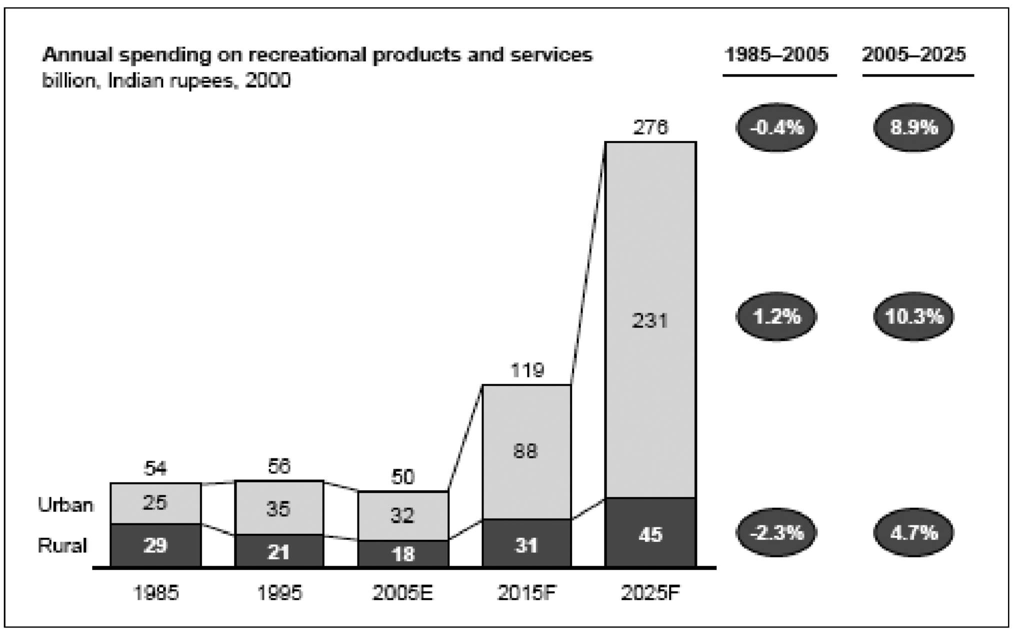
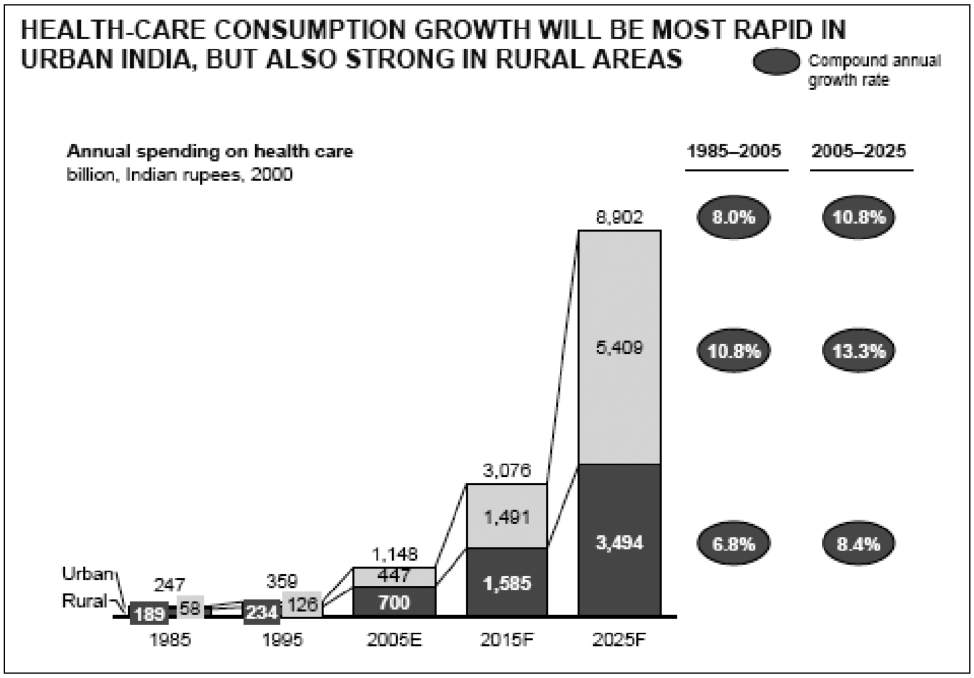


Figure 10: Rural Recreation Spending

Source: MGI India Consumer Demand Model, v1.0 *http://www.scribd.com/doc/47945/McKinsey-MGI-india-consumer-full-report.*



F6igure 11

Source: MGI India Consumer Demand Model, v1.0 *http://www.scribd.com/doc/47945/McKinsey-MGI-india-consumer-full-report*

Table 14

Rural Teledensity, 2001

Telecom circle	*Urban*	*Rural*	*Total*
Andaman & Nicobar	14.36	5.15	7.63
Andhra Pradesh	9.77	1.54	4.06
Assam	9.09	0.25	1.33
Bihar	4.85	0.24	0.94
Gujarat	11.73	1.54	5.37
Haryana	11.63	1.44	4.25
Himachal Pradesh	25.00	3.34	5.31
J & K	6.58	0.13	1.72
Karnataka	10.28	1.80	4.70
Kerala	12.33	5.32	7.51
Madhya Pradesh	5.74	0.36	1.81
Maharashtra	13.61	1.39	6.60
Orissa	6.51	0.51	1.52
Punjab	15.29	2.67	6.95
Rajasthan	7.57	0.86	2.57
Tamil Nadu	15.05	0.43	5.91
Uttar Pradesh	6.11	0.34	1.66
West Bengal	8.10	0.51	2.67
Delhi	20.67	0.00	17.66
India	10.16	0.93	3.58

Source: AcrossWorld Communications (September 2001) Nov, 2001 by *Sanjima DeZoysa*

rural India. Academic exploration revealed the fact that within the time period of 1985-2005 the rural household income increased at the rate of 2.8 per cent and considering the scenario of every spheres of rural economy, researches projected that within next 20 years it will increase at the rate of 3.6 per cent. Abide by the *"Circular Flow of Income"* theory it can then be said that utility-money exchange process is one and only source of people's income within an economy, which defines marketing process as the only means through which growth of national income can be experienced. All human beings in this world are getting their income by rendering their physical or mental effort s to the organisations that makes the flow of benefits ready-for-use, either by any kind of end-user (individual or organisation) or by another intermediary organisation. This earning enables them to afford the produced goods and services. So one can easily make an inference about the interdependence of marketing activities and state of an economy.

As per the study, within the time period 1985-2005 the rural consumption growth was 3.9

per cent and it has been projected that it may be 5.1 per cent for next 20 years. One thing is to be noted here that the consumption growth of last 20 years was higher than the income growth in the rural sector of India. The essential question that may arise quite naturally, here, that how it was possible and how it would be possible. Obviously, it is the financial assistance from some non-governmental agencies and from government that made it possible and perhaps will make it possible in near future also. And it is giving an indication of penetration of financial services in rural areas. So again the role of marketing one can't ignore.

CONCLUSION

With the gradual increase of the percentage of rural aspires, and the decrease of numbers of the rural population in the deprived section, the rural consumption of household products, consumption of durables, food and beverages, all increased at a significant rate and it has been projected that it will be able to maintain the trend. The FMCG sector penetration rate in the rural India is even higher, nowadays, than the urban. Now consumption presumed the production or value addition activities first of all and marketing activities as ultimate within the economy. Thus it is the economy that places demand to the marketer and it is the marketing that generates income and help the nation to fulfill the demand, which provides a quite closer equivalence of the two – economy and marketing.

The rural bazaar is booming beyond everyone's expectations. But the requirement for the business organisations to get sufficient return from those rural markets is that their purpose must lie outside the business itself. A business enterprise is an organ of a society. The customer is the only foundation of a business unit and keeps its existence. It is the customer that alone possesses the right to create employment. So considering the society's norms, the organisations have to take the responsibility to make people capable so that they can supply wealth-producing resources to the organisations and at the same can give value to the society.

REFERENCES

Anitha, H. S.(1995), "Rural Marketing: No more a Thud Arrow in Marketers Quiver", *Indian Journal of Marketing*, Vol. 24, No. 9-10, pp. 19-22.

Browne, Lord John (2006), A Speech on "The Purpose of business", Organized by BP Global, MIT, Boston, 2 May, 2006. *http://www.bp.com/genericarticle.do?categoryId=98&contentId=7017837* (accessed on 05.08.07).

Chatterjee, Somnath (2007), "Rural India: Developmental Challenges", Address on 26th Annual Convocation of the Institute of Rural Management, Anand (IRMA), Gujarat, 3 April 2007, *http://speakerloksabha.nic.in/Speech/SpeechDetails.asp?SpeechId=210,* (accessed on 09.07.2007).

Das, Sudhansu R (2006), "Villagescope—Reviving the Rural Economy", *The Hindu Business Line:* Tuesday, Feb 14, 2006. *http://www.thehindubusinessline.com/2006/02/14/stories/2006021400381100.htm* (accessed on 09.07.2007).

Deveshwar, Y.C. (2002), "Transformational Change In Rural India: ITC: An Inspiring Agenda", Speech by the Chairman, at the 91st Annual General Meeting of ITC Limited in Kolkata, India on July 26, 2002. *http://www.itcportal.com/chairman_speaks/chairman_2002.html* (accessed on 09.07.2007).

DeZoysa Sanjima (2001), "India's Rural Reality - Industry & Market Update", *Telecommunications International*, Nov, 2001, *http://findarticles.com/p/articles/mi_m0IUL/is_11_35/ai_82607749.html* (accessed on 09.07.2007).

Drucker, Peter 2006, "The Purpose of Business", RSS Feed, Bloglines, AUGUST 3, 2006. *http://www.yourbusinesscoach.net/trackback/4/4/DisplayFullText/5671,* (09.07.2007).

Firodia, Arun (2007), "Another Good Year for Urban India; What about Rural Bharat?" Domain- b.com, *28 February 2007.http://www.domain-b.com/economy/budget/union_budget_2007/20070228_arun_firodia.html* (accessed on 09.07.2007).

Ghosh, Jayati (2004), "Income Inequality in India", International Development Economics Associates, Political Economy, Februray 9, 2005, *http://www.networkideas.org/themes/political/feb2004/po09_Income_inequality.htm* (accessed on 17.04. 2007).

Giridharadas, Anand (2005), "Poor rural India? It's a Richer Place", International Herald Tribune Asia-Pacific, October 19, 2005. *http://www.iht.com/articles/2005/10/18/business/rural.php.* (accessed on 05.07.2007).

Goswami Omkar, and Rama Bijapurkar (2005) "India is not Just about Agriculture", *http://in.rediff.com/money/2005/jul/16guest.htm* (accessed on 05.08.07).

Gupta, C. B. and N. Rajan Nair (2002), *Marketing Management*, 7th ed. (New Delhi: Sultan Chand & Sons), pp. 1.12-1.13.

Jain, Rajesh (2003), "Transforming Rural India", i4donline, Issue: "A vision for rural India", July-August, 2003. *http://www.emergic.org/collections/tech_talk_transforming_rural_india.html* (accessed on 07.06.07).

Kumar, C. Rajendra and Sanjay S Kaptan (2004), "Changing Face of Rural Marketing", *Kurukshetra*, Vol. 52, No. 6, April 2004.

Meijering, Louise, Bettina van Hoven and Paulus Huigen (2007), "Constructing Ruralities: The Case of Hobbitstee, Netherlands", *Journal of Rural Studies*, Vol. 23, issue 3, July 2007, "The Changing Face of Rural Population", pp. 357-366.

Prahalad, C.K. (2004), "The Fortune at the Bottom of the Pyramid: Eradicating Poverty through Profits", Wharton School Publishing, August 25, 2004 in Knowledge@Wharton. *http://knowledge.wharton.upenn.edu/indiaarticle.cfm?articleid=4032* (accessed on 09.07.07)

Prahalad, C.K. (2004), "Marketers Must Seek Their 'Fortune at the Bottom of the Pyramid", March 10, 2004 in Knowledge@Wharton. *http://knowledge.wharton.upenn.edu/india/article.cfm?articleid=4030* (accessed on 09.07.07).

Prahalad, C. K., and Stuart Hart (2002), "The Fortune at the Bottom of the Pyramid," in Strategy + Business, issue 26, first quarter 2002, pp 54-67. *http://www.cs.berkeley.edu/~brewer/ict4b/Fortune-BoP.pdf.* (accessed on 02.08.2007).

Raj, S John Mano, and P Selvaraj (2007), "Social Changes and the Growth of Indian Rural Market: An Invitation To FMCG Sector", Presented on International Marketing Conference on Marketing & Society, 8-10 April, 2007, IIMK, *http://dspace.iimk.ac.in/bitstream/2259/381/1/103-110.pdf* (accessed on 09.07.07).

Rajan, R. V. (2005), "Rural India Getting Richer? You bet! The Rediff Interview, June 2, 2005, rediff.com. *http://www.rediff.com/money/2005/jun/02inter.htm.* (accessed on 09.07.2007).

Sanjima, DeZoysa (2001), "India's rural reality - Industry & Market Update", Telecommunications International, Nov, 2001, *http://findarticles.com/p/articles/mi_m0IUL/is_11_35/ai_82607749* (accessed on 02.08.2007).

Srivastava, Ritu (2006), "Rural India: Collaborating for Overall Economic Development", *Kurukshetra*, Vol. 54, No. 8, June 2006,pp. 3-7.

Vision paints the picture of what we want to create.
Systems thinking reveals how we have created what we currently have.

Peter M. Senge, The Fifth Discipline

★ ★ ★ ★ ★

Unregulated markets create and reinforce hierarchy by allowing
the strong to get stronger and the rich to get richer.

Steven E. Miller, Civilizing Cyberspace

★ ★ ★ ★ ★

Beyond this never earn, make no effort to increase fortune,
but spend the surplus each year for benevolent purposes.

Andrew Carnegie

CONSUMER GRIEVANCE REDRESS

A BIBLIOGRAPHY

Deepa Sharma*

A. BOOKS

Aaker, David, and George S. Day, *Consumerism: Search for the Consumer Interest* (New York: Free Press, 1971).

Agarwal, V.K., *Consumer Protection: Law and Practice*, 6^{th} ed. (Delhi: BLH Publishers' Distributors, 2008).

Arora, Renu, *Consumer Grievance Redressal* (Delhi: Manak Publications, 2005).

Bhashyam, G., *Consumer Protection in India: A Study of Select Consumer Forums in Andhra Pradesh*, unpublished Ph.D thesis, Department of Commerce, Osmania University, Hyderabad (2000).

Best, Arthur, *When Consumers Complain* (New York: Columbia University Press, 1981).

Berelson, Bernard, and Gary A. Steiner, *Human Behaviour: An Inventory of Scientific Findings* (New York: Harcourt, Brace Jovanovich, 1964).

Cartwright, Roger and George Green, *In charge of Customer Satisfaction* (New York: Blackwell Publishers, Inc., 1977).

Cook, Sarah, *Customer Care*, 2^{nd} ed. (London: Kogan Page Limited, 1997).

Cross, Richard and Janet Smith, *Customer Bonding: Pathways to Lasting Customer Loyalty* (Lincolnwood, IL: NTC Business Books, 1995).

Denny, William Michael, and Robert T. Lund (eds.), *Research for Consumer Policy* (Cambridge, Mass: Centre for Policy Alternatives, M.I.T., 1978).

Freemantle, David, *Incredible Customer Service: The Final Test* (New York: McGraw-Hill Publishing Co., 1993).

Gitomer, Jeffrey, *Customer Satisfaction is Worthless: Customer Loyalty is Price less* (Austin, TX: Bard Press, 1998).

Gunjeet Kaur, *Consumer Complaints and Managerial Response: A study of Passenger Car Industry*, unpublished Ph.D Thesis, Department of Commerce, Delhi University, Delhi, 2001.

Gurjeet Singh, *Law of Consumer Protection in India: Justice within Reach* (New Delhi: Deep and Deep Publications, 1996).

Hawkins, Del I., Roger, J. Best, Kenneth. A. Coney, and Amit Mukherjee, *Consumer Behaviour: Building Marketing Strategy*, 9^{th} ed. (Special Indian Edn.) (New Delhi: Tata McGraw-Hill, 2008).

Hilton, Mathew, *Consumerism in Twentieth-Century Britain* (Cambridge, UK: Cambridge University Press, 2003).

Hirschman, Albert O., Exit, *Voice and Loyalty* (Cambridge, MA: Harvard University Press, 1970).

Howard, John A., and Jagdish N. Sheth, *The Theory of Buyer Behaviour* (New York: Wiley, 1969).

Hoyer, Wayne D, and Deborah J. MacInnis, *Consumer Behaviour*, 4^{th} ed. (Boston: Houghton Mifflin Co.), Indian adaptation by Pinaki Dasgupta (New Delhi: Biztantra, 2008).

Kangun, Norman, and Lee Richardson (eds.), *Consumerism: New Challenges for Marketing* (Chicago: American Marketing Association, 1978).

Livemore, John, *Legal Aspects of Marketing* (London: Heinemann, 1984).

* Deepa Sharma is Senior Lecturer in Commerce, Maharaja Agrasen College, University of Delhi, Mayur Vihar 1, Delhi – 110 091; e-mail: *sharma-deepa@hotmail.com*

Loudon, David L., and Albert J. Della Bitta, *Consumer Behaviour*, 4th ed. (New Delhi: Tata McGraw-Hill Publishing Co., 14th Indian Reprint, 2008).

Martin, David M., *Tough Talking: How to Handle Awkward Situations*? (London: Pitman, 1993).

Moore, C., *How to Handle Customer Complaints: A Company Guide to Customer Relations and Consumer Rights* (England: Gower Press, 1975).

Nader, Ralph, *The Consumer and Corporate Accountability* (New York: Harcourt Brace, 1972).

Oliver, R. L., *Satisfaction: A Behavourial Perspective on the Consumer* (New York: McGraw-Hill, 1999).

Prakash Vir, *Regulation of Unfair Trade Practices in India*, unpublished Ph.D. Thesis, Department of Commerce, Delhi University, 1993 .

Rosenbloom, Larry J., *Consumer Complaint Guide* (New York: McGraw-Hill Book Co., 1979).

Sharma, Deepa, *Consumer Grievance Redress under the CPA* (New Delhi: New Century Publications, 2002).

Sharma, Deepa, *A Study of Corporate and Public Systems for Redressal of Consumer Grievances* (unpublished Ph.D. thesis, Department of Commerce, Delhi School of Economics, Delhi University, Delhi, 2008.

Sobti, Renu, *Medical Services and the Consumer Protection Act* (New Delhi: New Century Publications, 2002).

Sonnenberg, Frank K., *Managing With a Conscience: How to Improve Performance, Trust and Commitment* (New York: McGraw-Hill Publishing Co., 1994).

Technical Assistance Programme (TARP), *Complaint Handling in America* (Washington, DC: US Office of Consumer Affairs, 1986).

Verma, D.P.S., *MRTP Law: Principles, Provisions and Cases* (New Delhi: Manas Publications, 1992).

Waterman, Robert H., *The Frontiers of Excellence: Learning from Companies that put People First* (London: Nicholas Brealey, 1994).

Wellington, Patricia, *Kaisen Strategies for Customer Care: How to Create a Powerful Customer Care Program and Make it Work* (London: Pitman, 1995).

Zeithaml, Valerie A., Mary Jo Bitner, Dwayne D Gremler, and Ajay Pandit, *Services Marketing: Integrating Customer Focus Across the Firm*, 4th ed. (New Delhi: McGraw-Hill Publishing Co., 2008).

B. ARTICLES

Aaker, David, A., and George S. Day, "Corporate Response to Consumerism Pressures", *Harvard Business Review*, Vol. 50, Nos. 5-6 (November-December 1972), pp. 114-124.

Adamson, C., "Complaint Handling: Benefits and Best Practices", *Consumer Policy Review*, Vol. 1 (1991), p. 4.

Anderson, Ralph E., "Consumer Dissatisfaction: The Effect of Disconfirmed Expectancy on Perceived Product Performance", *Journal of Marketing Research*, Vol. 10 (February, 1973), pp. 38-44.

Andreasen, A.R., "A Taxonomy of Consumer Satisfaction/Dissatisfaction Measures", *Journal of Consumer Affairs*, Vol. 2 (1977), pp. 11-24.

Andreason, A.R., and A. Best, "Consumer Complain: Does Business Respond?" *Harvard Business Review*, Vol. 55, No. 4 (July, 1977), pp. 96-101.

Andreason, A.R., and Tur Wallin, "Antecedents to Satisfaction with Service Recovery", *European Journal of Marketing*, Vol. 34, No. 1-2 (2000), pp. 156-175.

Arndt, John, Edgar Crane and Knut Talllaug, "Opinions about Consumerism: Issues among Present and Future Norwegian Business Executives", *European Journal of Marketing*, Vol. 11, No. 1 (1977), pp. 13-20.

Ash, Stephen B., and R. Quelch, "Consumer Satisfaction, Dissatisfaction and Complaining Behaviour: A Comprehensive Study of Rentals, Public Transportation and Utilities", *Advances in Consumer Research*, Vol. 5 (Winter 1979), pp. 254-62.

Awasthy, H.K., "Perception vs. Reality", *IRDA Journal* (August, 2004), pp. 26-27.

Bailey, Diane, "Recovery from Customer Service Short-falls", *Managing Service Quality*, Vol. 4, No. 6 (1994), pp. 25-28.

Barksdale, H.C., and W.A. French, "The Response of US Business to Consumerism", *European Journal of Marketing*, Vol. 10 No. 1 (1976), pp. 13-27.

Bauer, Raymond A., and Stephen A. Greyser, ''The Dialogue that Never Happens'', *Harvard Business Review,* Vol. 45 (Nov-Dec 1967), pp. 1-12.

Bearden, William O., *et al*, "Consumer's Propensity to Complain and Dissatisfaction with Automobile Repairs", in Woodside, A.G., *et al*. (eds.) *Consumer and Industrial Buying Behaviour* (New York: North Holland, 1979), pp. 450-58.

Bearden, William O., and Jess E. Teel, "Selected Determinants of Consumer Satisfaction and Complaint Reports", *Journal of Marketing*, Vol. 20 (February, 1983), pp. 21-28.

Bhanot, Arun, "Consumer Advocacy: A Growing Influence", *Span*, September-October 1998, pp. 33-37.

Blodgett, J.G., and D.H. Granbois, "Towards an Integrated Conceptual Model of Consumer Complaining Behaviour", Proceedings of the Consumer Satisfaction, Disatisfaction and Complaining Behaviour Conference, *Marketing Letters*, Vol. 4 (1991), pp. 12-16.

Blodgett, J.G., Donna J. Hill, and Stephen S. Tax, "The Effects of Distributive, Procedural and Interactional Justice on Post-complaint Behaviour", *Journal of Retailing*, (1997), Vol. 73, No. 2, pp. 185-210.

Blum, Milton L., J.B. Stewart, and Edward Wheately, "Consumer Affairs: Viability of Corporate Responses", *Journal of Marketing*, Vol. 38 (April, 1974), pp. 13-19.

Brown, S.P., and R.I. Beltramini, "Consumer Complaining and Word-of-Mouth Activities", in T.K. Shrull (ed.) *Advances in Consumer Research*, Vol.16 (Provo, Utah: Association for Consumer Research, 1989), pp. 9-11.

Buskirk, Richard H., and James T. Rothe, "Consumerism: An Interpretation", *Journal of Marketing*, Vol.34, No.4 (Oct., 1970), pp.61-65.

Chevalier, M. and J. Lendrevie, "The Image of Marketing among the People", in Will Straver, *European Journal of Marketing,* Vol. 11, No. 1 (1977), pp. 93-112.

Cohen, Dorothy, "Remedies for Consumer Protection: Prevention, Restitution or Punishment", *Journal of Marketing*, Vol. 39 (1975), pp. 24-31.

Cook, Sarah, and Steve Macaulay, "Practical Steps to Empowered Complaint Management", *Managing Service Quality*, Vol. 7, No. 1 (1997), pp. 39-42.

Czepiel, E., A. John and Larry Rosenberg, "The Study of Consumer Satisfaction: Addressing the 'So What Question", in H. Keith Hunt (ed.) *Conceptualisation of Consumer Satisfaction and Dissatisfaction* (Cambridge, Mass: Marketing Science Institute, 1977), pp. 92-119.

Day, George S., and David A. Aaker, "A Guide to Consumerism", *Journal of Marketing*, Vol. 34, No. 3 (July1970), pp. 12-19.

Day, Ralph L., "Research Perspectives in Consumer Complaining Behaviour", in Charles Lamb and Patrick Dunn (eds.) *Theoretical Developments in Marketing* (Chicago: American Marketing Institute, 1980), pp. 211-15.

Day, Ralph L., and E.L. Landon, Jr., "Survey Data on Consumer Complaints for Consumer Protection Policy–Makers", Proceedings of the Midwest AIDL Conference, *Marketing Letters*, Vol. 2 (1975), pp. 40-44.

Day, Ralph L., and E.L. Landon, Jr., "Towards a Theory of Consumer Complaining Behaviour", in A.G. Woodside, et al (eds.), *Consumer and Industrial Buying Behaviour* (New York: North Holland, 1977), pp. 425-37.

Day, Ralph L., K.L. Grabicke, T. Schartzle, and F. Staubach, "The Hidden Agenda of Consumer Complaining", *Journal of Retailing*, Vol. 57 (Fall 1987), pp. 86-106.

Deshpande, Rohit, and Frederick E. Webster, "Organisational Culture and Marketing: Defining the Research Agenda", *Journal of Marketing*, Vol. 53 (January, 1989), pp. 3-15.

Diamond, S.L., Ward and Faber, "Consumer Problems and Consumerism: Analysis of Calls to a Consumer Hotline", *Journal of Marketing* (January, 1976), pp. 58-62.

Diener, Betty A., and Stephen A. Greyser, "Consumer Views of Redress Needs", *Journal of Marketing*, Vol. 42 (Oct, 1978), pp. 21-27.

Drucker, Peter F., "Consumerism: The Opportunity of Marketing", in R.M. Gaedeke and W.W. Etcheson (eds.), *Consumerism* (San Francisco: Canfield Press, 1972), pp. 252-58.

Dwyer, F.R., and R.J. Dornoff, "The Congruency of Manufacturers' Redress Actions and Consumers' Redress Norms and Expectations", in K. Bernhardt, *et al.* (eds.) *The Changing Marketing Environment: New Theories and Applications* (Chicago: American Marketing Association, 1984), pp. 162-65.

Eovaldi, Thomas L., and John E. Gestrin, "Justice for the Consumers: The Mechanisms of Redress", *Northwestern University Law Review*, Vol. 66, No. 3 (July-August, 1971), pp. 281-325.

Folke, Olander, "Can Consumer Dissatisfaction and Complaints Guide Public Policy?" *Journal of Consumer Policy*, Vol. 2 (1977), pp. 124-37.

Folkes, Valerie, "Consumer Reactions to Product Failure: An Attributional Approach", *Journal of*

Consumer Research, Vol. 10 (March, 1984), pp. 398-409.

Fornell, Claes and Robert A. Westbrook, "The Vicious Circle of Consumer Complaints", *Journal of Marketing* Vol. 48, No. 3, (Summer 1984), pp. 68.

Fornell, Claes, and W.T. Robinson, "Industrial Organisation and Consumer Satisfaction/ Dissatisfaction", *Journal of Consumer Research*, Vol. 9 (1983), pp. 403-12.

Fornell, Claes, and B. Wernerfelt, "Defensive Marketing Strategy by Customer Complaint Management: A Theoretical Analysis", *Journal of Marketing Research*, Vol. 24 (November, 1987), pp. 337-46.

Fourmiar, Susan, and David Glenmick, "Rediscovering Satisfaction", *Journal of Marketing* (October, 1999), pp. 5-23.

Foxall, G., "Towards a Balanced view of Consumerism", *European Journal of Marketing,* Vol. 12, No. 4 (1978), pp. 264-274.

Gaedeke, R. M., "Filing and Disposition of Consumer Complaints: Some Emperical Evidence", *Journal of Consumer Affairs*, Vol. 6, No. 1 (Summer 1972), pp. 45-56.

Ganesh, Jaishankar, Mark J. Arnold, and Kristy E. Reynolds, "Understanding the Customer Base of Service Providers: An Examination of the Differences between Switchers and Stayers", *Journal of Marketing*, Vol. 64 (July, 2000).

Garbarino, Ellen, and Marks S. Jhonson, "*The Different Roles of Satisfaction, Trust and Commitment in customer Relationships", Journal of Marketing*, Vol. 63, No. 2 (April, 1999), pp. 70-87.

Garett, Dennis E., "Effectiveness of Compensation Given to Complaining Consumers: Is More Better", *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behaviour*, Vol. 12 (1999).

Gilly, M.C., "Post-complaint Processes: From Organisational Responses to Repurchase Behaviour", *Journal of Consumer Affairs*, (Winter 1987), pp. 293-313.

Gilly, M.C., and B.D. Gelb, "Post-Purchase Consumer Process and the Complaining Consumer", *Journal of Consumer Research*, Vol. 9 (December, 1982), pp. 323-28.

Gilly, M.C., and Richard W. Hansen, "Consumer Complaint Handling as a Strategic Marketing Tool", *Journal of Consumer Marketing*, Vol. 2 (Fall 1985), pp. 5-16.

Goodwin, C., and I. Ross, "Consumer Evaluations of Responses to Complaints", *Journal of Consumer Marketing* (Spring 1990), pp. 39-47.

Goodwin, C., and I. Ross, "Consumer Responses to Service Failures: Influence of Procedural and Interactional Fairness Perceptions", *Journal of Business Research*, Vol. 25 (1992), pp. 149-63.

Gopal Krishna, G., "The Insurance Customer", *IRDA Journal*, February 2008, pp. 34-35.

Granier, Kemp and Lawes, "Customer Complaint-handling The Multimillion Pound Sinkhole, A Case of Customer Rage Unassuaged", Study conducted by the *Customer Care Alliance*, 2004, cited in Zeithaml, *et al.*, 2008, p. 252.

Greenberg, J., "Organisational Justice: Yesterday, Today and Tomorrow", *Journal of Marketing*, Vol. 16 (1990), pp. 339-432.

Halstead, Diane, "Expectations and Disconfirmation Beliefs as Predictors of Consumer Satisfaction, Repurchase Intention and Complaining Behaviour: An Empirical Study", Marketing Letters, Vol. 2 (1991), pp .17-21.

Harmon, Robert and Alan J. Resnik, "Consumer Complaining: Exploring Expected and Desired Responses", in Bruce J. Walker, et al (eds.) *An Assessment of Marketing Thought and Practice* (Chicago: American Marketing Association, 1982), pp. 175-78.

Herrman, Robert O., ''Consumerism: Its Goals, Organisations and Future'', *Journal of Marketing,* Vol. 34, No. 4 (Oct. 1970), pp. 55-60.

Heskett, James L., Thomas O. Jones, Gary W. Loveman, W. Earlsasser, and Leonard A. Schlesinger, "Putting the Service-Profit Chain to Work", *Harvard Business Review*, Vol. 72, No. 2 (1994), pp. 164-174.

Hocutt, Mary Ann, Michael R. Bowers, and D. Todd Donavan, "The Art of Service Recovery: Fact or Fiction?" *Journal of Services Marketing*, Vol. 20, No. 3 (2006), pp. 199-207.

Hogarth, Jeanne M.M and Maureen English, "Consumer Satisfaction with the Complaint Resolution Effort of a US Federal Agency", *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behaviour*, Vol. 10 (1997).

Hogarth, Jeanne M.M, Maureen English, and Manisha Sharma, "Consumer Complaints and Third Parties: Determinants of Consumer Satisfaction with Complaint Resolution Efforts", *Journal of*

Consumer Satisfaction, Dissatisfaction and Complaining Behaviour, Vol. 14 (2001).

Homburg, Christian and Andreas Furst, "How Organisational Complaint Handling Drives Customer Loyalty: An Analysis of the Mechanistic and the Organic Approach", *Journal of Marketing*, Vol. 69, No. 3 (July, 2005), pp. 95-114.

Hunt, H. Keith, "CS/D- Overview and Future Research Directions", in H. Keith Hunt (ed.), *Conceptualisation and Measurement of Consumer Satisfaction and Dissatisfaction* (Boston: Marketing Science Institute, 1977), pp. 459-460.

Jacoby, Jacob, and J.L. Jaccard, "The Sources, Meaning and Validity of Consumer Complaining Behaviour: A Psychological Analysis", *Journal of Retailing*, Vol. 57 (Fall 1981), pp. 4-24.

Jagdip Singh, "A Typology of Consumer Dissatisfaction, Response Styles," *Journal of Retailing*, Vol. 66, No. 1 (Spring 1990).

Jagdip Singh "Consumer Complaint Intentions and Behaviour: Definitional and Taxonomical Issues", *Journal of Marketing*, Vol. 52 (January, 1988), pp. 93-107.

Jagdip Singh and Robert E. Widing 2, "What Occurs Once Consumers Complain?" *European Journal of Marketing*, Vol. 25, No. 5 (1991), pp. 30-46.

Jobber, D., and Bendelow, " Consumerism: The Public's Awareness of their Rights", *European Journal of Marketing*, Vol. 13, No. 3 (1979), pp. 113-125.

Kangun, Norman, Keith K. Cox, James Higginbotham and John Burton, "Consumerism and Marketing Management", *Journal of Marketing*, Vol. 39, No. 2 (April, 1975), pp. 3-10.

Kendall, C.L., and Fredrick A. Russ, "Warranty and Complaint Policies: An Opportunity for Marketing Management", *Journal of Marketing*, Vol. 39, No. 2 (April, 1975), pp. 36-43.

La Barbera, Priscilla A., and David Mazursky, "A Longitudinal Assessment of Consumer Satisfaction/Dissatisfaction: The Dynamic Aspects of the Cognitive Process", *Journal of Marketing Research* (November 1983), pp. 393-404.

Landon, E. Laird Jr., "New Dimensions of Consumer Satisfaction and Complaining Behaviour", in R.L. Day, and H. Keith Hunt (eds.) *Satisfaction and Complaining Behaviour Conference Proceedings* (Bloomington, IN: Indiana Universal Press, 1979), pp. 44-49.

Liljander, Veronica, "Consumer Satisfaction with Complaint-handling following a Dissatisfactory Experience with Car Repair", *Advances in Consumer Research*, Vol. 4 (1999), pp. 270-275.

Lillekar, C.Y., R.E.A Mapes, and C.S. Riley, "Determinants of Consumer Complaints", *British Journal of Marketing*, (Winter 1969), pp. 218-22.

Luo, Xueming, "Consumer Negative Voice and Firm-Idiosyncratic Stock Returns", *Journal of Marketing*, Vol. 71, No. 3 (July, 2007), pp. 75-88.

Luo, Xueming and Christian Homburg, "Satisfaction, Complaint, and the Stock Value Gap", *Journal of Marketing*, Vol. 72, No. 4 (July, 2008), pp. 29-43.

Mann, James and Peter Thornton, "Consumerism in Perspective", *European Journal of Marketing*, Vol. 12, No. 4 (1978), pp. 253-263.

Mattila, A.S. and P.G. Patterson, "Service Recovery and Fairness Perceptions in Collectivist and Individualist Context", *Journal of Services Research*, Vol. 6 (May, 2004), pp. 336-46.

Maxham, James G., III, and Richard G. Netmeyer, "Firms Reap what they Sow: The Effects of Shared Values and Perceived Organisational Justice on Customer's Evaluation of Complaint handling", *Journal of Marketing*, Vol. 67 (January, 2003), pp. 46-62.

Meffert, Heribet and Manfred Bruhn, "Complaining Behaviour and Satisfaction of Consumers: Results from an Empirical Study in Germany, Proceedings of the International Fair in Consumer Satisfaction and Complaining", *Marketing Letters*, Vol. 2 (1982), pp. 12-16.

Moore, Chris, "Handling Consumer Complaints", in J. Mirchell (ed.) *Marketing and the Consumer Movement* (New York: McGraw-Hill Publishing Co, 1978), pp. 15-20.

Morganosky, Michelle, A., "Complaint Behaviour: Analysis by Demopgraphics, Lifestyle and Consumer Values", Proceedings of Consumer Satisfaction, Dissatisfaction and Complaining Behaviour Conference, *Marketing Letters*, Vol. 3 (1992), pp. 15-20.

Morris, David, "Consumer Complaints and Consumer Advice", in David Morris (ed.) *Economics of Consumer Protection* (London: Heinemann Educational Books Limited, 1980), pp. 56-65.

Morris, David and D.I. Reeson, "The Economic Determinants of Consumer Complaints", *European Journal of Marketing*, Vol. 12, No. 4 (1978), pp.275-282.

Moss, Charles Derek and Bill Richardson, ''Customer Satisfaction: The Key to Successful and Legally Unfettered Trading'', *European Journal of Marketing,* Vol. 19, No. 6 (1985), pp. 05-10.

Moyer, M.S., "Characteristics of Consumer Complaints", *Journal of Public Policy and Marketing*, Vol.3 (1984), pp. 67-84.

Oliver, R.L., "An Investigation of Consumer (Dis) Satisfaction and complaining Behaviour", Proceedings of the Conference: International Fair in Consumer Satisfaction and Complaining Behaviour, *Marketing Letters*, (1987), pp. 23-28.

Oliver, R.L., and J.E. Swan, "Consumer Perceptions of Interpersonal Equity and Satisfaction in Transactions: A Field Survey Approach", *Journal of Marketing*, Vol. 53 (April, 1989), pp. 19-21.

Nicolaud, Brighette M.M., ''Consumerism and Marketing Management's Responsibility'', *Journal of Marketing,* Vol. 23, No. 3 (1987), pp. 07-16.

Rao, G.V., "What Do Your Customers Really Want?" *IRDA Journal,* August 2004, pp. 18-20.

Resnik, A.J. and R. Harmon, "Consumer Complaints and Managerial Response: A Holistic Approach", *Journal of Marketing*, Vol.47 (Winter 1983), pp. 86-97.

Richins, Marsha L., "Negative Word of Mouth by Dissatisfied Consumers: A Pilot Study", *Journal of Marketing,* Vol. 47 (Winter 1983), pp. 68-78.

Rust, Roland T, Bala Subramanian, and Mark Wells, "Making Complaints a Management Tool", *Marketing Management*, Vol. 1, No. 3 (1992), pp. 40-45.

Saraf, D. N., "Some Facts of Consumer Justice through Consumer Disputes Redressal Agencies", *Journal of Indian Law Institute,* Vol. 34, No. 1 (January-March, 1992), pp. 28-70.

Sawarkar, G., " Consumer Awareness: A Survey Analysis", *Indian Journal of Marketing,* Vol. 25, No. 10-12 (Oct-Dec, 1996), pp. 13-21.

Sayulu, K. and G. Sardar, "Customer Satisfaction with regard to LIC Policies", *The Indian Journal of Commerce*, Vol. 58, No. 2 (April-June, 2005), pp. 25-30.

Sharma, Deepa, "Consumer Grievance Redressal in India", *Synergy,* Vol. 6, Nos. 1 & 2 (Jan-Dec 2004), pp. 08-17.

Sharma, Deepa, "Service-Marketers Beware, CPA is Here!" *Delhi Business Review,* Vol. 7, No. 1 (Jan-June 2006), pp. 111-118 .

Singh, Gurjeet, "Business Self-Regulation and Consumer Protection in India: A Critique", *Journal of Consumer Policy*, Vol. 16, No. 1 (1993), p. 1.

Smith, Amy K., and Ruth N. Bolton, "An Experimental Investigation of Customer Reactions to Service Failure and Recovery Encounters: Paradox or Peril?" *Journal of Services Research*, Vol. 1, No. 1 (1998), pp. 65-81.

Smith, Amy K., Ruth N. Bolton, and Janet Wagner, "A Model of Customer Satisfaction with Service Encounters Involving Failure and Recovery", *Journal of Marketing Research*, Vol. 36 (August, 1999), pp. 356-372.

Straver, Will, "The Consumerist Movement in Europe: Challenges and Opportunities for Marketing Strategy", *European Journal of Marketing,* Vol. 12, No. 4 (1978), pp. 316-325.

Straver, Will, "The International Consumerist Movement: Theory and Practical Implications for Marketing Strategy", *European Journal of Marketing,* Vol. 11, No. 1 (1977), pp. 93-117.

Swan, J.E., and R.L. Oliver, "Post-purchase Communications by Consumers", *Journal of Retailing (*Winter 1989), pp. 516-33.

Tax, S., S Brown and M. Chandrashekhran, "Customer Evaluation of Service Complaint Experiences: Implications for Relationship Marketing", *Journal of Marketing*, Vol. 62 (April, 1998), pp. 6076.

Tharulingam and Kochadai, "An Evolution of Consumer Awareness", *Indian Journal of Marketing,* Vol. 19, Nos. 8-10 (April-June, 1989), p. 4 .

Tootelian, Dennis H., "Attitudinal and Cognitive Readiness: Key Dimensions for Consumer Legislations", *Journal of Marketing* (July1975), pp. 61-64.

Vaidyanathan, R., "A CRM Paradigm", *IRDA Journal,* January 2007, pp. 15-17.

Varadrajan, P. Rajan and P.N. Thirunarayana, "Consumers' Attitudes towards Marketing Practices, Consumerism and Government Regulations: Cross-national Perspective", *European Journal of Marketing*, Vol. 24, No. 6 (1990), pp. 06-21.

Verhage, Bronislaw J., "Knowing your Rights: A Cross-Cultural Study" *European Journal of Marketing,* Vol. 21, No. 5 (1987), pp. 70-75.

Verma, D.P.S., and Gunjeet Kaur, "What the Complainant Expects: A Study of Car- users", *IIM-B Management Review*, Vol. 3, No. 4 (2001), pp. 39-44.

Verma, D.P.S., and Gunjeet Kaur, "Post-complaint Satisfaction: A Neglected Area", *Delhi Business Review*, Vol. 2, No. 2 (2001), pp. 51-57.

Verma, D.P.S, and Renu Sobti, "Patients' Perception of Medical Services", *Journal of Services Research*, Vol. 2, No. 1 (2002), pp. 1-17.

Verma, D.P.S., and Renu Sobti, "Medical Services and Grievance Redressal under Consumer Protection Act", *Business Perspectives*, Vol. 5, No. 1 (January-June, 2003), pp. 71-90.

Verma, D.P.S., and Shashi Nanda, "Impact of Consumerism on Marketing Practices: A study in National Capital Region", *Journal of Advances in Management Research*, Vol. 4, No. 1 (2007), pp. 47-60.

Warland, Rex H. Robert O. Hermann, and Hayne Wiltis, "Dissatisfied Consumers: Who Gets Upset and Who Takes Action", *Journal of Consumer Affairs*, Vol. 9 (Winter 1975), pp. 148-63.

C. LEGISLATIONS

1. The Consumer Protection Act, 1986.
2. The Insurance Regulatory and Development Authority (Protection of Policy Holders Interests) Regulations, 2002.
3. The Redressal of Public Grievances Rules, 1998
4. The Monopolies and Restrictive Trade Practices Act, 1969.
5. The Competition Act, 2002.
6. The Right to Information Act, 2005.

If the gentlemanly capitalists and international rentiers can
operate offshore, with no democratic accountability,
then democratisation of our national economy,
polity and society will be permanently stymied.

Will Hutton, The State We're In

★ ★ ★ ★ ★

Within a virtual market the real world truly is irrelevant,
and the invisible hand becomes a blind hand, with no reason
to take account of how it affects other people, or future generations.

Geoff Mulgan, Connexity

★ ★ ★ ★ ★

A truly global economy is being created by the worldwide
spread of new technologies, not by the spread of free markets...
the result is not a universal free market but an anarchy of
sovereign states, rival capitalisms and stateless zones.

John Gray, False Dawn

Managers tend to be promoted to the level of their incompetence.

***Laurence J. Peter* and *Raymond Hall*,**
The Peter Principal

★ ★ ★ ★ ★

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

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

★ ★ ★ ★ ★

In the affluent society, no useful distinction can be made between luxuries and necessaries.

J. K. Galbraith, The Affluent Society

★ ★ ★ ★ ★

A good book is the purest essence of a human soul.

Thomas Carlyle

★ ★ ★ ★ ★

A truly great book should be read in youth, again in maturity and once more in old age, as a fine building should be seen by morning light, at noon and by moonlight.

Robertson Davies, Peterborough Examiner,
"Too Much, Too Fast"

★ ★ ★ ★ ★

Books are good enough in their own way, but they are a mighty bloodless substitute for life.

Robert Louis Stevenson, Virginibus Puerisque,
"An Apology for Idlers"

BOOK REVIEWS

C.K. Prahalad and M.S. Krishnan, *The New Age of Innovation: Driving Co-created Value through Global Networks* (New Delhi: Tata McGraw-Hill Publishing Company Limited, 2008, 2nd reprint), Pages: 278, Hard bound, Price: Rs.695.

The authors of the book, particularly the senior author C.K. Prahalad, are celebrities in the field of management education. Prahalad has been conferred Padma Bhushan on the Republic Day on 26th January, 2009. The book has been already very well received in the corporate world and carries excellent reviews by CEO's and others, acclaiming it for providing a clear road map for continuous innovation, driven by seamless integration of strategy, technology, processes and people. This Indian edition is intended for sale only in the six SAARC countries.

The book focuses on building organisational capabilities that allow a firm to create the capacity for continuous innovation, so that a significant gap that exists today between the strategic intent and the 'capacity to act' in organisations is narrowed. The book is about the nature of innovation in the new competitive context, focusing on the links between business processes and analytics.

The main thesis of the authors is the co-creating value through individual consumer experience and global access to resources and the talent. The authors define this concept as "N=1 and R=G" approach as the two pillars of innovation in all business firms. Innovation is viewed as shaping consumer expectations as well as responding continually to the changing demands, behaviour, and experience of consumers by accessing the best talent and the resources available anywhere in the world.

The book presents the concept of the 'New House of Innovation' by linking the 'N=1' and 'R=G' as the two pillars, technical architecture of the firm as the base, social architecture as the top, and flexible and the resilient business processes and focused analytics as the glue.

The book is structured in eight chapters. The first four chapters focus primarily on the 'what' and 'why' of value creation and innovation space. Chapter 1 describes the fundamental transformation of business, forged by digitisation, ubiquitous connectivity and globalisation in almost all kinds of industries. This transformation is proposed to be managed on these two basic pillars – value is based on unique personalised experiences of individual consumers with a focus on the centrality of the individual (N=1 pillar). The second pillar is the focus on access to resources, not ownership of resources, which is called the 'R=G' pillar. Using these two pillars, the authors identify five key elements of this transformation and develop new principles for innovation to cope with this transformation. For the 'N=1' world, the new critical demands are: flexibility, quality, cost and experience, collaborative networks, complexity, customer interfaces, and scalability. The second principle, 'R=G', unfolds new challenges, such as access to resources, speed, scalability, and innovation arbitrage. This calls for forgetting traditional ways of managing and learning the new ways.

Chapter 2 deals with business processes as enablers of innovation. It proposes a framework of capability building for 'N=1, R=G' world, and the ICT architecture, comprising of four layers. A number of experiences particularly that of the ICICI, is described.

In Chapter 3, the author describes the analytics to explain a class of mathematical applications and algorithms to help derive insights. In this chapter, the authors develop a framework of building analytical capability. As in other chapters, a number of anecdotal references are given.

Chapter 4 deals with the IT-based technical architecture for innovation, with capacity to link large systems and multiple databases, and develops specification of ICT architecture for 'N=1, R=G' requirements, illustrated by two examples to validate the proposal. The next four chapters, explore the process of migration of systems – social and technical – to conform to the demands of the 'N=1, R=G' approach to value creation.

In Chapter 5, the authors present the details of impediments to value-creation due to organisational legacies, and then suggest an approach to organisational evolution. The case of Madras Cements is used as a basis to illustrate the issues contained in the chapter.

Chapter 6 deals with managing the tension due to efficiency and flexibility. These seemingly antithetic attributes need to be managed simultaneously in the new business. The top management in diversified firms needs to recognise the implications that there is a limit to elasticity of business processes.

Chapter 7 deals with the need and ways to dynamically reconfigure the talent to continually match opportunities with resources. The focus is on mobilising talent not outsourcing it. After discussing a number of situations and trends, the authors observe that the search for talent has gone beyond cost arbitrage. The concept of Velcro organisation is outlined.

Finally, in Chapter 8, an agenda for implementing the 'N=1, R=G' world of value co-creation is presented. At the end, a note on each chapter is added. It is followed by Index.

As one would expect from the authors, as celebrated as Prahalad and Krishnan, this book is an outstanding addition to the literature on management under new business paradigms. There are numerous examples, anecdotes, and case-lets to prove a particular point. I am confident that this book will make a mark in both the academic circles and the corporate world. Companies, executives, educational institutions, students, and teachers will find in this book a clear roadmap and direction in managing the present customer-driven, highly competitive and globalised business. The book will definitely provide value for the money.

Prof. Prem Vrat
Vice Chancellor
UP. Technical University
Lucknow

J.K. Sharma, *Business Statistics*, Pearson Education/Dorling Kindersley (India) Private Limited, 2007, New Delhi, Pages: 732, Price: not mentioned

The knowledge of statistics helps the users in the collection, compilation, and analysis of data, and interpretation of the results, for making decision in a particular situation. There are several statistics books available in the market, which include the basic principles and statistical methods for decision-making process. The inferences drawn from any data analysis are based on sample observations, which is a representative part of the population. The decisions-making in business, based on statistics, is probably the most important and complex process. It needs clarification of the basic concepts to business managers.

The book under review is in its second edition. The author claims that the book would be useful for developing the decision-making ability of the students. The book includes the basic concepts of statistics, necessary for business managers. It contains most of the statistical methods used in business studies. The book has been prepared specially for meeting the needs of management students wishing to learn the basic principles of statistics applied in business. The authors' emphasis in the book is on the basic principles and procedures, with an attempt at elucidating the logic without too much of mathematical treatment. An outstanding feature of the book is the inclusion of important terms used in business statistics mentioned on the margin of the relevant page and the statistical aspects are explained through flow-charts to facilitate one easy grasp of the topic.

The book effectively introduces a limited number of statistical concepts and techniques. The coverage of the book is adequate as expected in an introductory business statistics text book. All the major topics which are generally included in any standard text book of statistic are given in the book. These includes: introduction of the subject, data description, graphical methods, measures of central tendency, dispersion, moments, skewness and kurtosis, probability, probability distribution, point and interval estimation, significance testing, correlation and regression analysis, sampling and sampling distributions, normal tests, non-parametric tests, designs of experiment, quality control, decision-making process, time-series analyses, index number, and forecasting models. However, there are several applications of statistics that should have been included in this textbook, such as introduction of designs of experiment, comparison of regression lines, repeated measured design, advance methods, such as proportional hazards regression, discriminant analysis and forecasting models. The increasing demand of application of statistical procedures in business statistics is the need of time for the future business managers.

The book is organised into 19 chapters, besides 12 appendices and a subject-index. At the end of each chapter, there are conceptual questions, self-practice problems, 'true or false' questions, multiple-choice questions, hints for solving the problem, and answer to selected problems. Case studies, along with the explanation of the problems, are also given in some of the chapters.

The first chapter of the book gives an overview of the term 'statistics' when it is used in a singular form, i.e., concerned with the subject matter and further introduced its application in managerial decision-making.

Chapters 2 to 5 explains descriptive statistics through solved numerical examples and graphical presentation, based on business studies. The importance of the concept of central tendency, dispersion, skewness, moments and kurtosis is explained as a pre-requisite for studying the several advance fields of statistics useful in business management studies. However the basic concepts may be further cleared by giving more solved and unsolved case studies based on industrial and business problems. These chapters are of introductory nature and routine statistical procedures are explained.

Chapters 6 and 7 introduced the concept of probability and probability distribution. The main topics covered include: concepts of probability, Addition and Multiplication theorem and Bayes' Theorem, Probability distribution function, expected value, variance of a random variable, and discrete and continuous probability distribution.

Chapter 8 focuses on sampling methods along with the concept of sampling distribution. The sampling methods are not explained with the help of numerical examples. This is significant omission. Moreover the description of sampling methods could have been more elaborate because these are vital for data analysis.

Chapter 9 briefly discusses the estimation procedure for both point estimation and interval estimation. The concept of the Central Limit Theorem and determination of sample size for finite population have also been briefly introduced. There seems to be some printer's devils, such as in Figure 9.1, on page 306, the bar sign was to be placed over x, and not over s. Similarly on the top of page 318, the multiplication of z on the left hand side of the equation is missing.

Chapter 10 outlines the concept of statistical inference, Topics, such as hypothesis testing, methodology, z-test, t-test, and F-test, confidence level, significance level, critical region and power of a test is explained with the help of numerical examples.

Chapter 11 describes the Chi-squire and other non-parametric tests, Chi-squire test for goodness-of-fit, population variance, and homogeneity, Yate's correction for continuity are discussed through solved numerical problems. Sign test, Runs test, Mann–Whitney U-test, Wilcoxon's Matched Pairs test, and Kruskal-Wallis test are adequately explained. However, there is no case study given in the chapter.

The concept of 'analysis of variance' is explained in Chapter 12. The procedure for testing the hypothesis for more than two population variances is introduced and F-test is explained for making the decision regarding the null hypothesis. One-way and two-way ANOVA tables are also explained with the help of appropriate numerical examples.

Chapters 13, 14 and 15 are devoted to the concept of correlation and regression analysis Hypothesis testing for correlation coefficient is also explained with the help of numerical examples. It would have been better to solve numerical examples based on some case study and regression equation fitted accordingly. Partial and multiple correlations and regression analysis are explained with the help of the least-squares methods.

It is followed by coefficient of multiple determinations. The result of relationship between multiple and partial correlation coefficient is also given. Enough emphasis is placed on worked-out numerical examples, which can be useful for teaching. However, there is no discussion on the comparison of regression line. Similarly, the methods of discriminant analysis are also ignored.

The concept of forecasting based on time-series data is discussed in Chapter 16. The different types of forcasting methods are briefly explained. Time-series analysis is explained in detail, including the components of time-series and multiplicative and additive modules. Different quantitative forecasting methods and trend projection methods, based on business climate over a period of several years, are adequately dealt with. Linear, quadratic and exponential trend models are also given at the end of the chapter.

Chapter 17 describes the purpose, types and the uses of index numbers. Several methods of computing price index, volume index, and consumer price index are explained with the help of numerical examples.

Chapter 18 focuses on Statistical Quality Control techniques. The concept related to quality control is explained through control charts, viz., x bar charts, R–charts, Acceptance sampling plan, O.C. curves and the formula of average outgoing quality (AOQ) is given along with the advantages and limitations of statistical quality control.

Lastly, Chapter 19 provides statistical decision theory through an analytical and systematic approach to the study of decision-making. It also includes the procedure for determining the optimal decision based on posterior probability. Finally, decision-tree analysis is presented for displaying acts and events in a decision-making problem, in the form of a tree diagram.

Sharma's text book has undoubtedly contributed much to enhance knowledge in the area of business statistics. It would have been a great help to the readers if the data set was made available on a floppy disks affixed to the book. This would have saved a lot of data entry work and would have ensured that only the correct values are analysed.

The advent of high-speed computers generated renewed interest in theoretical and computational aspects of business studies. The application software for solving the business problem might also have saved time and provided correct answers to the problems.

I hope the book will be further improved in its subsequent edition. It is desirable that the related bibliography is provided either at the end of each chapter, or towards the end of the book. In some of the chapters, case studies have not been provided. For business students each chapter should have at least one case study.

The language part seems to have been badly ignored by the author. Grammatical and typographical errors are galore (see, for example, page 328, second line, "bearing *testimoney* (instead of testimony)" "before reaching *to* (instead of 'at') a verdict." Moreover, the exact sources of definitions of statistics, attributed to various authors, in Chapter 1, are not given.

Despite certain weaknesses, the book is recommended to those who need an introduction to the statistical methods related to business. In conclusion, it can be said that the author has succeeded in producing an interesting book on collection, compilation, analysis and interpretation of data, and as such it would be useful to a wide range of business students and teachers.

Prof. J.B. Singh
Director
School of Computer Engineering and
Information Technology
Shobhit University, Meerut

Madhu Sinha, *Financial Planning: A Ready Reckoner,* Tata McGraw-Hill Publishing Company Limited, New Delhi, 2008, Pages: 270, Paperback, Price: Rs. 345.

Everyone needs and does financial planning to various degrees of formalism. In fact, the need for financial planning begins with the very first rupee we earn. In today's competitive and demanding world, we all are seeking answers to questions, such as, "How much should I save every month to maintain my current life style even after I retire?", or, "How can I save for the rainy day and still afford that dream holiday and send my daughter for education abroad, and...?" We are always confronted with such dilemmas in our lives, but we seldom find quick answers or have access to expert help. This book attempts to fill this gap.

The book *Financial Planning: A Ready Reckoner,* is a very timely addition to the literature on the subject and professionals and non-professionals of all ages are expected to benefit alike from the practical financial planning insights and tools suggested by the author. The hallmark of this book is the demystification of financial buzzwords and catch phrases, like annuity, net present/future value, and time value of money, and the focus on practical application of financial planning principles to typical financial situations, that occur in our everyday life. The author has provided ample practical exercises on each topic in order to reinforce the understanding of various concepts. Step-by-step guidelines are provided for using Microsoft Excel and a financial calculator for making various calculations.

The book begins by explaining what is financial planning, why it is needed, and the process of financial planning. For the benefit of finance professionals, who wish to take up financial planning as a career, essential qualities of successful financial planners are also described, in addition to the basic artifacts they are required to generate as part of their services to the clients.

Chapters 2 and 3 are devoted to financial mathematics, the foundation on which all the concepts of financial planning are built. Chapter 2 covers the issue such as 'how to calculate the time value of money', 'future value of one-time investment made today', and 'the present value of one-time investment made sometime in the past', 'rates of return on investment', and 'effective interest rates'. Chapter 3 focuses on annuities (regular periodic payments or investments) and discusses concepts, such as holding period return, compounded annual growth rate (CAGR), present and future value of annuity, deferred annuity, annuity in perpetuity, growing annuity, and net present value and internal rate of return. Both the chapters are replete with practice examples, all taken from everyday-life situations. For instance, how much money one must save every month for next N months to afford that dream holiday abroad, or how much money should parents set aside every month for their daughter's marriage M years hence, or, calculating EMI's for your dream home, or, returns on a systematic investment plan after T periods, etc.

Chapter 4 describes personal financial ratios, like savings-to-income ratio, debt-to-income ratio, liquidity ratios, debt ratios, risk-exposure ratios, and net worth ratios. These ratios determine the financial health of a person, just like we use financial ratios to assess the financial health of a company and, therefore, its stock price (i.e., its worth). These are very handy numbers for a quick diagnosis of one's financial health and for setting suitable goals to get back into shape, or to become financially more solid.

In Chapters 5 to 7, the author discusses 'Retirement Planning', in details. While Chapter 5 discusses the need for retirement planning and its increasing importance in today's uncertain times, and the steps in the process of retirement planning. Chapter 6 describes various financial products available for retiring planning, e.g., Public Provident Fund, Senior Citizens Saving Scheme, Employees Provident Fund, Post Office Monthly Income Scheme, Government of India Bonds, National Saving Certificates, *Kisan Vikas Patra,* Bank Fixed Deposits, various insurance policies, Unit-Linked Insurance Plans, Pension Plans, Mutual Fund products and Reverse Mortgages. Each product is discussed in terms of its advantages and disadvantages, and its distinguishing features. The suitability of various products for different financial situations and targets is also discussed. Chapter 7 is solely devoted to solving numerical problems on retirement planning. The author has included a large number of financial situations that various people may confront in various life stages. Readers will surely find more than one problems described here which may be relevantl for their own financial situation.

Chapter 8, on mutual fund investments, describes what a mutual fund is, its benefits, its structure, types of mutual funds, and how to invest in a mutual fund scheme. The rights available to a mutual fund investor and the precautions to be taken while investing in mutual funds are also discussed. Finally, FAQ's concerning mutual funds are included to provide answers to most-often asked questions about mutual funds. The readers will find Section 8.8, of particular interest, since it provides essential advice on how to invest in a mutual fund in terms of choosing a fund vis-à-vis one's investment goals, diversification, regularity of investment and regular monitoring of investments.

In Chapter 9, the author discusses the various components of a financial plan and provides fourteen financial planning case studies on the basis of live information and offers appropriate suggestions, which include the appropriate amount of contingency fund (for meeting contingent expenses), optimal insurance requirement, buying / income from a residential house and providing for other goals, such as children's higher education, retirement planning, and estate planning (writing a Will and the document of power of attorney for transfer of wealth to heirs). All the case studies have been taken from the author's own professional experience and include various types of clients, i.e., young, middle aged, retired or nearing retirement, having various levels of income, i.e., low income, moderate income, and high income.

Finally, in Chapter 10, the code of ethics and rules of professional conduct as set out by the Financial Planning Standards Board of India are described. These must be adhered to by all certified practicing financial planners.

This book does full justice to its purpose and should prove to be an invaluable and handy resource for anyone interested in financial planning. What makes this ready-reckoner even more valuable is the fact that it has been written by a certified practitioner and is purposely focused on real-life financial planning situations. A small improvement in the form of a CDROM, containing a "Wizard" application, written, for instance, for Microsoft Excel, would have been an added bonus over and above what is included in this very well-conceived book. This auto-running Wizard application would have allowed the readers to fill in the required parameter values for various types of financial planning problems to the solutions. Nevertheless, this is a welcome addition to the literature on the subject of practical financial planning.

Harvinder Kaur
Reader, Dept. of Commerce
Sri Guru Gobind Singh College of Commerce
University of Delhi
Delhi

Kerry Patterns, Joseph Grenny, Ron McMillan, and Al Switzler, *Crucial Conversations Tools for Talking When Stakes are High*, Tata McGraw-Hill Publishing Company Limited, New Delhi, 2008, Pages: 240, Price: Rs.275.

There are a few defining moments in our lives and careers that make all the difference. Many of these moments come from crucial or "breakthrough" conversations with important people in emotionally-charged situations, where the decisions made take us down one of the several roads, each of which leads to an entirely different destination. In the result-oriented environment and fast-paced world of IT, the success of a system or business depends on crucial conversations people have every day.

A crucial conversation refers to a discussion between two or more people, when the stakes are high, the opinions vary, and the emotions run strong.

Although a large number of books are available in the market to cater to the communication needs of students and professionals, the book under review, "*Crucial Conversations Tools for Talking When Stakes are High*", authored by Kerry Patterns, Joseph Grenny, Ron McMillan, and Al Switzler, is a unique one in as much as it takes a systematic approach to explain the concept and practice of crucial conversation for talking when the stakes are high. This book is an attempt to describe, and explain, the conversation force, and its role in shaping our business and social life.

Another relevant concept is dialogue. Dialogue refers to the free flow of an idea between two or more people. In the book, the authors seek to answer the question as how this free flow of an idea leads to success. The authors seek to find an answer as to why certain people were more effective than others, and learn exactly what those people did, and pass it on to others with the help of the book. For twenty-five years, the authors explored this very issue. During this time, they interviewed twenty thousand people. They searched for key to organisational success. A company's overall success would depend on its strategy, structure, and systems. Changing structures and systems alone do little to improve performance. In fact, half of the high-flyers had almost no formal performance management processes. What's behind their success? It all comes down to how people handle "Crucial Conversation". The path to high productivity passes not through a static system, but through face-to-face conversations at all levels. When you ask the average person what causes a couple to break up, he or she usually suggests that it was due to the difference of opinion.

The book, comprising twelve chapters, will be helpful to everyone in understanding how to effectively blend and use both intellectual and emotional quotient to enable crucial conversations.

What is a Crucial Conversation is dealt with in the opening chapter of the book, titled "Huge Impact on the Quality of Your Life." The authors have given a detailed description of what happens in our body when we disagree during a crucial conversation with the reader. It is written in a friendly style with a sense of humour, which makes reading interesting.

Chapter 2, titled, "Mastering Crucial Conversations", focuses on the power of a dialogue. Through elaborate examples, the authors show how dialogue works and how people can develop their dialogue skills. How to stay focused on what you really want is the central theme of Chapter 3, titled "Start with Heart". Here is how people who are skilled at dialogue stay focused on their goal, particularly when the going gets tough.

"How to notice when safety is at risk" is taken up in Chapter 4, titled "Learn to Look". In this chapter, the readers will find a test which will help them to see what tactic they typically revert to when caught in the midst of a crucial conversation. Unfortunately the web-site mentioned in the book does not correspond with the test given in the chapter.

Chapter 5, with the title "Make It Safe", elaborates how to make it safe to talk about almost anything. This part of the book is rich with interesting examples followed by a few exercises. The authors describe how misunderstanding happens among the people. As an example, they show a couple's conversation which might make or break their relationship. The authors state that people usually say whatever is on their minds – with no regard for how it will be received. Then realising that the topic was completely unsafe, they move to silence or start sugar-coating their message and, as a result, the real problem never gets fixed.

Chapter 6 explains how to stay in dialogue when you are angry, scared, or hurt, under the title, "Master My Stories". Here, the authors have succeeded in explaining the nature of our emotions and, as an example; they describe pretty strong emotions of Maria, who was preparing along with her colleague a proposal for their boss. In this example, it is shown that emotions do not just happen. We and only we create our emotions. After that, we have only two options: we can act on them or be acted on by them. Maria's feelings and behaviour have been described so accurately; she was feeling humiliated, angry, frustrated, betrayed, and horrified and, as a result, she was showing smug attitude, hostile reaction, having sarcastic comments, and keeping a professional silence. This story is followed by some model explanations how emotions, thoughts, and expressions lead to our actions: "The Path to Action". The author's research proves that many people, who are emotionally illiterate, can not explain what is going on inside them. The authors advise the reader to expand emotional vocabulary. When we are trying to interpret the fact, we make our stories and exactly these stories drive our emotions and not other person's actions. As a matter of fact our story could easily surprise and insult others.

"How to speak persuasively, not abrasively", is dealt with in Chapter 7, titled "State My Path". Up to this stage the previous chapters intended to prepare the reader for crucial conversation. Now, they are ready to open their mouths and start sharing their pool of meaning. This chapter explains how to improve our advocacy skills. How can we speak the unspeakable and still maintain respect? It can be difficult to share negative conclusions and unattractive judgments (e.g., "I'm wondering if you're a thief").

Chapter 8, titled "Explore other's Paths" discusses how to listen when others are communicating in a way that is abusive and insulting, or refusing to speak what is on their mind. In this chapter the authors add one more skill - Explore Other's Paths - as a tool for helping others feels safe. If we can find a way to let others know that it is okay to share their path to action – their facts, their nasty stories and ugly feelings – then they will be more likely to open up. But what must we do for getting that? The readers will find the detailed answer to this question. After all, the reader will find out that after asking, mirroring, paraphrasing, and eventually priming, the other person opened up and shared his or her path. But, what if you disagree? The authors give their excellent detailed advice, like: "agree, build and compare".

Chapter 9, titled "Move to Action", focuses on how to turn crucial conversations into action and results. Following some or all advice given in the previous chapters, the reader will walk around with full pools of meaning. In this chapter the authors add two final skills which will help to make a decision. Dialogue is not a decision making tool, but a process for getting all relevant meaning into a shared pool. The authors give, in detail, the four methods of decision-making: command, consult, vote, and consensus. And, as conclusion, they give four important elements: "Who?" "Does what?" "How you will follow up?" And, finally, they advise not to leave your hard work to memory, – "Document your work". The authors' advice to the reader is to write down the details of conclusions, decisions, and assignments, and record that does what, and by what time. The author's further advice to revisit notes at key times (usually the next meeting) and review assignments. If we follow these rules, it will hold people accountable and when someone fails to deliver on a promise, it is time for a dialogue. By holding people accountable, you not only increase their motivation and ability to deliver on promises, but you create a culture of integrity.

Chapter 10 presents the tools for preparing and learning, and is titled "Putting It All Together". In this chapter, the authors ask the reader who must be wondering how all these ideas can possibly help him, especially during something as unpredictable and fast-moving as a crucial conversation. This chapter will help him in the daunting task of making dialogue tools and skills memorable and useable. The authors here share what they have heard from people who have changed their lives by using these skills. They lay out a model that can help visually organise the seven dialogue principles and finally they put forward an example of a crucial conversation, where all the dialogue principles are applied. In this chapter, the reader will find many models and tables. Using all these given tools and reminders, readers will get interested in and start mastering the skills that help them improve their crucial conversations.

In the next chapter, titled "Yeah, But", the authors share advice for tough cases. The readers will find seventeen tough cases in the chapter. These include: (1) "Failure to live up to agreements", (2) "Deference to authority", (3) Failed trust, (4) "Won't talk about anything serious" (5) "Shows no initiative", (6) "I need time to calm down", (7) "Endless excuses", (8) "Touchy and personal", (9) "Dealing with someone who breaks all the rules" etc. Every case includes the danger point and the solution.

In the concluding chapter, the authors explain how to turn ideas into habits and title it "Change Your Life". Our chances of improving something are deeply rooted in our psyche and in the way we communicate. There are a lot of factors that affect our chances. One of this is 'surprise'. High-risk discussions do not come with notice and reminders. More often, they come as unwelcome surprises. Emotions do not help much either. Ability to pull yourself out of the content of discussion and to focus on the process is inversely proportional to your level of emotion. If your adrenaline is flowing, you are almost guaranteed to jump to your style under stress. 'Scripts', another enemy of change, are pre-bundled phrases we use in common conversations; they form the very foundation of social habits and often make change almost impossible. The following examples help readers understand the point. So what are the readers' chances? Conversationalists are shocked into motion by surprise, whipped up to speed by high stakes and strong emotions, and propelled along a completely predictable course by scripts that offer few if any options. And here authors come with their research. Once they examined forty-eight front-line supervisors who were learning how to hold crucial conversations. The supervisors who in order to apply the new skills gave four principles for turning ideas into action: first, master the content; second, master the skills, third, enhance you motive, forth, watch for cues. Every mentioned point is clearly described in the book.

There is no doubt, the book is written by people who are gifted at dialogue. With a goal to provide a complete, stand-alone tool for personal change they have included in the book everything a person might need to conduct a crucial conversation.

The Foreword to the book has been written by the celebrated author of the best-seller, "The 7 Habits of Highly Effective People", Stephen R.Covey.

When we fail a crucial conversation, every aspect of our lives can be affected - from our career, to our community, to our relationships, to our personal health. Master your crucial conversations and you will improve your career, strengthen your relationships, and, above all, improve your health. As people master high-stake discussions, they will also vitalize their organisation and their community.

It is a must-read for every person who wants to empower his conversation skills. The book must also be interesting and useful to students and teachers, working in the field of psychology and business communication.

Evgeniya Zharikova
Lecturer in Foreign Languages
School of Business Studies
Shobhit University, Meerut - 250110

R.S. Dwivedi, *A Textbook of Human Resource Management*, Vikas Publishing, 2007, New Delhi, Pages: 397, Paperback, Price Rs. 195

The present book on HRM is an attempt to emphasise a general management approach to meet the challenges of human resources effectively. In essence, it deals with the evolution of HRM models in India and abroad, human resource planning, recruitment and selection, training and development, performance appraisal, promotion and transfers, counselling, compensation, and the changing role of Industrial Relation.

The book is divided into 10 chapters. Chapter 1 deals with the introductory aspects including managerial functions, nature and scope of HRM. Personnel management or people management, by whatever name it is called, it amounts to management of people so that the goals of an organisation can be achieved. What is important is that HRM need to be linked with the changing scenario due to globalisation, work-force diversity, changes in technology, and research and innovation. If organisations are able to face these challenges, they can have competitive advantage over others. The most intriguing problem before the organisations is to align corporate strategy with HRM strategy and the task of motivating employees in relation to wage employment. At the organisational level, it has to keep people young and productive, turning the 'industrial relation' into 'cooperatives' and the 'development of organisational culture'. At the workplace level, it has to adapt to technological changes, tackle the problem of non-performers, problem of grievance management and at the departmental level, it has to develop HR policies to fulfill the development needs of people.

In order to meet these challenges, organisations need to indulge in human resource planning (HRP). It has been pointed out that HRP should be formulated at the same time while evolving business planning (p. 37). Chapter 2 is devoted to the quantitative and qualitative techniques of HRP, setting of policies, procedures and strategies to achieve corporate objectives. It is highly important to control the HR costs; otherwise the HRP may be a failure. Chapter 3 relates to recruitment and selection. An attempt has been made to describe the process and the policy of recruitment, its sources and innovative Indian practices, mainly, e-recruitment and EOGO scheme (each one get one scheme) (p. 710). It also discusses the various selection and placement devices. Methods of selection, particularly, e-selection have been emphasised.

The selected employees need to be trained for the current job and developed for future jobs so that they can be retained in the organisation. Chapter 4 focuses on training and development. It includes the training needs and objectives, training policy, principles, methods and techniques, types of training, employee development, nature, procedure, methods, and techniques of management development, career development and succession planning as a development device. Chapter 5 describes the most controversial subject of HRM performance appraisal. According to one research finding, performance appraisal practices in Indian organisations range from 'no appraisal' to 'sophisticated' multi-purpose, multi-component based appraisal systems (p. 146). The chapter highlights performance management as a holistic approach and elaborates potential appraisal practices at Philips, Glaxo and Cadbury and performance management system at the National Stock Exchange of India. Thus, performance appraisal is one yardstick by which an employee demonstrates his capacity to contribute towards the organisational goals. In this connection, the concepts of promotion, transfer, and separation assume importance. The key issues in promotion, transfer and separation are provided in Chapter 6 with the help of case studies of Central Fertilizer Company, Telco, Sandoz, etc. Furthermore, voluntary retirement schemes, retrenchment, outplacement and retention are discussed. 'Outplacement' has emerged as a significant HR programme in recent years. The major objectives of outplacement and outplacement services are outlined. It assists the separated people to cope with their emotional problems and reduce their period of unemployment. In contrast to separation, retention has emerged as a crucial HR function in the critical skill shortage areas. Varied HR measures and strategies are outlined to resolve retention problems.

Chapter 8 is devoted to the study of behavioural concepts of counselling, empowerment and quality of work life, to accomplish the corporate goals of survival, growth, and profitability. While examining the Indian perspective on counselling, an attempt has been made to describe a survey on counseling services in Indian industries. The author has also given the findings of a study in a large engineering organisation. Due to globalization of business, empowerment and quality of work life have emerged as important concepts for corporate performance. The case examples of Sterling group, Shriram group, Eicher group, Tamil Nadu, Petro-products Limited, Apollo Cancer Hospital, Mahindra and Mahindra, Reliance Industries Limited, and Hindustan Lever Limited, described to illustrate how empowerment can be introduced in the Indian context for survival and growth.

The examples of quality of work life include those conducted at the BHEL and Rashtriya Chemicals and Fertilizers Limited. Quality of work life is a shared responsibility, not only of the management and workers but also of the union leaders, government and behavioural scientists. Chapters 8 and 9 examine the compensation system and the changing role of employer and employees in Indian context. The effectiveness of employee compensation policy makes a vital difference in gaining or losing a competitive edge. A hi-tech company which offers better compensation to managerial and marketing personnel, but under-pays its research and development staff may lose its ability to innovate, because competitors may take away its best talent. It presents the new employer-employee relationship in the Indian context. An attempt has also been made to examine the changing role of the State and to outline the historical perspective on labour policy, indicating the need for harmonising it in the context of new economic policy. It further examines the role of the Council of Indian Employers and status of trade unions in India. It also outlines the meaning and types of trade unions, their major central organisations, historical characteristics, and measures to strengthen them.

The major objective of IR is to prevent industrial conflict by prescribing the providing legitimate rights of both employers and employees and to establish harmonious relations in the industry. Improving employee involvement and commitment would help them to appreciate the employer's perspective with empathy towards the employer's genuine problems. Finally, Chapter 10 presents the various approaches to industrial relations. It outlines the legal approach of conciliation and adjudication and an ethical approach, embracing the code of discipline, voluntary arbitration and grievance-handling. In this chapter, the author also analyses the concepts and processes of collective bargaining and workers' participation in management. Participative system is a survival need of business and industry. The author, here, outlines a number of issues that must be taken into account while resurrecting this system.

Thus, the book, *A Textbook of Human Resource Management* retains the flavour of a research-based approach to the study of HRM, particularly in the Indian context. Extensive Indian studies have been quoted to support of the concepts and points of view. The author has sought to review as many relevant Indian studies and cases as could be possible and to integrate them to the context. Students, teachers, and scholars should find the availability of such a vast number of case studies in one book a convenient reference source.

Teachers of HRM often find them uncomfortable with foreign case studies and research results. It is mainly due to the easy availability of books written by foreign authors and lack of indigenous material suited for the Indian context. Also, the available Indian material is not comprehensive. This book takes care of all these concerns. The book suggests ways and means to manage human resources effectively. Nevertheless, the coverage is very exhaustive. Although the book contains only ten chapters, each chapter covers in as much detail as possible. The students will find the coverage taxing, particularly at the undergraduate level. The twin fields of HRM and IR are blended into one book. Many chapters, such as those on collective bargaining, retirement schemes, workers' participation in management, grievance-handling, trade unionism, conciliation, and adjudication are included in this book.

The Appendices given at the end of the book contain useful matter. The innovative HRM teaching kits, given in Appendix C, in particular, can be gainfully used by executives in work-settings and students at business schools.

Dr. Kamlesh Jain
Reader, Mata Sundri College for Women
University of Delhi, Delhi

The Indian Journal of Industrial Relations

A Review of Economic & Social Development

Volume 44 | **Number 2** | **October 2008**

Contents

SHRIRAM CENTRE

for Industrial Relations and Human Resources

4, Safdar Hashmi Marg, New Delhi – 110 001 • Phone: 23352410/12/14/15

e-mail: sricir@indiatimes.com, sricir_25@yahoo.co.in Website: www.srcirhr.com

NICE Journal of Business

(Half-yearly Journal of School of Business Studies, Shobhit University, Meerut)

SUBSCRIPTION RATES

	1 Year		**3 Years**	
	India	**Abroad**	**India**	**Abroad**
Individual	Rs. 200	US $ 20	Rs. 500	US $ 50
Institution	Rs. 400	US $ 40	Rs. 1000	US $ 100

SUBSCRIPTION ORDER FORM

Please accept the enclosed cheque/demand draft, No.______________________, dated ___________________, drawn on ____ Bank, favouring **Shobhit University,** for Rs. _____/- US$ __ towards subscription of *NICE Journal of Business*, payable at Meerut, for one year/three years.

Name____

Organisation ____

Mailing Address ____

____

____

City _________________________________ PIN/ZIP __________________ Country ______________________

e-mail ____________________________

Mail to: **The Editor**
NICE Journal of Business
School of Business studies
Shobhit University
Modipuram, Meerut-250 110
(INDIA)

Statement of Ownership and Other Particulars about the Journal

NICE Journal of Business

(Half-yearly journal of Shobhit University, set up by NICE Society, Meerut)

Form IV

(See Rule 8 of the Newspapers (Central) Rules, 1956)

1.	Place of Publication	Meerut
2.	Periodicity of Publication	Half-yearly
3.	Printer's Name Nationality Address	Kunwar Shekhar Vijendra Indian NICE Society Modipuram Meerut-250 110
4.	Publisher's Name Nationality Address	Kunwar Shekhar Vijendra Indian NICE Society Modipuram Meerut-250 110
5.	Editor's Name Nationality Address	Prof. D.P.S. Verma Indian Shobhit University Modipuram Meerut-250 110
6.	Name and address of individuals who own the newspaper and partners or shareholders holding more than one per cent of the total capital.	NICE Society Modipuram Meerut-250 110
7.	Printed at	Print-Ways G-19, Vijay Chowk, Laxmi Nagar Delhi-100 092

I, Kunwar Shekhar Vijendra, do hereby declare that the particulars given above are true to the best of my knowledge and belief.

Sd/-
Kunwar Shekhar Vijendra
Publisher

MANUSCRIPT GUIDELINES

NICE Journal of Business invites academicians and professionals to contribute research papers, articles, abstracts of doctoral dissertations, major research project reports, case studies, comprehensive bibliography, and book reviews.

The following are the **guidelines** for the authors:

1. The contribution must be original, neither published nor under consideration for publication anywhere else.
2. The cover page should contain the title of the paper, author's name, designation, official address, contact phone/fax number, e-mail address. The next page should contain an abstract of not more than 150 words, along with 5 key words. The main text should not contain the author's name.
3. References should be given at the end of the manuscript and should contain only those cited in the text of the manuscript. These should be given in an alphabetical order of first author's surname.
4. References should be given on the following pattern:
   (i) For books written by a single author:
   Malhotra, Naresh K. (2007), *Marketing Research*, 5th ed. (New Delhi: Prentice-Hall of India), p.41.
   (ii) For books written by two or more authors:
   Kotler, Philip, Deepak Jain, and Suvet Maesince (2002), *Marketing Movers* (Boston: Harvard Business School Publishing Corporation), pp. 3-9.
   (iii) For journal articles:
   Lather, Anu Singh, and Shilpa Jain (2007), "Need Behavioural Orientation of Dynamos and Drones in Organisations", *Vikapla*, Vol. 32, No. 1 (January - March), pp. 45-55.
   (iv) For unpublished Ph.D. theses and M. Phil. dissertations:
   Sharma, Deepa, *Consumer Grievance Redressel in India*, unpublished M.Phil dissertation, Delhi University, Department of Commerce, Delhi, 2001, pp. 42-49.
5. Figures and tables should be numbered consecutively, in international numerals, and should appear soon after the text where they are first cited. The figures should be accommodated within two-thirds of A-4 size paper. All the figures and tables must be suitably captioned.
6. Please follow British spellings throughout: 'programme', 'not program'; 'organisation', 'not organization'; 'behaviour', 'not behavior'.
7. The use of capitilisation should be kept to the minimum, except in case of proper nouns, and should be followed consistently.
8. A manuscript should normally be between 5000 to 8000 words (20 to 25 pages).
9. The manuscript should be in double space; in 12-points font size on, A-4 size paper, leaving 4 cms margin on all sides, so as to facilitate editing and styling. All texts, including abstract, quotations, notes and references should be typed in double-space.
10. Authors using a questionnaire for collection of data for preparing the paper should send a copy of the questionnaire, along with the manuscript.
11. The contribution should be sent as an e-mail attachment to: *editornjb@gmail.com*, with a copy to: *verma.dps@gmail.com*. Moreover, one hard copy and a soft copy (in MS Word format) are to sent by post/courier.
12. The contributions received for publication shall be referred to two experts on the subject, for review and evaluation, after a preliminary review in the editorial office.
13. Correspondence and proofs for correction, if required, will be sent to the first-named author, unless otherwise indicated. Corrected proofs should be returned within a week.
14. The forwarding letter must include a certificate by the author to the effect that the article is original and an exclusive contribution to *NJB* and shall not be released for publication elsewhere unless the Editor's decision not to publish it has been communicated to the author.
15. The final decision on the acceptance or otherwise of the paper rests with the Editor/Editorial Board, and it depends entirely on the standard and relevance of the paper.
16. The final draft may be subjected to editorial amendment to suit the Journal's requirements.
17. The author will receive one copy of the Journal, along with 10 reprints of his paper, free of charge, soon after its publication.
18. The copyright of the articles and other material, published in the Journal, shall lie with the publisher.
19. *While sending the manuscript, please state that the 'Guidelines for Authors'* (*for authors of NICE Journal of Business), have been followed.* Manuscript which does not conform to these guidelines may not be considered for publication.
20. The reference to websites should be kept to the minimum. The date of accession of the website should be mentioned within a bracket.

Shobhit University

Shobhit Institute of Engineering & Technology, Meerut

A University declared by GoI u/s 3 of UGC Act 1956

Printed and Published by Kunwar Shekhar Vijendra, Pro-Chancellor, Shobhit University, Meerut and Vice-Chairman, NICE Society, for and on behalf of NICE Society, 54, Todarmal Road, New Delhi-110001, at Print-Ways, Delhi-110092, 22514076, 9899094076 e-mail: *printways01@gmail.com*