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## RESEARCH PAPERS

- Motives behind the Mergers and Acquisitions in the Indian Telecom Sector: A Note on Opportunities & Imperatives : *Kunjana Malik and Ravi Bhasin*
- Frame Dependence and Its Influence on Investment Decisions : *A. Charles and R. Kasilingam*
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- e-Induction Program: Inductor-driven to an Inductee-driven : *Sanjoy Roy and Anoop Pandey*
- Analyzing Household Consumption Pattern in Haryana : *Kiran Mor and Savneet Sethia*

## ABSTRACT OF PH.D. THESIS

## BOOK REVIEWS



**Shobhit  
University**

Shobhit Institute of Engineering & Technology, Meerut  
A University declared by Govt. of U.G.C Act 1956

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



# *NICE Journal of Business*

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**Shobhit University**, notified by the Government of India as a Deemed to be University, under Section 3 of the University Grants Commission Act, 1956, was envisaged and inspired by Babu Vijendra Kumar *ji*, an eminent agriculturist and social worker from Gangoh (Saharanpur) of U.P. The University seeks to go beyond the established standards to nurture technocrats and prospective managers that have a global vision and insight in their chosen field. School of Business Studies

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**School of Business Studies (SBS)** is an integral part of the Shobhit University, Meerut. It has inherited the academic legacy of the NICE Management College (established in 1995), and together with autonomy in curriculum-designing and flexibility for foreign collaborations, through academic exchange, and credit-transfer mechanism, and increased institution-industry interface. The SBS offers MBA programmes with several specialisations, including marketing, finance, human resource management, production and operations management, pharmaceuticals marketing, and insurance and risk management. It also offers M.Phil. and Ph.D. programmes in management.

## NICE JOURNAL OF BUSINESS

*NICE Journal of Business* is a half-yearly journal, earlier published by NICE Management College, Meerut, and now brought out by the School of Business Studies, Shobhit University, Meerut. It provides a platform to research scholars, practising 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 research output and providing information about recent developments in the relevant fields, by way of research articles, book reviews, Ph.D. thesis abstracts, case studies, and bibliographies, on topics related to business and allied areas. It is listed in Cabell's Management Directory (USA).

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

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# CONTENTS

## RESEARCH PAPERS

- Motives behind the Mergers and Acquisitions in the Indian Telecom Sector:  
A Note on Opportunities & Imperatives  
*Kunjana Malik and Ravi Bhasin* 1
- Frame Dependence and Its Influence on Investment Decisions  
*A. Charles and R. Kasilingam* 9
- A Study on Comparative Performance Evaluation of HDFC and  
Reliance Mutual Funds  
*K. Phani Kumar Katuri and K. Sambasiva Rao* 21
- The Benefits of Vocational Education and Training in India  
*Amit Kumar Bansal, Kishori Lal Sharma and Suraj Pathak* 31
- A Comparative Study of Investment Behaviour of Rural and Urban Investors  
in Sattur Taluk, Tamil Nadu  
*M. Selvakumar, K. Jegatheesan and R. Jeeva Gandhi* 37
- Transportation Management: An Imperative Dimension of Effectual  
Supply Chain Management  
*Vipul Chalotra* 49
- Entrepreneurial Skills of the College Students: A Study with Reference  
to Sivakasi, Tamil Nadu  
*M. Selvakumar, K. Jegatheesan and G. Divya Karthiga* 59
- Implementation of T+1 Settlement in Indian Capital Market  
*Santanu Kumar Das* 79
- e-Waste Management Practices: A Comparison of Formal and  
Informal Recycling Sector  
*Rajeev Srivastava* 87
- e-Induction Program: Inductor-driven to an Inductee-driven  
*Sanjoy Roy and Anoop Pandey* 93
- Analyzing Household Consumption Pattern in Haryana  
*Kiran Mor and Savneet Sethia* 99
- **ABSTRACT OF PH.D. THESIS** 105  
*Himadri Phukan*
- **BOOK REVIEWS** 107  
*International Human Resource Management (K. Aswathappa, Sadhana Dash)*  
*Prof. (Dr.) Poonam Devdutt*  
*Training Instruments in HRD and OD*  
*Dr. S.S. Chauhan*  
*Organisational Behaviour (Shuchi Sharma)*  
*Dr. S. Chauhan*  
*Management Cases: A Strategic Perspective (Dr. Himani Sharma)*  
*Benu Sharma*

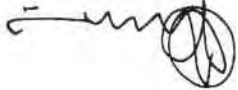


I take this opportunity to welcome you to the Fourteenth issue (Volume 8, Number 1: January-June, 2013) of NICE Journal of Business. As always the response from both the contributors and the readers to the journal is heartening. In this issue once again we bring you the authoritative insights into the highly dynamic and fascinating world of business, finance and management. This issue of the Journal brings together contemporary thought and research papers and articles in disparate fields of immense relevance for both experts and students.

These pertain to the study on comparative performance evaluation of HDFC and Reliance mutual funds by Shri K. Phani Kumar, and Prof. K. Sambasiva Rao, a study on entrepreneurial skills of college students with reference to Sivakasi in Tamil Nadu by Dr. M. Selvakumar, Shri K. Jegatheesan and G. Divya Karthiga. In an interesting comparative study on various attributes of corporate and Kirana stores for grocery shopping, Shri Sanjoy Roy, Shri Atul Kumar and Dr. Anoop Pandey have provided insights into the emerging world of retail marketing in India. The paper on 'Implementation of t+1 Settlement in Indian capital market' by Shri Santanu Kumar Das likewise provides a critical analysis of the issues and problems of financial settlements in our capital markets. The paper on 'e-Waste Management Practices' by Rajeev Srivastava presents a fascinating comparison of formal and informal recycling sector in our country. In a highly welcome study on the benefits of vocational education and training in India, Dr. Amit Kumar Bansal, Dr. Kishori Lal Sharma and Dr. Suraj Pathak discuss and deliberate the emerging prospect to reap the demographic dividend before it is too late. Shri A Charles and Dr. R. Kasilingam, in their research on 'frame dependence and its influence on investment decisions' have presented a new perspective on investments that may be of great help to fund managers and individual investors. In another comparative study of investment behaviour of rural and urban investors in Tamil Nadu, Dr. Selvakumar, Shri K. Jegatheesan and Shri R. Jeeva Gandhi have done a hallmark work to characterize the different elements of the dynamics of investment behaviour. A study on the motives for mergers and acquisitions in the Indian telecom sector by Kunjana Malik and Ravi Bhasin provides us a new insight on the opportunities and imperatives in a rapidly emerging sector. The study on 'transportation management: an imperative dimension of effectual supply chain management' by Dr. Vipul Chalotra is an insightful work on the logistics of supply chain management in the highly remunerative and at times challenging domain of transport management in India. In their paper on 'e-Induction Program: Inductor-driven to an Inductee-driven, Shri Sanjoy Roy

# From the Editor's Desk

(Anoop Swarnp)  
Chief Editor



I express my gratitude to Dr. Shobhit Kumar, Chairman, Kunwar Shekhar Vijendra, Chancellor and Professor Rajendra P. Agarwal, Vice-Chancellor of Shobhit University, who have always been the guiding spirit behind the endeavour.

I am grateful to the eminent experts who have contributed to the Journal on the Editorial Board as reviewers, authors and as book-reviewers for their precious contribution to the journal. Moreover, several experts who extended their advice and help with their critical comments and suggestions that improved the quality of the Journal. I do express my profound sense of gratitude to them but more particularly to Prof. D.P.S. Verma who had laid the foundation of the Journal and who ensured in no less a measure that the quality of the contents and its research output is not diluted, who left no stone unturned to make a fool-proof, peer-reviewed, refereed process mandatory for regular publication of the Journal and its listing in Cabell's Directory (US) over the years to make the enterprise a resounding success.

and Dr. Anoop Pandey make a very strong case for retention of employees rights from the beginning through game based learning and an interactive environment in organizations. While analyzing household consumption pattern in Haryana Shri Kiran Mor and Shri Savenet Sethia find that the consumption budget has significantly declined over the years in both urban and rural India. The section on book review has an excellent critique by Dr. Poonam Devdutt on 'International Human Resource Management' authored by K. Aswathappa and Sathana Dash; 2nd edition (2013) published by McGraw Hill Education (India) Pvt. Ltd; a very exhaustive review by Dr. Benu Sharma on 'Training Instruments in HRD and OD' authored by Dr. Udai Pareek, another insightful review on 'Organizational Behavior' authored by Shuchi Sharma published by Tata McGraw Hill and a very good critique on 'Management Cases: A Strategic Perspective' authored by Dr. Himani Sharma published by Galgotia Publishing Company.



# Motives behind the Mergers and Acquisitions in the Indian Telecom Sector: A Note on Opportunities & Imperatives

Kunjana Malik\* and Ravi Bhasin\*\*

## Abstract

*The process of mergers and acquisitions has gained substantial importance in today's corporate world. This process is extensively used for restructuring the business organizations. In India, the concept of mergers and acquisitions was initiated by the government bodies in 1991. Some well-known financial organizations also took the necessary initiatives to restructure the corporate sector of India by adopting the mergers and acquisitions policies. India's economic reforms since 1991 have opened up a whole lot of challenges both in the domestic and international spheres. The increased competition in the global market has prompted the Indian companies to go for mergers and acquisitions as an important strategic choice. However, the trends of mergers and acquisitions have changed over the years. Besides, the immediate effects of the mergers and acquisitions have also been diverse across the various sectors of the Indian economy. In our paper, we will be focusing on Indian Telecom Sector which has seen a number of significant mergers and still there are a number of deals which are in progress. The telecom sector has been in the news lately: the 2G scam, employment opportunities it creates or the spectrum fight faced by different telecom companies. The paper would discuss the opportunities, major mergers and the challenges faced by the Telecom sector.*

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**Keywords:** *Mergers, Telecom, Strategy, Telecom sector, Telecommunication Industry*

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## INTRODUCTION

In every organization's life and in every economy's life comes a time when growth, development and expansion seem to reach a plateau. Across the developed countries we are witnessing such a cycle, where iconic brands,

companies and institutions are being acquired and merged. And across the world into Asia, transition economies like India and China are pumping in billions of dollars to acquire a stake or control of some of the crown jewels of American or European Business & Industry. Till a couple of years back, the news that an Indian

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Company has acquired an American-European entity was very rare. However, this scenario has taken a sudden U-turn. Nowadays, the news of Indian Companies acquiring a foreign business is more common than the other way round. Buoyant Indian Economy, extra cash with corporate India, Government policies and newly found dynamism among Indian businessmen have all contributed to this new acquisition trend. Indian companies are now aggressively looking at North American and European markets to spread their wings and become the global players. The Indian IT and ITES companies already have a strong presence in the foreign markets; however, other sectors are also now growing rapidly. The increasing engagement of the Indian companies in the world markets, and particularly in the US, is not only an indication of the maturity reached by Indian Industry but also the extent of their participation in the overall globalization process. The sectors attracting investments by corporate India include metals, pharmaceuticals, industrial goods, automotive components, beverages, cosmetics and energy in manufacturing; and mobile communications, software and financial services, with pharmaceuticals, IT and energy being the prominent ones among these.

The process of mergers and acquisitions has gained substantial importance in today's corporate world. This process is extensively used for restructuring the business organizations. In India, the concept of mergers and acquisitions was initiated by the government bodies in 1991. Some well-known financial

organizations also took the necessary initiatives to restructure the corporate sector of India by adopting the mergers and acquisitions policies. India's economic reforms since 1991 have opened up a whole lot of challenges both in the domestic and international spheres. The increased competition in the global market has prompted the Indian companies to go for mergers and acquisitions as an important strategic choice. However, the trends of mergers and acquisitions have changed over the years. Besides, the immediate effects of the mergers and acquisitions have also been diverse across the various sectors of the Indian economy.

### The Indian telecommunication sector

The telecommunication industry is the fastest growing industry in every country. Over the last decade and particularly over the last five years, India has registered an impressive growth in the telecommunications sector.

India now has a total of 846.32 million telecom subscribers, comprising of 811.59 mobile subscribers and 34.73 land line subscribers. The Indian tele-density now stands at 70.89%. India today has the world's second largest network which is growing at a rate which is unmatched by any other country in the world. With the connections now growing at a faster pace in rural areas as compared to urban, it is expected that as the Indian population crosses the 1 billion mark, the rural tele-density will grow from the current value of 32.95% to 40%. The sector is

**Table 1.** Top sectors

Sectors	Volume	\$ million	% value
IT & ITs	61	1316	26.1
Automotive	6	887	17.6
Telecom	7	651	12.9
Pharma, healthcare and biotech	31	328	6.5
Real estate & infrastructure	25	296	5.9
Plastic & chemicals	12	294	5.8
Metals & ores	12	258	5.1
Manufacturing	29	214	4.3
Engineering	8	100	2.0
Electrical & electronics	10	94.72	19.0

Source: Grant Thornton



growing at 45% per year which has been made possible through continuous effort by the government in the recent years. The telecom sector of India has thus contributed to a great extent towards the socio-economic development of India.

### Mergers and acquisitions in the Telecom sector

India has become a hotbed of telecom mergers and acquisitions in the last decade. Foreign investors and telecom majors look at India as one of the fastest growing telecom markets in the world. Sweeping reforms introduced by successive governments over the last decade have dramatically changed the face of the telecommunications industry. The mobile sector has achieved a tele-density of 14% by July 2006 which has been aided by a number of factors like aggressive foreign investment, regulatory support, lower tariffs and falling network cost and handset prices.

The mergers and acquisitions have also been driven by the development of new telecommunication technologies. The deregulation of the industry tempts telecom firms (telcos) to provide bundled products and services, especially with the ongoing conver-

gence of the telecom and cable industries. The acquisition of additional products and services has thus become a profitable move for telecom providers.

New merger norms for telecom industry was announced in February 2012 making it easier for a sector that is set to enter into a phase of consolidation after Supreme Court revoked 122 licenses.

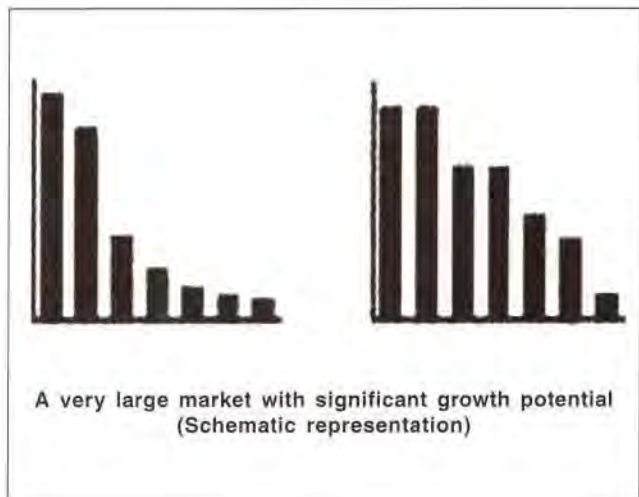
The number of mergers and acquisitions in Telecom Sector has been increasing significantly. Telecommunications industry is one of the most profitable and rapidly developing industries in the world and it is regarded as an indispensable component of the world-wide utility and services sector. Telecommunication industry deals with various forms of communication mediums, for example, mobile phones, land line phones, as well as Internet and broadband services.

Currently, a slew of mergers and acquisitions in Telecom Sector are going on throughout the world. The aim behind such mergers is to attain competitive benefits in the telecommunications industry. The mergers and acquisitions in the Telecom Sector are regarded as horizontal mergers simply because the entities going for such a trend are operating in the same industry, that is telecommunications industry. In the majority of the developed and developing countries around the world, mergers and acquisitions in the telecommunications sector have in fact become a necessity. This kind of mergers also assist in the creation of jobs.

**Table 2.** Market share of telecom players

Sectors	In revenue terms (%)	In subscriber terms (%)
Bharti	28.7	19.9
Vodafone	22.3	16.6
Idea	14.3	11.2
RCOM	9.3	16.8
Tata teleservices	8.9	10.7
BSNL	7.2	11.0
Aircel	4.8	6.8
Uninor	1.7	3.1
Sistema	0.9	0.4
Loop	0.6	0.7
MTNL	0.5	0.8
Videocon	0.5	0.2
HFCL	0.2	0.2
Steel	0.1	0.4
Etisalat	0.1	0.2

Source: TRAI for period coding 01FY12





Both transnational and domestic telecommunications service providers are keen to try merger and acquisition options because this will help them in many ways. They can cut down on their expenses, achieve greater market share and accomplish market control.

The mergers and acquisitions in the Telecom Sector have been showing a prosperous trend in the recent past and the economists are advocating that they will continue to do so. The majority of telecommunication service providers have understood that in order to grow globally, strategic alliances and mergers and acquisitions are the principal devices. Private sector investment and FDI (Foreign Direct Investment) have also boosted the growth of mergers and acquisitions in the telecommunications sector.

Over the last few years, a phenomenal growth has been witnessed in the number of mergers and acquisitions taking place in the telecommunications industry. Economic reforms have spurred the growth in the mergers and acquisitions industry of the telecommunications sector to a satisfactory level.

The mergers and acquisitions in Telecom Sector can also have some negative effects, which include monopolization of the telecommunication products and services, unemployment and others. However, the governments of various countries take appropriate steps to curb these problems.

In countries like India, mergers and acquisitions have increased to a considerable level from the mid-1990s. In the United States, the mergers and acquisitions in the Telecom Sector are going on in full swing.

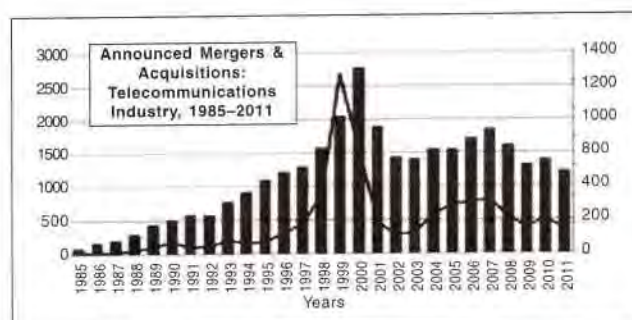
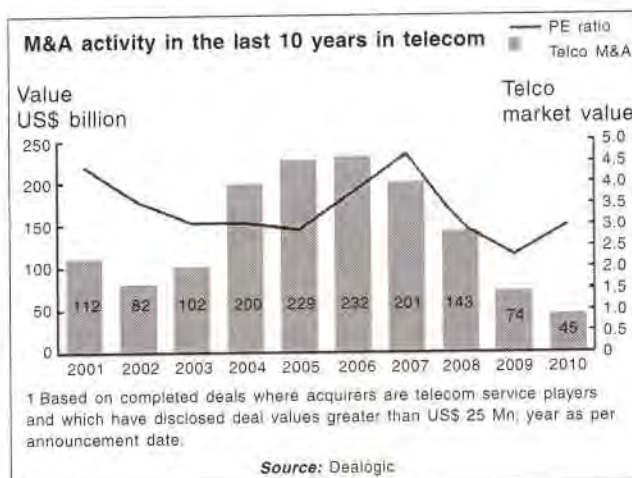
The mergers and acquisitions in the Telecom Sector are governed or supervised by the regulatory authority of the telecommunication industry of a particular country, like the Telecom Regulatory Authority of India or TRAI in India. The regulatory authorities always keep a tab on the telecommunications industry so that no monopoly is formed.

### Rationale behind Mergers in the Telecommunication Industry:

- Acquisition of licenses or geographical territories
- Deregulation
- Introduction to sophisticated technologies (Wireless land line services)
- Innovative products and services (Internet, broadband and cable services)
- Acquisition of spectrum
- Acquisition of telecom infrastructure and network
- Acquisition of customer base to achieve an economic base
- Acquisition of brand value
- Higher operating profit (EBITDA) margin
- Acquisition of Customer Base

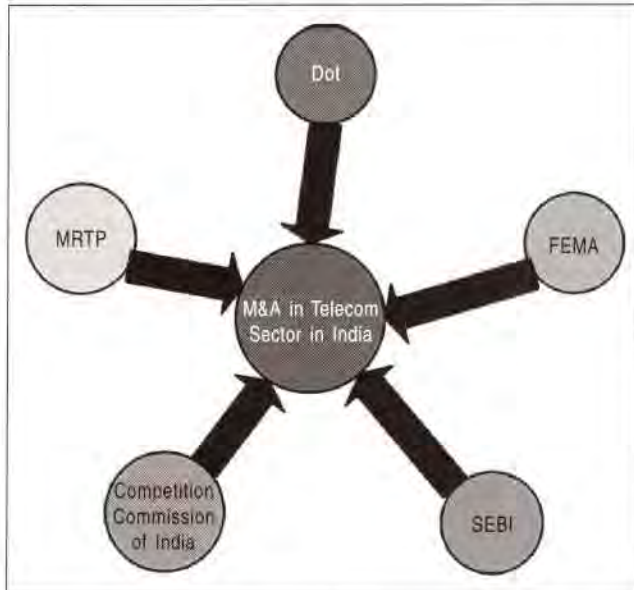
### Regulations for mergers in the Telecom Sector

Certain regulatory and statutory norms pertaining to mergers and acquisitions in the Telecom Sector are laid down by the Indian Government and its authorized agencies.





However, according to the NTP 2011, merger and acquisition guidelines in the country's crowded Telecom Sector need to be liberalized. Under the current mergers and acquisitions rules, one company cannot hold more than 10% stake in two competing firms in one telecom circle. Also, new licensees are not allowed to sell out or exit before three years of operations.



Further, when two operators merge their revenues or subscriber base, it should not exceed 40% of the total revenue/subscribers in that circle. Not explaining how these regulations will be eased or changed to allow more consolidation, the government has only said that the number of players in each telecom circle should not fall below six, including the state-run operators, to ensure sufficient competition in the sector. The current strengths of each circle in India is in the range of 9-14. We have one of the lowest Average Revenue Per User (ARPU) in the world and it is declining year after year. In the light of the above, a strong need is felt to liberalise the mergers and acquisitions guidelines. The liberalization of mergers and acquisitions guidelines is expected to drive consolidation in the industry, which is facing intense pressure on margins due to tough competition and low tariffs.

## Significant Mergers and Acquisitions in the Telecom Sector

The first merger and acquisition deal in the Indian telecom industry occurred in 1998 between Max Group of Delhi and Hutchison Group of Hong Kong. 41% of stakes of Orange services in Mumbai was acquired by Hutchison from Max for 560 million US\$.

With the liberalization of the Indian economy, the Telecom Sector has become very attractive for mergers and acquisitions. Some of the big deals that have taken place in the Indian telecom include the following:

- SingTel increasing its stake in Bharti telecom from 26.96% to 32.8% in 2011
- Providence's investment into Aditya Birla Telecom in 2009
- Vodafone taking over Hutchison-Essar in 2007
- Malaysia Telekom's 49% stake in Spice Telecom
- Temasek Holdings' 9.9% stake in Tata Teleservices through its wholly-owned subsidiary Aranda Investments Mauritius
- Singapore-based SingTel has increased its stake in one of India's largest telecom companies Bharti Airtel to 32.25%, with the purchase of shares worth about ₹93 crore. The freshly-acquired shares account for about 0.1 percentage point stake in Bharti Airtel, which is jointly promoted by SingTel and group companies of industrialist Sunil Mittal's family. Due to the increasing market opportunities, SingTel decided to increase its stake in Bharti which gave a direct indication of the preference of the international investors in the Indian Telecom Sector.
- US based Private Equity major Providence Equity Partners picked up 16.14% stake in Aditya Telecom for \$428 billion. The funds were used for network rollout and ongoing operations of Aditya Birla Telecom, which has a telecom service GSM license in the territory of Bihar and Jharkhand. With this investment, Providence's total exposure to the AV Birla Group's telecom business had risen to about \$828 million. In 2006, the PE firm had invested over \$400 million in Idea through a pre-IPO placement.



- Vodafone purchased stake in Hutch for \$11.08 billion. The deal was done to create value in emerging mobile markets and realizing the same for the benefit of the shareholders at the same time. Vodafone was attracted to Essar as Indian Telecom Sector is the fastest growing sector with a CAGR of 22%. Hutchison wanted to exit as the urban markets had become saturated. Future expansion would have to be in the rural areas which would lead to falling Average Revenue Per User (ARPU) and consequently lower return on the investments. The company also wanted to use the money to fund the business in Europe.
- Telekom Malaysia, Malaysia's fourth-largest company by market capitalization, paid for the 49% stake in privately-owned Spice Telecom. The acquisition, made through TM's international investment holding company TM International Sdn Bhd (TMI) involved the purchase of the stake held by Deutsche Bank AG and Ashmore Investment Management Limited consortium (DBA). The remaining 51% remains with the existing share-holders, the Mcorp Global Ltd and its associates (Mcorp).
- Temasek Holdings Pte Ltd, through its wholly-owned subsidiary Aranda Investments (Mauritius) Pte Ltd, acquired a 9.9% equity stake in the telecom company worth \$300 million. The investment was done to make Tata a technologically driven and consumer focused company. Tata Tele-services wanted to tap Temasek's network

and experience to increase its share in the market and come out as a market leader.

The mergers and acquisitions in India is subject to various laws the principle of them being the Companies Act 1956, Income tax Act 1961 and the Takeover Code (for public listed companies). Regulatory considerations are also equally important to take note of in telecom mergers and acquisitions.

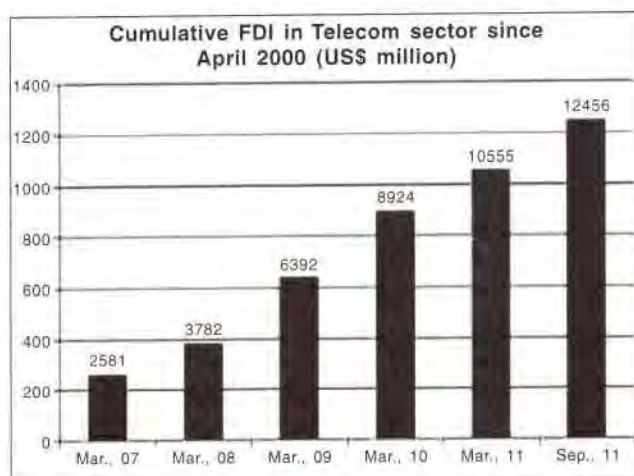
### Opportunities in the Telecommunications Industry In India

As the fastest growing telecommunications market in the world, India is expected to have one billion telephones by 2015 and is estimated to become the world's largest mobile phone market through subscriptions by 2013. With a large population yet to have access to telecommunication and tele-density still being 76.86% and rural tele-density at 37.48%, there is a significant growth opportunity for the sector, especially in the rural areas, and 3G and BWA yet to make significant inroads. India offers an unprecedented opportunity for telecom service operators, infrastructure vendors, manufacturers and associated services companies. A host of factors are contributing to enlarged opportunities for growth and investment in telecom sector:

- An expanding Indian economy with increased focus on the services sector
- Population mix moving favourably towards a younger age profile
- Urbanization with increasing incomes

Investors can look to capture the gains of the Indian telecom boom and diversify their operations outside developed economies that are marked by saturated telecom markets and lower GDP growth rates. An attractive trade and investment policy and lucrative incentives for foreign collaborations have made India one of the world's most attractive markets for the telecom equipment suppliers and service providers.

Key factors, which will fuel the growth of the sector include increased access to services owing to launch of newer telecom technologies like 3G and BWA, better devices, changing



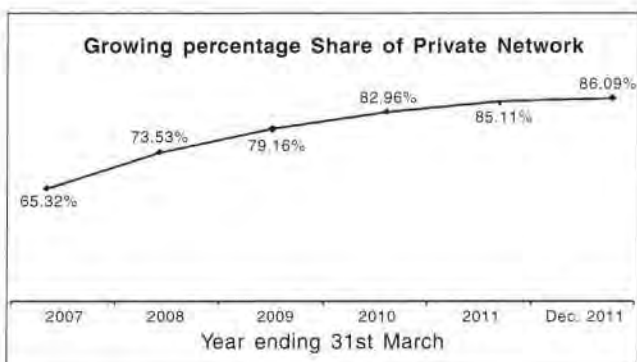


consumer behaviour and the emergence of cloud technologies. A majority of the investments will go into the capital expenditure for setting up newer networks like 3G and developing the backhaul. Moreover, the introduction of Mobile Number Portability (MNP) in India has made the Indian Telecom market even more competitive, in terms of service offerings and quality.

Today the Indian Telecom Sector with an approximate subscriber base of 562.21 million connections (as of Dec., 2011) is ranked as the second largest network in the world after China. In a knowledge-based economy, it is natural that broadband connectivity directly correlates with the growth of economy, as it helps improve the flow of information across various elements of the economy. As per the Department of Telecommunications Annual Report, 2010-11, the broadband subscribers grew from a meagre 0.18 million as on March 2005 to about 7.98 million at the end of Dec. 2011. This report also estimates that internet and broadband subscribers will increase to 40 million and 20 million, respectively by 2012. The government is now looking forward to the target of 600 million telephone sub-scribers by the end of the Eleventh Plan.

Gartner, a global information technology research and advisory firm, has made the following predictions regarding India's Telecom Sector:

- Total mobile services revenue in India is projected to grow at a compound annual growth rate (CAGR) of 12.5% from 2009-2013 to exceed US\$30 billion
- Revenue from data services will significantly contribute to the overall growth of mobile



services in India, with a CAGR of 16.8% from 2009 to 2013

- Growth will be triggered by increased adoption of value-added services, which are relevant to both rural and urban markets.

Various factors are believed to fuel the growth and attractiveness of the Indian telecommunications industry, such as:

- An expanding Indian economy with increased focus on the services sector;
- Favourable demographics with population mix moving favourably towards a younger age profile;
- Rising disposable income of consumers;
- Falling tariffs; and
- Presence of skilled labour pool particularly in the metros and tier 2 cities.

## CHALLENGES

Even though the telecommunications sector has come a long way since the time of liberalization, and the fact that it promises growth, there are a number of issues which still pose a challenge to its progress. Two critical issues are:

- Declining Average Revenue Per User (ARPU):** The Indian Telecom Sector is a highly competitive sector. A sustained price war in the industry has resulted in declining ARPUs. In the present market conditions, ARPU levels continue to fall at an increasing rate 19.7%. The blended ARPU for Indian industry in March 2009 was ₹220.

As a result, operators are focusing more on data and value added services to meet the revenue deficit caused by the fall in revenue by their core business i.e. Voice.

- Lack of Telecom Infrastructure:** Operators have to incur huge capital costs to provide telecommunications services in the rural areas. Added to this cost is the logistical challenge posed by the lack of supporting infrastructure such as lack of roads and electricity.



## CONCLUSION

The mergers and acquisitions have become very popular over the years especially during the last two decades owing torpid changes that have taken place in the business environment. Business firms now have to face increased competition not only from firms within the country but also from international business giants thanks to globalization, liberalization, technological changes, etc. Generally the objective of mergers and acquisitions is wealth maximization of share-holders by seeking gains in terms of synergy, economies of scale, better financial and marketing advantages, diversification and reduced earnings volatility, improved inventory management, increase in domestic market share and also to capture fast growing international markets abroad. But astonishingly, though the number and value of mergers and acquisitions are growing rapidly, the results of the studies on the impact of mergers on the performance from the acquirers' shareholders perspective have been highly disappointing. Making the mergers work successfully is not that easy as here we are not only just putting the two organizations

together but also integrating people of two organizations with different cultures, attitudes and mindsets. Meticulous pre-merger planning including conducting proper due diligence, effective communication during the integration, committed and competent leadership, speed with which the integration plan is integrated all this pave for the success of mergers and acquisitions. While making the merger deals, it is necessary not only to make analysis of the financial aspects of the acquiring firm but also the cultural and people issues of both the concerns for proper post-acquisition integration.

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# Frame Dependence and Its Influence on Investment Decisions

A. Charles\* and R. Kasilingam\*\*

## Abstract

*Investors find it difficult to make good investment decisions. Their investment decisions are frequently influenced by some physiological and psychological factors. Each individual use some frames to make the decisions. These frames may be transparent or opaque in nature. Further, these frames reflect the behaviour of both emotional and cognitive elements. This study looks at these frames and its influence on investors' investment decision. The data were collected from different investors using convenience sampling technique. Further this was analyzed quantitatively by using some SPSS tools. Findings of this study suggest that investors often use three frames while making investment decisions. They are positive, negative and neutral frames. With the help of some demographic and investment variables, frame dependence model is framed and illustrated in this study.*

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**Key words:** Behavioral finance, Frame dependence, Frame dependence mode, Investment Decision making, Investor segmentation

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## INTRODUCTION

Investors are often prone to make errors while making investment decisions. Cognition and emotion play a key role behind these biases and errors. This was first coined by psychologists Daniel Kahneman, Paul Slovic and Amos Tversky (1982). Later this was organized by Hersh Shefrin (2000) in his book titled "Beyond greed and fear". He explained behavioral finance into three themes namely heuristics, frame dependence and market inefficiency. Among these frame dependence helps to describe the problems of

decision making. Framing is nothing but how individuals perceive the particular thing. Traditional finance proponents argued that investors are always rational so their frames should be a transparent one. This was opposed by behavioral finance practioners. They opined that many frames are opaque in nature. This makes them to behave like irrational investors. Previously Tversky and Kahneman (1981) pointed out that frames are associated with their choices. Further, they added that investors' choices are influenced by their personal attributes, habits and the situations

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encountered by them. This may differ from person to person. Benartzi and Thaler (1995), Gneezy et al. (2003) indicated that investors' frame dependence are influenced by two things, namely, gain and loss. This was supported by Barberis et al (2006). He argued that individuals use narrow framing because they are highly influenced by the feeling of regret. Most research supports the argument that investors' emotions and cognition influence their frames. Daniel Kahneman and Amos Tversky (1979) consolidating the frame dependence as loss aversion, concurrent decisions, hedonic editing, regret, self control and money illusion. This paper looks at these variables and its impact on investors' investment decisions. Further, investors' frame dependence model has been framed and explained in this paper. This study will be helpful to broaden the research in the field of behavioral finance.

## REVIEW OF LITERATURE

Behavioral finance is a new discipline in finance which guides the investors to find out the reason behind their unsuccessful investment decisions. Hersh Shefrin (2000) organize behavioral finance into three themes, namely, heuristics, frame dependence and market inefficiencies. He explained frame dependence as a process in which investors make decisions based on the form of risk and return. Further, he added that investors are highly influenced by losses rather than gains. Based on the situations, these frames may be transparent or opaque in nature. These are reflected on their behaviour. Kahneman and Tversky (1979) explained investors' decision making choices in their prospect theory. They argued that risk and uncertainty affect the investors' choices. Further, they added that decision making involved two processes, namely, editing the prospects and evaluating the prospects. Ackert, Church and Deaves (2004) explain how emotions influence individuals' decision making. First, emotions push individuals to make decisions. Second emotions help to make optimal decisions. Investors' cognition and emotion play a crucial role on decision making. Zajonc (1980, 1984) argued that even though cognition and

emotions are partial independent systems, emotions are automatically generated without the help of cognitive process. Further, he added that investors' emotion process comprised of three stages, namely, sensory, schematic and conceptual. Sensory stage explains automatic stimuli components while schematic and conceptual are learning components. Both cognition and emotion make the investors to use intuitive or deliberative decision making style.

Kahneman and Tversky (1981) argued that frame dependence influences investors' perceptions towards the choices and preferences. Levin, Johnson, Deldin, carstens, cresse & David (1986), opined that frame dependence not only affects the investors' preferences but also their risk taking ability. Miller & Fagley (1991) explained the investors' rationality and frame dependence. They illustrated that investors' rationality will be reduced if they are influenced by negative frame dependence. Simon, Fagley & Halleran (2004) coined that investors' frame dependence are caused by the lack of cognition. Dual processing model (Evans, 2008; Kahneman, 2003), illustrated that investors' decision making is of two types. They are deliberative and intuitive. Deliberate decision making means slow and steady decisions while intuitive means fast and biased decision making. According to Kahneman, (2003); Simon, (1955; 1957); Tversky and Kahneman, (1974), intuitive individuals process more information by taking less time. At the same time, intuitions outperform deliberations on a right circumstance (Damasio, 1994; Dijksterhuis & Nordgren, 2006; Gigerenzer, 2007; 2008; Plessner & Zenna, 2008). Daniel Kahneman and Amos Tversky (1979) classified the frame dependence as loss aversion, concurrent decisions, hedonic editing, self control, regret and money illusion.

Loss aversion is the primary frame dependence which influences high on decision making. Kahneman and Tversky (1979), explained how people respond to the loss. They find that impact of loss is two and a half times higher than the gain of same magnitude. LeRoy Gross (1982) described loss aversion that "investors accept losses as a paper loss, they

think that these losses are recovered by using gambling's". This approach is called as "Get-evenitis". Concurrent decisions are defined as how people make decisions on two different situations which will explain their approach towards a problem. Based on their approach their frame dependence will be defined. It may be transparent or opaque. Hedonic editing is a type of frame dependence which will explain the investors' attitude towards the losses. Thaler and Eric Johnson (1991) proposed a theory of hedonic editing by using the mental accounts. They acclaimed that investors differ from their risk tolerance level. This difference arises due to the situations encountered by them. Further, they added that people prefer to avoid losses than gains. Self control is defined as the emotions of the investors. Shefrin and Statman (1984) argued that investors use some heuristics to control their emotions. These may vary from person to person. Further, they added that investors feel comfort ability rather than risk takings. Regret is a type of feeling which explains the investors' attitude towards the decision making. i.e.; they are exhibiting the dilemma towards the decisions, whether it is correct or wrong. It is a feeling associated with their loss making investments. Zweig (1998) opined that regret can be reduced often by using proper portfolio management. Money illusion is a type of frame dependence which will explain the investors' attitude towards the money. It deals with how investors are considering inflations while calculating their return. This frame dependence is caused by the lack of cognition and emotions. Shafir, Peter Diamond, and Amos Tversky (1997) indicated that people always think of the nominal values of return. It may be the reason of their emotional instability. These reviews conclude that frame dependence influence investors' investment decisions.

## RESEARCH METHODOLOGY

Descriptive method of study is used to analyze and interpret the data. Since the population sizes are higher, convenience sampling technique is used to collect the data from different investors. Most of the questionnaires were directly given to investors while they are visiting the brokerage offices. Besides some of

the managers of broker office were requested to distribute the questionnaires to their investors. At last some questionnaires were sent to investors' email id which was collected from leading stock broker's offices in Tamil Nadu. One thousand questionnaires were distributed out of which 742 responses are taken as usable questionnaires. This accounts for an effective reply rate of 75% of the total sample.

## THE PROFILE OF THE RESPONDENTS

The questionnaire contains demographic details such as age, gender, income, education, marital status, occupation, employment status, professions and number of dependents. The investment variables includes trading pattern/ investment pattern, stock market experience, attraction towards equity market, reasons for equity investment, approaches of equity market, holding period of investment, annual investment, risk profiles sectors to be invested/ preferred, source of funds, etc.

## FACTORISATION OF FRAME DEPENDENCE VARIABLES

Frame dependence variables like loss aversion, concurrent decisions, regret, money illusion, self control and hedonic-editing are taken for this study. Using factor analysis these variables are reduced to lesser number for easy interpretation of data. Each variable is explained as statements associated with investments. Investors are requested to give their opinions in the questionnaire ranges from strongly disagree to strongly agree. Kaiser-Meyer-Olkin Measure Sampling Adequacy and Bartlett's Test of Sphericity are used to find out the sampling adequacy of data. These are carried out before conducting factor analysis.

**Table 1.** KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.621
Bartlett's Test of Sphericity	Approx. Chi-Square	367.865
	Df	28
	Sig.	0



The sampling adequacy value of KMO test is around 62%. This shows that the existing data is useful for factor analysis. Further, the significant value of Bartlett's Test of Sphericity is 0.000. This illustrates that there exists a significant relation among the frame dependence variables.

**DETERMINATION OF FACTORS**

The factors are thus reduced by using factor analysis. The principle component method is used to extract the data. The components which have higher Eigen value (greater than one) are taken for further rotations. Varimax rotation is a standard technique used to rotate the factors for final usable factors. The variance explained by the factors is shown in Table 2.

Around 56% of the total variance is explained by the three components which have higher Eigen value; remaining variances are explained by the other variables. The Rotated Component matrix is shown in Table 3.

Based on the Rotated Component matrix, three components are labeled as anxiousness, avoidance and acceptance. These are explained below:

**Anxiousness Frame**

The first factor is named as anxiousness because the statements included in this factor explains investors' attitude towards the market i.e., optimistic or pessimistic. This contains loss aversion and concurrent decisions. This accounts for 19% of total variable explained. The variables and its factor loadings are shown in Table 4.

Loss aversion and Concurrent decisions make the investors to focus more on losses rather than gains. This is due to the reason that

**Table 2.** Variance explained by Factors

S. Factors No.	Eigen Value	% of Variance Explained	Cumulative %
1 Component 1	1.133	18.880	18.880
2 Component 2	1.121	18.687	37.567
3 Component 3	1.121	18.676	56.243

**Table 3.** Rotated Component matrix

	Component		
	1	2	3
Loss aversion	0.777		
Concurrent decisions	-0.718		
Regret		0.71	
Hedonic editing		-0.671	
Money illusion			0.659
Self control			0.614

risk and uncertainty makes the investors to be emotionally unstable. Based on the convenience frequency analysis of anxiousness is converted to three point values for easy interpretations of data.

Table 5 illustrates that around 48% of investors' are influenced, 40% are neutrally influenced and the least percentage of 12% are not influenced by this factor. This shows that

**Table 5.** Frequency Analysis-Anxiousness

Scale	Frequency	Percentage
1-2.5	88	12
2.5-3.5	298	40
3.5-5.0	356	48
Total	742	100

**Table 4.** Anxiousness frame dependence

S. Factors No.	Description of the factor statement	Factor loadings
1 Loss aversion	Losses are more painful than gains are pleasurable to me. So I hesitate to realize the losses	.777
2 Concurrent decisions	I am focusing more on losses rather than net gains and losses	-.718

around 48% of investors' are pessimistic, 40% are neither optimistic nor pessimistic and the remaining 12% are only optimistic investors. This reveals that half of the investors are exhibiting the behaviour of anxiousness. This may be the reason of fear of failure. Fear of failure is caused by low cognition and emotional imbalance of the investors. So this is called as anxiousness factor.

**Avoidance**

The second factor is labeled as Avoidance. This contains regret and hedonic editing. This was explored by investor before making any investment decision. This accounts for 19% of total variable explained.

Regret and hedonic editing make the investors to avoid risky investment decisions. This is due to the reason that they are highly influenced by feelings (emotions) while making investment decisions. The frequency analysis table illustrates that 44% are influenced, 39% are neutral and 17% are not influenced by this factor. This shows that investors' experience, cognition and emotions are responsible for this factor. If the investors are highly influenced by avoidance frame, then they would avoid risky investments.

**Acceptance**

The third factor is named as acceptance. This contains money illusion and self control. Both

these factors explain the emotional stability of investors. Emotionally stable person accept their mistakes and not blame others. This factor not only determines their emotion but also their investment success. This factor explains 19% of total variable explained.

The frequency analysis table illustrates that 21% are not influenced, 33% are neutral and the remaining 46% are influenced by this factor. This shows that most of the investors are influenced by this factor. This is due to the reason that investors are unaware of the time value of money concepts. i.e., lack of cognition.

**SEGMENTATION OF INVESTORS**

K-means cluster is a statistical technique used to identify the homogenous group of investors based on their frame dependence. Besides, three clustering method is used to find out the homogenous groups. This is shown in Table 8.

Table 8 shows the mean values of three frame dependence factors which are grouped into three clusters. These three clusters reflect the characteristics of investors. The rank of each cluster is shown in brackets. The number of cases in each cluster table indicates that around 31% of investors come under cluster 1 category, 39% of investors are cluster 2 category and the remaining 30% of investors are cluster 3 category. This leads to the conclusion that

**Table 6.** Avoidance

S. No.	Factors	Description of the factor statement	Factor loadings
1	Regret	I prefer to buy non riskier stocks	.710
2	Hedonic editing	I prefer to book loss & shift to other stocks during bearish market	-.671

**Table 7.** Acceptance

S. No.	Factors	Description of the factor statement	Factor loadings
1	Money illusion	I often calculate nominal return on stocks by avoiding inflations	.659
2	Self control	I am fully responsible for the results of my investment decisions	.614



most of the investors belong to cluster 2 category.

Table 9 contains F statistics of each factor and its significant values. Avoidance and Acceptance have higher F statistics. This shows that these two factors are contributing more on categorizing the investors into three homogenous groups. Further, significant value of the three factors is 0.000. This shows that there exists a significant relation among the mean values of the three frame dependence factors. These reveal that all the three factors have significant contribution on segmenting the investors into three homogenous groups.

**Table 8.** Final Cluster centres

	Cluster			Total
	1	2	3	
Anxiousness	3.60(III)	3.98(I)	3.34(II)	—
Avoidance	3.94(II)	4.07(I)	2.60(III)	—
Acceptance	2.48(III)	4.35(I)	3.66(II)	—
No of cases	229	291	220	742
Percentage	31	39	30	100

**Table 9.** Anova

Factors	F	Sig.
Anxiousness	40.577	.000
Avoidance	379.175	.000
Acceptance	557.146	.000

## CLUSTER CLASSIFICATION OF FRAME DEPENDENCE

### Negative frame dependence

First cluster category is named as negative frame dependence. Anxiousness, avoidance and acceptance explain the various attributes of the investors. Acceptance frame dependence explains their emotions while anxiousness and avoidance show their cognition and experience towards the equity market. In this cluster investors are low influenced by acceptance. This shows that they are emotionally unstable,

blame others if they attain any losses and also avoid facing losses. Further, moderate anxiousness and high avoidance explore that they are inexperienced and inadequate knowledge of equity market. These resemble the behaviour of immature intuitive decision makers. Immature intuition makes the investors to frame negative frame dependence.

### Positive frame dependence

Second cluster category is named as positive frame dependence. Investors of this category are high influenced by anxiousness and acceptance. This shows that these investors are highly influenced by positive emotions and are also ready to accept their mistakes and also very conscious in nature. Further, investors are least influenced by avoidance. This shows that they are experienced and highly cognitive. This resembles the behaviour of matured intuitive and deliberate decision makers. These investors use both intuitions and deliberative style according to the situations needed. This makes them to act as a risk seeker.

### Neutral frame dependence

Third cluster category is named as neutral frame dependence. Neutral frame dependence investors are highly influenced by avoidance and moderate influenced by anxiousness and acceptance. High avoidance makes the investors to act as risk averse investors. Further, anxiousness and acceptance explain their maturity of decision making. This maturity may arise from the positive or negative influence of their emotions. So they may be a deliberate decision maker. Since anxiousness and acceptance are neutrally influenced, they are called as neutral frame dependence investors.

## RELIABILITY OF CLASSIFICATION

Discriminant analysis is a statistical technique used to test the reliability of classification of three homogenous groups. In order to carry out the discriminant analysis independent variables are taken as three frame dependence factors and grouping variables are taken as frame dependence cluster group.

Table 10 contains Wilks' lambda, F statistic,

**Table 10.** Tests of Equality of Group Means

	Wilks' Lambda	F	df1	df2	Sig.
Anxiousness	.901	40.577	2	739	.000
Avoidance	.494	379.175	2	739	.000
Acceptance	.399	557.146	2	739	.000

its degrees of freedom and significance level. Wilks' lambda value varies from 0.4 to 0.9. This explains the ratio of within-groups sum of squares to the total sum of squares. Acceptance has small Wilks' lambda which indicates that there is a strong group differences among the mean values of three factors. The F statistic is a ratio of between-groups variability to within-groups variability. The significance value of three factors is 0.000. This shows that the group differences are significant.

The Eigen value is the ratio between-groups sum of squares to the within-groups sum of squares. Function 1 has the largest Eigen value. This explains the maximum spread of the total dispersion while function 2 has smaller Eigen value which accounts for very little of the total dispersion. The canonical correlation measures the association between two functions and two factors. The co-efficient of canonical correlation of two functions are high. This depicts that there exists high relation between two functions and the three factors.

The structure matrix contains within-group correlations of each independent variable with the canonical function. An asterisk mark of each factor explains its largest absolute correlation with one of the canonical functions. The acceptance has strongest correlation with function 1 while avoidance and anxiousness has correlated with function 2. These are shown as equation below.  $Z1=0.941^*$  acceptance and  $Z2 = 0.907^*$  avoidance +  $0.284^*$  anxiousness.

These two functions are significant

**Table 11.** Eigen values

Func- tion	Eigen value	% of Variance	Cumu- lative %	Canonical Correlation
1	1.633	57.7	57.7	.788
2	1.197	42.3	100.0	.738

discriminant functions which will explore the attributes of investors.

### RELATIONSHIP BETWEEN FRAME DEPENDENCE AND DEMOGRAPHIC VARIABLES

Chi-square test is used to find the association between each demographic variable with different frame dependence categories. The Chi-square and its significance values are shown below.

Table 13 illustrates that demographic variables like occupation, profession, financial dependents and income have significant association with three frame dependence categories.

### OCCUPATION

The chi-square analysis is a statistics used to find out the strength of association between occupation and different frame dependence

**Table 12.** Structure Matrix

	Function	
	1	2
Acceptance	.941*	0.23
Avoidance	-0.16	.907*
Anxiousness	0.091	.284*

**Table 13.** Relationship between frame dependence and demographic variables

S. No.	Demographic variables	Chi-square value	Sig.
1	Occupation	25.829	.000
2	Profession	55.146	.000
3	Financial dependents	18.821	.016
4	Income	15.533	.016



categories. The Chi-square and significant values are 25.829 and .000.

Figure 1 illustrates that most of the investors employed in private companies are highly influenced by negative and positive frame dependence. Whereas government and others category investors are influenced by neutral frame dependence behaviour. This indicates that investment pattern, cognition and equity experience may influence their frame dependence. Negative frame dependence people may prefer medium to short term investments while neutral frame dependence people may prefer long term investments towards the equity market.

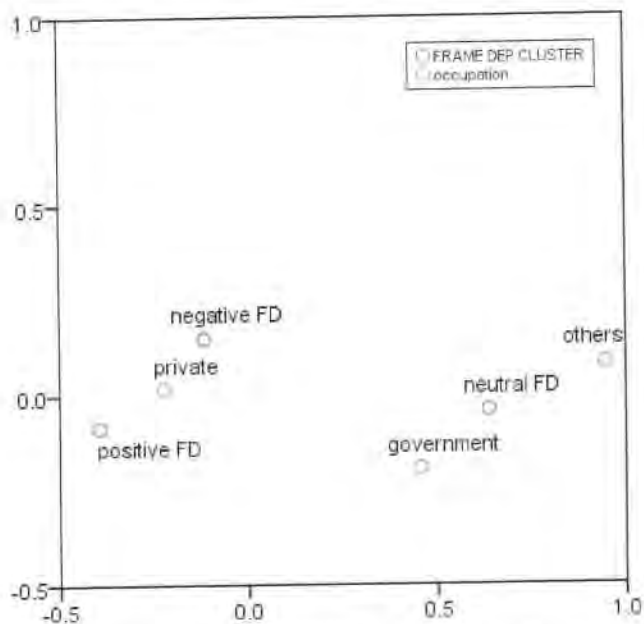


Figure 1. Associations between frame dependence categories and occupation

### PROFESSION

The correspondence analysis explains that business investors, management professional and bankers associate have neutral frame dependence. Engineers and lawyers associate with negative frame dependence. Finally, investment consultants and teaching/academic professionals associate with positive frame dependence. This shows that high cognitive investors are influenced by positive frame dependence while low cognitive investors are influenced by negative frame dependence.

From this, it is clear that cognition plays a vital role on frame development.

### FINANCIAL DEPENDENCE

Investors who have no financial dependence associate with neutral frame dependence, investors up to two financial dependents associate with positive frame dependence and finally investors who have more than three financial dependents are associating with negative frame dependence. This shows that less financial burden makes the investors to frame positive and neutral frame dependence while huge burden makes the investors to frame negative frame dependence. This may lead to over conscious and emotional instability of their investment decisions.

### INCOME

Investor who is earning between 2 and 5 lakh are associating with negative frame dependence, people who have income from 5 to 10 lakh associate with positive frame dependence and people with 10 lakh and above income associate with neutral frame dependence. This means that income, cognition and experience are collinear with one another.

### RELATIONSHIP BETWEEN FRAME DEPENDENCE AND INVESTMENT VARIABLES

The chi-square test is used to find the association between each investment variable with different frame dependence categories. The chi-square and significance values are shown below.

### REASONS FOR INVESTING IN EQUITY

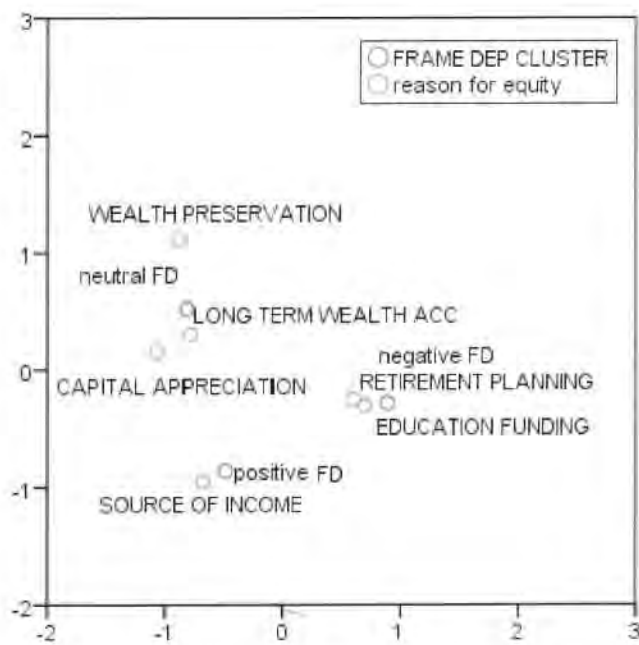
The chi-square analysis is used to find out the strength of association between reasons for investing equity and different frame dependence categories. The chi-square and significant values are 40.634 and .000.

Figure 2 explains that positive frame dependence investors prefer equity market as a source of income; while negative frame dependence investors prefer equity market for

**Table 14.** Relationship between different frame dependence categories and investment variables

S. No.	Investment variables	Chi-square value	Sig
1	Reasons for equity	40.634	.000
2	Year of trading	20.534	.002
3	Total investment	24.112	.000
4	Investment portfolio	12.695	.013
5	Sources of fund	14.502	.006
6	Preference of stocks	17.697	.007
7	Kinds of stocks	29.435	.021
8	Risk profile	13.409	.009

funding education and retirement planning and neutral frame dependence investors prefer equity market for capital appreciations, wealth preservations and long-term wealth accumulations. This shows that most of the financial goals of negative and neutral frame dependence investors depend on equity investments whereas positive frame dependence investors expect an additional income from the equity market. So they may be medium to long term investors while negative and neutral investors are medium to short-term investors.



*Figure 2. Associations between frame dependence and reasons for equity*

## YEAR OF TRADING

The correspondence analysis explores that investors who have less than one year of equity experience associate with negative frame dependence, investors who have 1-3 years of experience associate with neutral frame dependence and 3-5 years of experience people associate with positive frame dependence. This shows that if the experience in equity investing increases, investors' rationality also increases and vice versa.

## TOTAL INVESTMENT

Investors who have total investment less than one lakh and above 5 lakh associate with positive frame dependence, people with total investment between 3 and 5 lakh associate with neutral frame dependence and people with total investment between 1 and 3 lakh associate with negative frame dependence. This shows that people who have low and high investment are influenced by positive and neutral frame dependence while middle investment people are influenced by negative frame dependence. Hence it can be concluded that middle income and high investments make the investors to be over cautious about their investments and vice versa. This makes them to be negative frame dependence.

## INVESTMENT PORTFOLIO

Positive frame dependence investors prefer to reinvest 80% of the market return in the market, negative frame dependence investors prefer to receive the equity return and not to reinvest into the market and finally neutral frame dependence investors prefer to reinvest their return between 20% and 80% in the market. This shows that positive and neutral frame dependence investors are matured cognitive investors while negative frame dependence investors are not.

## SOURCES OF FUND

Positive and neutral frame dependence investors use their savings for equity investment while negative frame dependence investors use loans for their equity investment. This shows that positive and neutral frame dependence investors



prefer calculative risk and negative frame dependence investors prefer non calculative risks.

### PREFERENCE OF STOCKS

Negative frame dependence investors associate with mid cap and large capitalizations stocks, neutral frame dependence associate with small capitalizations stocks and positive frame dependence associate with combinations of various capitalizations stocks. This shows that positive frame dependence investors prefer diversifications of their investments in to different stocks; negative frame dependence investors prefer well-known profit earning companies and neutral frame dependence prefer small segment growing companies. This may be the reason that their emotions and cognitions determine the stocks to invest. Negative emotions and lack of cognition make the investors to stick on well branded stocks, positive emotions and cognitions make the investors to diversify their portfolios and finally neutral emotions and cognitions make the investors to prefer small segment stocks with huge growth potential.

### KINDS OF STOCKS

Positive frame dependence investors associate with telecom, pharma and FMCG sectors, negative frame dependence investors associate with petroleum, power, IT sector, and finally neutral frame dependence associate with automobiles, capital goods and finance sectors. This shows that most of the investors prefer both offensive and defensive stocks in their portfolios. This may reduce volatility and speculations on their portfolios.

### RISK PROFILES

Positive and negative frame dependence investors associate with high risk-high return while neutral frame dependence investors associate with moderate risk-moderate return. This means that positive frame dependence investors prefer high return by taking calculated risks while negative frame dependence investors prefer high return by taking non-calculative risk. This shows that investors risk

is determined by their cognition, satisfaction, emotions and equity experience.

### FRAME DEPENDENCE MODEL

Investors' emotions and cognitions are essential components for frames development. Based on these components, investors' frame dependence model has been framed and explained below.

#### SENSORY STAGE

It is the first stage of emotional development. This can be called as primary emotions. It contains investors' financial goal and their external stimuli. Here external stimuli are investors' income and the financial independence. These two factors stimulate the investors to attain their financial goal. Mostly this emotion is intuitive and temporary in nature.

#### SCHEMATIC STAGE

It is the second stage of emotional development. Both schematic and conceptual stages are called as secondary emotions. Investors' market environment play a key role on the development of cognitive emotions. Environment contains market awareness, market accessibility and information received from

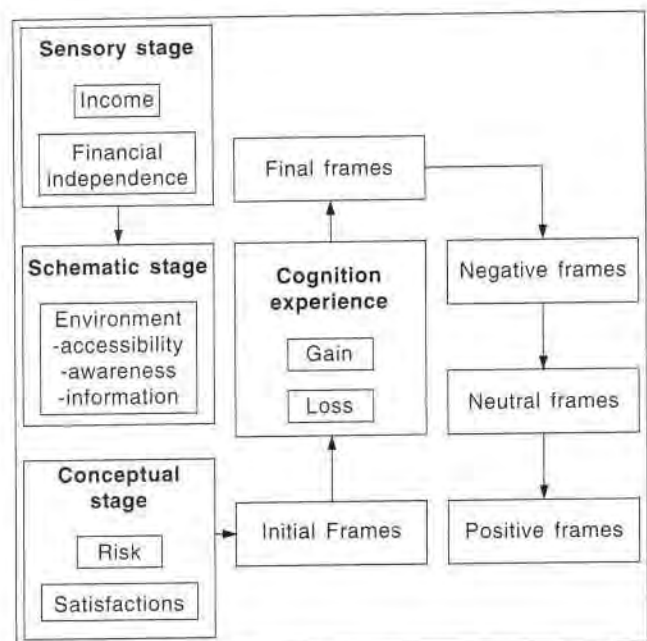


Figure 3. Investor's frame dependence model

various sources. These factors stimulate the investors to learn new things.

### CONCEPTUAL STAGE

It is the third stage in which investors develop initial market behaviour based on the learnings from schematic stage. Further this behaviour is altered by their risk taking capabilities and satisfactions level of the equity return. They are lacking in practical experiences in this stage. Based on their inexperienced attitude and intuition, they frame a general idea about the market. This is called as initial frames. They may look the market as a positive but the market is not.

### COGNITIVE EXPERIENCE DEVELOPMENT STAGE

It is the fourth stage in which investors approach the market with positive attitude. Investors are often facing profit and loss during this stage; the total net result of their investment is loss. This is due to their inexperience and intuitions.

### FINAL FRAMES DEVELOPMENT STAGE

It is the final stage in which investors' frames are developed. Based on their emotions and cognitive experience they develop three frames, namely, negative, neutral and positive frames. Since emotions have some maturity stage, these frames too have some maturity. Initially investors are influenced by negative frames. Based on their emotional maturity and cognitive experience they may cross the neutral stage and finally reach the positive frames stage.

### CONCLUSION

Framing is a type of form and substantive. It reflects the behaviour of investors. Cognition and emotion influence the frames development. Lacks of cognition and emotional instability make the investors to be biased on their decision making. Findings of this study suggest that investors use their frames to make decisions. These are classified as positive, negative and neutral frames. Most of the investors are displaying the behaviour of positive frame dependence. Further, frame dependence model

suggest that investors' frames become matured from negative to positive over a period of time.

### SCOPE OF THE FUTURE STUDY

Investors' mood, emotion and cognition play an important role on any successful investment decisions. How these factors are individually contributing the development of frames being the future research related to this topic. Further, interdependence among these factors can also be studied.

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# A Study on Comparative Performance Evaluation of HDFC and Reliance Mutual Funds

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## Abstract

*Mutual funds are key contributors to the globalization of financial markets and one of the main sources of capital flows to emerging economies. Despite their importance in emerging markets, little is known about their investment allocation and strategies. In the last decade we have witnessed enormous growth in the size of the mutual fund industry in India. Especially the private sector has shown tremendous growth. To ensure the safety of investment of small investors against the whims and fancies of professional fund managers has become the need of the hour. The main reason for which an investor would want to consider a sector fund is the same as for a particular individual stock. The investor feels that the sector is about to experience a period of strong growth. Sector funds can also serve to hedge a portfolio, as some sectors tend to move opposite the economy as a whole. There are so many sectoral funds available, but the problem is selecting the best fund for obtaining maximum returns. In this paper the performance evaluation of mutual funds is carried out through relative risk-return analysis, Treynor's ratio, Sharpe's ratio, and Jensen's ratio. The data used is daily closing NAVs (Net Asset Values). The source of data is website of Association of Mutual Funds in India (AMFI). The study period is 1st January 2007 to 31st December, 2011. The results of performance measures suggest that most of the mutual fund have given positive return during 2007 to 2011. This comparative performance analysis will be helpful to the investors for taking rational investment decisions.*

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**Key Words:** *Mutual fund, Economy, Return, Comparative analysis, Standard deviation*

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## INTRODUCTION

**I**n the last decade we have seen enormous growth in the size of the mutual fund industry in India. Especially the private

sector has shown tremendous growth. With unmatched advances on information technology, increased role of the institutional investors in the stock market, and the Securities Exchange Board of India still in its infancy, the mutual

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fund industry players gained unparalleled and unchecked power. To ensure the safety of investment of small investors against the whims and fancies of professional fund managers has become the need of the hour. The Indian mutual funds business is expected to grow significantly in the coming years due to the high degree of transparency and disclosure standards comparable to anywhere in the world, though there are many challenges that need to be addressed to increase net mobilization of funds in this sector.

Indian Mutual fund industry exhibited 200% growth in the last 10 years from ₹470 billion to ₹1400 billion in terms of assets under management (AUM). The Mutual Funds industry is expected to jump sharply from its present share of 6% of GDP to 40% in the next 10 years provided the country's growth rate is consistently above 6%. The growing investor preference for mutual funds has resulted in the assets under management of mutual funds growing eight-folds in the last 5 years. A number of foreign AMC's are in the queue to enter the Indian markets like US based Fidelity Investments, with over US\$ 1 trillion assets under management worldwide. Our savings rate is over 23%, highest in the world. Only channeling these savings in mutual funds sector is required. There is a big scope for expansion as we have 37 mutual funds which are much less than US having more than 800.

### **Statement of the problem**

Mutual fund is a professionally managed form of collective investment that pools money from many investors and invests it in stocks, bonds, short-term money market instruments and other securities. Mutual fund distributors of tax-free municipal bonds income are also tax free to the share holders. Taxable distribution can be either ordinary income or capital schemes which are equity schemes, debt and hybrid schemes. But recently most of the investors try to invest their money in sectoral funds in comparison to general funds. Sectoral funds are designed to provide market participation for investors whose portfolios lack exposure in a given sector. They can also provide a greater measure of diversification within a given sector than may

be otherwise for which possible. The main reason an investor would want to consider a sectoral fund is the same as for a particular individual stock. The investor feels that the sector is about to experience a period of strong growth. Sectoral funds can also serve to hedge a portfolio, as some sectors tend to move opposite the economy as a whole. There are so many sectoral funds available, but the problem is selecting the best fund for obtaining the maximum returns. This comparative performance analysis will be helpful to the investors for taking rational investment decisions.

### **NEED OF THE STUDY**

To better the avenue for investment on a long term or short term basis.

To know the growth of the schemes.

To advice where to invest or not to invest

The study would be investing into the right scheme according to the risk taking abilities.

### **OBJECTIVES OF THE STUDY**

- To evaluate and compare the performance of mutual fund schemes of selected companies in terms of risk and return.
- To compare the performance of mutual fund schemes of selected companies of market fund sensitivity fluctuations in terms of beta.
- To find out the historical performance of mutual fund schemes.

### **REVIEW OF LITERATURE**

Sapar & Narayan (2003) examined the performance of Indian mutual funds in a bear market through relative performance index, risk-return analysis, Treynor's ratio, Sharp's ratio, Sharp's measure, Jensen's measure, and Fama's measure with a sample of 269 open-ended schemes (out of total schemes of 433). The results of performance measures suggest that most of the mutual fund schemes in the sample of 58 were able to satisfy investors' expectations by giving excess returns over expected returns based on both premium for

systematic risk and total risk. Study period is September 1998-April 2002 (bear period). The results of performance measures suggest that most of the mutual fund schemes in the sample of 58 were able to satisfy investors' expectations by giving excess returns over expected returns based on both premium for systematic risk and total risk.

**Rao D.N. (2006)** studied the financial performance of select open-ended equity mutual fund schemes for the period 1st April 2005-31st March 2006 pertaining to the two dominant investment styles and tested the hypothesis whether the differences in performance are statistically significant. The analysis indicated that growth plans have generated higher returns than that of dividend plans but at a higher risk studied classified the 419 open-ended equity mutual fund schemes into six distinct investment styles. The study classified the 419 open-ended equity mutual fund schemes into six distinct investment styles, analysed the financial performance of select open-ended equity mutual fund schemes for the period 1st April 2005-31st March 2006 pertaining to the two dominant investment styles and tested the hypothesis whether the differences in performance are statistically significant. The variables chosen for analyzing financial performance are: monthly compounded mean return, risk per unit return and Sharpe ratio and Coefficient of Variation (Risk per unit Return) than the corresponding Dividend plans and 13 Dividend plans had higher Coefficient of Variation (Risk per unit Return) than the corresponding Growth plans offered by the AMC.

**Selvam, Murugesan Palanisamy, and Bhuvanewari (2010)** studied the risk and return relationship of Indian mutual fund schemes. The study found out that out of 35 sample schemes, 11 showed significant t-values and all other 24 sample schemes did not prove significant relationship between the risk and return. According to t-alpha values, majority (32) of the sample schemes' returns were not significantly different from their market returns and very few number of sample schemes' returns were significantly different from their market returns during the study period.

**Vishnu Kumar, B. and Kavitha, L. (2012)** studied that the difference between the required rate of return on a mutual fund investment and risk free rate is the risk premium. For this study they took the various funds values of ICICI prudential mutual funds of five year period of 2005-2009. They applied the various techniques like Sharpe ratio, Treynor ratio, Jensen ratio along with the risk and return tools. From a detailed analysis of the select sample of nine schemes, it was observed that six schemes had positive alpha. While three schemes had negative alpha indicating below average returns.

## LIMITATIONS OF THE STUDY

The study also has some limitations, which are as follows:

- The study is restricted to secondary data only.
- This study only analyses HDFC mutual funds and RELIANCE mutual funds, but to analyze them are a tedious task.
- All the limitations associated with various tools used in this study are applicable to this research also.

## RESEARCH METHODOLOGY

### Types of data

The following methodology has been adopted to assess the performance of selected mutual fund schemes.

### Data

Secondary data only has been used to assess the performance of selected mutual funds schemes offered by various AMCs (Asset Management Companies).

### Sources of Data

The required secondary data are collected from various books, factsheets, memoranda, and Internet.

### Period of Study

Data for five years were collected to compare the performance of various mutual fund



schemes offered by the selected asset management companies in India. The study period is 1st January 2007 to 31st December, 2011.

### Framework of Analysis

The following tools were used to compare the performance of different mutual fund schemes offered by selected AMC's in India. The tools used are as follows:

- A) Sharpe's ratio
- B) Treynor's ratio
- C) Jensen's ratio
- D) Standard deviation
- E) Beta

Note:— These ratios are also called as Index/measure.

### Standard deviation

It is used to measure the variation in individual returns from the average expected return over a certain period. Standard deviation is used in the concept of risk of a portfolio of investments; higher standard deviation means a greater fluctuation in the expected return. Higher standard deviation indicates that higher risk faced by the fund and vice versa.

$$\sigma = \sqrt{(\sum X - \mu)^2 / N - 1}$$

### Beta

Beta measures the systematic risk and shows how prices of securities respond to the market forces. It is calculated by relating the return on a security with return for the market. By convention, market will have beta 1.0 mutual fund is said to be volatile, more volatile or less volatile. If beta is greater than 1 the stock is said to be riskier than market. If beta is less than 1, the indication is that stock is less risky in comparison to market. If Beta is zero, then the risk is the same as that of the market. Negative beta is rare. Beta co-efficient compares the variability of funds return to the market as a whole. It indicates that if, Beta >1, fund is more risky than market risk. If, Beta <1, fund is less risky than market risk.

$\beta$  (Beta) is calculated as  $\frac{N(\sum XY) - \sum X \sum Y}{N(\sum X^2) - (\sum X)^2}$

### Alpha

Alfa represents the difference between mutual funds actual return that would be expected based on the level of risk taken by the fund manager. If a fund produced the expected return for the level of risk assumed, the fund would have an alpha equal to zero. A positive alpha indicates that the manager produced greater returns than expected for the risk taken. A negative alpha indicates that the manager produced lower returns than expected for the risk taken.

### Sharpe index

Sharpe index measures risk premium of a portfolio, relative to the total amount for risk in the portfolio. Sharpe index summarizes the risk and return of a portfolio in a single measure that categorizes the performance of funds on the risk-adjusted basis. The larger the Sharpe Index, the portfolio over performs the market, and vice versa.

### HDFC Growth Fund

According to Sharpe ratio this fund has generated an average return of 5.21% with the variability of return is 6.07%, which actual return of this fund is greater than the bench mark return for this period of the study. By evaluating the Treynor's ratio this fund gave the negative return of -1.43% than the previous performance because of this fund has the beta value of -0.22, which indicates this fund, risk is very lower than the market risk. A significantly higher positive alpha 9.78% indicates that the fund is generating more returns of 30.25% than the expected return with the risk involved by the fund manager. It can be said that this fund generated good returns.

### HDFC equity fund

This fund gave the good return in Treynor ratio of 27.50% it shows this fund is performing better returns during the five years history with the beta value of 1.56. According to the

$$\text{Sharpe Index (Sr)} = \frac{\text{Portfolio Average Return (Rp)} - \text{Risk Free Rate of Interest (Rf)}}{\text{Standard Deviation of the Portfolio Return}}$$

### Treynor's Index

Treynor's model is on the concept of the characteristics straight line. The characteristics line has drawn a relationship between the market return and a specific portfolio without taking into consideration any direct adjustment for risk. It is also known as reward to volatility ratio and is defined as:

$$\text{Treynor Index (Tn)} = \frac{\text{Portfolio Average Return (Rp)} - \text{Risk Free Rate of Interest (Rf)}}{\text{Beta coefficient of portfolio}}$$

### Jensen index

Jensen's model proposes another risk adjusted performance measure. This measure was developed by Michael Jensen, and is sometimes referred to as the differential Return Method. This measure involves evaluation of the returns that the fund has generated vs. the returns actually expected out of the fund given the level of its systematic risk. The surplus between the two returns is called Alpha, which measures the performance of a fund compared with the actual returns over the period.

$$\text{Jensen index} = \frac{\text{Risk free Rate of return (Rf)} + \text{Beta (Portfolio Average Return)}}{(\text{Rb}) (\text{Return on market index} - \text{Risk rate of return (Rf)})}$$

**Data Analysis:** The following observations are drawn from the analysis of schemes

Particulars	Sharpe ratio (%)	Treynor ratio (%)	Jenson ratio (%)	Coefficient (β)	Std. deviation (σ)	Alpha (%)
HDFC growth fund	5.21	-1.43	30.25	-0.22	6.07	9.78
HDFC equity fund	6.62	27.50	24.87	1.56	6.48	6.29
HDFC top 200 fund	5.46	30.36	36.44	1.36	7.56	10.23
HDFC capital builder fund	2.82	17.52	30.68	1.12	6.91	9.92
HDFC core satellite fund	2.84	21.55	41.28	1.13	8.57	14.37
Reliance NRI equity fund	3.56	26.57	38.46	1.18	8.79	12.48
Reliance equity fund	-5.14	-36.42	-35.66	0.91	6.45	16.27
Reliance longterm equity fund	-2.19	-9.38	-40.40	1.50	6.42	18.92
Reliance growth fund	2.08	8.96	32.58	1.66	7.13	10.92
Reliance vision fund	1.99	5.74	32.55	1.49	7.13	10.91

Sharpe ratio this fund has generated an average return of 6.62% with the higher standard deviation of return is 6.48%. It can also observe that, this fund return is also higher than the total market risk. By the Jenson index this fund has a significantly higher alpha value of 6.29%, it returns that the fund has the capability to give high return of 24.87%. It can be concluded that this fund provides good returns to the investors.

### HDFC top 200 fund

Followed by the Sharpe ratio this fund performed good and gave the return of 5.46% by considering total risk of 7.56%. By evaluating the Treynor ratio, it shows a good return of 30.36% with the systematic risk of 1.36. By comparing the Jenson ratio this fund has been given the very good return of 36.44% with the alpha value of 10.23%. It reveals that the fund manager is



managing efficiently and he is generating the three times higher returns than the risk.

### **HDFC capital builder fund**

By the Sharpe ratio this fund gave the average return of 2.82% for the last five years period with the average market risk of 6.91%. It shows that this fund only generating the normal returns, it takes the higher risk. According to the Treynor ratio this fund gave the good return of 17.52% with the systematic risk of 1.22. It can measure that this fund has the more unsystematic risk than the market risk. It can be suggested that this fund will be trying to eliminate the unsystematic risk for improving the returns. The Jensen ratio measures that, this fund gave the return of 30.68%, with the alpha value of 9.92%. It reveals that the fund manager has shown the good performance.

### **HDFC core satellite fund**

From an analysis of the table it can be observed by the Sharpe ratio this fund gave now the return of 2.84% with the higher variability of 8.57%. By evaluating the treynor ratio this fund gave the good return of 21.55% with the beta value of 1.13, which indicates that this fund risk is higher than the market risk. A significantly higher positive alpha of 14.37% indicates that the fund is generating the good returns of 41.28% with the very high risk taken by the fund manager.

### **Reliance NRI equity fund**

According to Sharpe ratio this fund has generated an average return of 3.56% with the variability of return is 8.79%, which actual return of this fund is greater than the benchmark return for this period of the study. By evaluating the Treynor ratio this fund gave the good return of 26.57% than the previous performance because of this fund has the beta value of 1.18, which indicates this fund risk is very higher than the market risk. A significantly higher positive alpha 12.48% indicates that the fund is generating more returns of 38.46% than the expected return with the risk involved by the fund manager. It can be said that this fund generated good returns.

### **Reliance equity fund**

This fund gave the negative return in Treynor ratio of -36.42% it shows this fund is performing lower returns during the five years history with the beta value of 0.91. But actually this fund has the lower risk then the market risk even though this fund gave negative returns because of actual return is lower than the benchmark return. According to the Sharpe ratio this fund has generated a negative return of -5.14% with the higher standard deviation of return is 6.45%. It can also observe that, this fund risk is higher than the market risk even though gave the negative returns. By the Jensen index this fund has a significantly higher alpha value of 16.27%, it returns that the fund has the capability to give high return but it gave the negative return of -35.66% it can be concluded that this fund provides loss to the investors.

### **Reliance long term equity fund**

Followed by the Sharpe ratio this fund performance is not good and this fund gave the return of -2.19% by considering total risk of 6.42%. By evaluating the Treynor ratio, it shows a negative return of -9.38% with the systematic risk of 1.50. By comparing the Jensen ratio this fund has been given the very low return of -40.40% with the alpha value of 18.92%. It reveals that the fund manager did not give the good returns even though he has taken the higher fund investment risk. Perhaps this fund actual return is less than the benchmark return.

### **Reliance growth fund**

By the Sharpe ratio this fund gave the average return of 2.08% for the last five-year-period with the average market risk of 7.13%. It shows that this fund only generating the normal returns, it takes the higher risk. According to the Treynor ratio this fund gave the good return of 8.96% with the systematic risk of 1.66. It can measure that this fund has the more unsystematic risk than the market risk. It can be suggested that this fund will be trying to eliminate the unsystematic risk for improving the returns. The Jensen ratio measures that, this fund gave the return of 32.58%, with the alpha

value of 10.92%. It reveals that the fund manager has shown the good performance.

**Reliance Vision fund**

From an analysis of the table it can be observed by the Sharpe ratio of this fund gave the low return of 1.99% with the higher variability of 7.13%. By evaluating the Treynor ratio this fund gave the good return of 5.74% with the beta value of 1.49, which indicates that this fund risk is higher than the market risk. A significantly higher positive alpha of 10.91% indicates that the fund is generating the good returns of 32.55% with the very high risk taken by the fund manager.

**Interpretation**

From the above two funds, it is noticed that reliance growth fund has higher growth than the HDFC equity fund; where as in dividend option, there is not much difference. In HDFC, the HDFC equity fund has been performing better; and in Reliance, Reliance growth fund has been performing well; so comparison is attempted between these two funds.

**Interpretation**

In this, the Reliance vision fund has higher growth compared to HDFC top 200 but the dividend is high in the top 200 fund than Reliance vision fund.

**Table 1.** Performance of HDFC schemes

Period	Growth fund (%)		Equity fund (%)		Top 200 fund (%)		Capital Builder fund (%)		Core & Satellite fund (%)	
	A.R.	B.R.	A.R.	B.R.	A.R.	B.R.	A.R.	B.R.	A.R.	B.R.
Last one year	38.55	24.79	43.47	28.07	35.40	28.54	41.28	28.07	45.48	28.54
Last three years	7.97	0.09	12.82	1.31	12.06	1.50	8.49	1.31	8.32	1.50
Last five years	26.83	21.09	28.51	19.69	28.51	21.10	21.86	19.69	23.62	21.10

A.R. – Actual Return, B.R. – Benchmark Return

**Table 2.** Performance of RELIANCE schemes

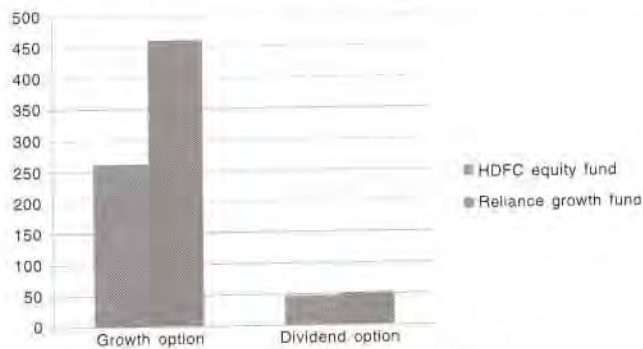
Period	NRI equity fund (%)		Equity fund (%)		Long term equity fund (%)		Growth fund (%)		Vision fund (%)	
	A.R.	B.R.	A.R.	B.R.	A.R.	B.R.	A.R.	B.R.	A.R.	B.R.
Last one year	15.91	8.15	-5.04	11.14	8.16	8.15	4.59	8.55	7.22	8.55
Last three years	13.74	7.17	1.97	7.21	9.50	7.17	11.24	7.04	9.45	7.04
last five years	16.47	10.98	6.74	11.38	6.29	8.48	14.85	11.32	13.65	12.46

A.R. – Actual Return, B.R. – Benchmark Return

**Comparison between the HDFC Equity fund and RELIANCE growth fund of Growth and Dividend option:**

Particulars	Growth option	Dividend option
HDFC equity fund	261.288	48.021
Reliance growth fund	459.36	52.18

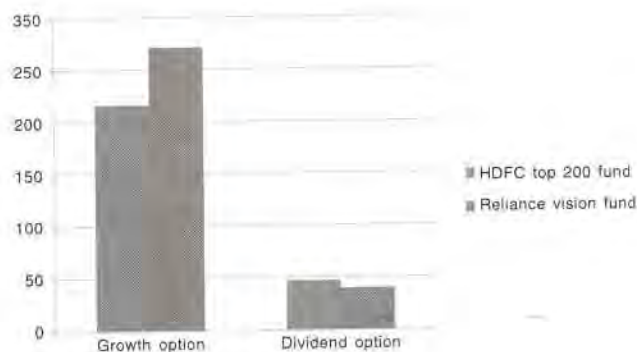




Graphical representation of the fund

**Table 3.** Comparison between HDFC top 200 fund and Reliance vision fund of Growth and Dividend option:

Particulars	Growth option	Dividend option
HDFC top 200 fund	215.227	46.601
Reliance vision fund	270.36	39.18



Graphical representation

### FINDINGS OF THE STUDY

- Out of Five funds in HDFC the last two funds, that is, S&P CNX 500 and BSE 200 have less increase in benchmark returns, and the remaining three funds have given double returns, than benchmark.
- Out of five equity schemes in HDFC, all funds have crossed the benchmark return because of the well management of funds, and well diversifying of risk.
- HDFC fund house gave the good return, it

showed by Sharpe ratio even though they have to reduce the total risk by diversifying their portfolio and achieving objectives.

- In HDFC, three funds are having less standard deviation; and the funds generate good returns.
- Portfolio construction reveals that, HDFC fund diversifies its risk to some extent; so the fund has been able to give positive return based on the Jensen ratio.
- Reliance has been investing funds in the some selected sectors. Hence it is not possible to diversify the risk associated with funds. They are having more standard deviation in three funds.
- By considering the Sharpe ratio, Reliance funds show that three funds have not crossed more time benchmark return. That's why the Sharpe ratio can't give the positive return for funds.
- By comparing with the HDFC equity fund, the Reliance growth fund has given good growth and dividend option.
- From Reliance vision fund and HDFC top 200 fund, it says that Growth option is higher in Reliance vision fund, and dividend option is higher in HDFC top 200 fund.

### SUGGESTIONS

- It can be suggested that HDFC has been investing in diversified areas but not in the upcoming areas like real estate and infrastructure. It is advisable to invest in those areas to increase return.
- HDFC has to concentrate on those funds which are performing less than their benchmark return, and take actions; and analyze the market conditions, and take corrective steps.
- The Reliance fund house has to reduce the total risk involved in the fund in order to increase the return with good portfolio construction.
- We can say that the Reliance fund house should concentrate on the market conditions.

According to that, they have to set the benchmark, and invest in different sectors.

## CONCLUSION

Mutual fund is a growing sector now-a-day, and it has a lot of scope to generate income and providing return to the investor. Mutual fund is one of the ways to develop the country by mobilizing dead money in the economy. Mutual fund helps the people for studying the market conditions. It has been providing a lot of opportunities to the people for research work, and helps the people to know new things going on around the world. It gives more knowledge to the person, because it diversifies the risk by investing in different securities.

Mutual Funds now represent perhaps the most appropriate investment opportunity for most investors. As financial markets become more sophisticated and complex, investors need a financial intermediary which provides the required knowledge and professional expertise on successful investing. As the investors always try to maximize the returns and minimize the risk, mutual fund satisfies these requirements by providing attractive returns with affordable risks. The fund industry has already overtaken the banking industry with more funds being under mutual fund management than deposited with banks. With the emergence of tough competition in this sector, mutual funds are launching a variety of schemes which cater to the requirement of the particular class of investors. Risk takers for getting capital appreciation should invest in growth, and equity schemes. Investors who are in need of regular income should invest in income plans.

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# The Benefits of Vocational Education and Training in India

Amit Kumar Bansal\*, Kishori Lal Sharma\*\* and Suraj Pathak\*\*\*

## Abstract

*The greatest challenge for education is to meet the needs of the society. The present-day need of Indian society is not simply to acquire general education, but to increase productivity. Obviously, therefore, education should come into closer relationship with productivity. This function of education can be achieved by giving a strong vocational basis to secondary education and by giving more emphasis on agricultural and technological, job-oriented education at the University stage. Vocational training existed in some form or the other even in ancient India. People had to cut wood, wear cloth, prepare their furniture, repair their huts, work on the farm and do various other similar jobs. The son would learn the trade from his parents and gain mastery in the art and then, in turn pass his skill on to his son. Research on the benefits of vocational education and training (VET) has only recently started to emerge. For VET policies, however, decisions on actions and measures should be supported by sound research evidence showing the benefits of different learning alternatives.*

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**Keywords:** *Vocational education and training, vocationalisation economic dimension, Social dimension*

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## INTRODUCTION AND SYSTEM DESCRIPTION

Vocational education (vocationalisation) means training in some vocation at the higher secondary level along with general education. Indian Education Commission observed, "We visualize the future trend of school education to be towards a fruitful mingling of general and vocational education-general education containing some

elements of the pre-vocational and technical education, and vocational education, in turn, having an element of general education..." It is commonly agreed that education must be related to the needs and aspirations of the people. The most pressing need of the country is to produce more. To achieve this end, one of the most important measures is to vocationalise education, especially at the secondary school level to meet the needs of Agriculture, Trade and Industry. The concept of vocational-

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lisation, as stated by the Kothari Commission, means to provide a strong vocational base to secondary education, it does not mean that general and vocational education should be segregated, rather the two should be galvanized to deliver the goods. Following are various aspects in this context:

— Vocational education in India refers specifically to vocational courses offered in school Grades 11 and 12 under a centrally sponsored scheme termed 'Vocationalisation of Secondary Education'.

The Vocational Education Program (VEP) was started in 1976-77 under the programme of Vocationalisation of Higher Secondary Education in general education institutions. The National Working Group on Vocationalisation of Education (Kulandaiswamy Committee, 1985) reviewed the Vocational Education Programme in the country and developed guidelines for the expansion of the programme. Its recommendations led to the development of the Centrally Sponsored Scheme (CSS) on Vocationalisation of Secondary Education, which started being implemented from 1988. Its purpose is to "enhance individual employability, reduce the mismatch between demand and supply of skilled manpower and provide an alternative for those pursuing higher education without particular interest or purpose." Vocational education falls under the purview of the Ministry of Human Resources Development (MHRD). The All-India Council for Vocational Education (AICVE), under MHRD, is responsible for planning, guiding and coordinating the program at the national level. State Councils for Vocational Education (SCVE) perform similar functions at the state level.

— Courses are offered in six disciplines. The Pandit Sunderlal Sharma Central Institute for Vocational Education (PSSCIVE), responsible for developing the courses, has listed 104, and has developed course materials for only a quarter of those. The six disciplines are:

- Agriculture (e.g., veterinary pharmacist/ technician; watershed management)

- Business and commerce (for example, taxation practices; stenography)
- Humanities (for example, classical dance; entrepreneurship)
- Engineering and technology (for example, lineman; cost effective building technology)
- Home science (for example, textile design; gerontology)
- Health and Para-medical skills (for example, x-ray technician; health/sanitary inspector)

It is difficult to tell from the titles of the courses what their content might actually be. In many cases, similar courses are offered in other systems particularly in vocational training centres and through informal training mechanisms but with completely different course durations.

— There is little capacity in vocational education and even that is under-utilized. MHRD's original intention was to place 25% of all Grade 11-12 students into vocational courses by the year 2000. This has not happened. Only 6,800 schools have received grants and the total enrolment reported is only about 5% at most. In fact, this figure more closely approximates the capacity of schools to offer vocational education rather than enrolments.

More recent information suggests that the enrolment figure is less than 3% of the students attending Grades 11-12. Slightly incomplete data from PSSCIVE show a total capacity of about 846,100 places for vocational education in all but 4 states (which account for 95% of the country's population). The weighted average capacity utilization of the schools receiving grants is about 42%. This implies that between 350,000 to 400,000 students are enrolled in vocational education, which works out to less than 3% of the 14 million students or more in Grades 11 and 12. It would also imply that less than 1% of students who had entered Grade 1 over the last decade or so would have eventually participated in vocational education.

— Students are selected into the vocational stream on the basis of performance in Grade

10 examinations. In most states, students are streamed into vocational education on the basis of state-level standardized examinations in Grade 10. While a comparison of student performance in this examination for those going into different streams has not been done, the premium placed on general secondary and higher education by students and their parents, leads one to believe that students joining the vocational system are those who perform poorly in the Grade 10 examination.

- Qualifications of teachers are similar to those of general secondary school teachers.

Full-time teachers need to have a master's degree, and are often the same as teachers who teach general subjects. In addition, part-time teachers are also hired by institutions to teach specific courses—these individuals are usually hired on the basis of their professional expertise in a particular field.

## OUTCOMES AND ISSUES

- The outcomes of the vocational education should be judged in the same labour market terms in which the program was justified. However, there are very few evaluations that allow this to be done. A study by the Operational Research Group in 1998 reported only 28% graduates of vocational education were gainfully employed. PSSCIVE's reports on the program appear to be case studies demonstrating the employment outcomes for selected individuals. No conclusions can be drawn about the overall outcomes; or whether alternatives could be worthwhile (for example, whether courses could be constructed and delivered in other ways). No conclusions can be drawn as to whether the courses are relevant to the labour market.
- In fact, even vocational students appear intent on entering higher education rather than entering the labour market. Overwhelmingly, students who get through to Grades 11 and 12 want to proceed to further education and the very low intake into degree vocational courses shows they are not easily diverted to the vocational

stream. Evidence of this comes from a study in Kerala. Vocational education students in Kerala are required to take English and a general foundation course. Those wishing to preserve the possibility of proceeding to higher education must also select other general subjects from a range of options. They all do so even though it means taking on a considerable additional work burden. The study comments, "With the exception of a few vocational trades that have a certain employment potential and that are therefore highly in demand by the public, most of the courses cannot provide—under the present financial, material and human resources—any adequate preparation for their former participants to face the world of work."

- There seems to be limited private sector involvement in running the system. The private sector is represented in the Joint Council for Vocational Education, but it seems to be only marginally involved in setting course contents and curricula and in managing the vocational schools.
- Despite these poor outcomes, policymakers remain keen to expand vocational education.

As in many countries, they are concerned at the large number of students completing primary and secondary education with no occupational skills—the assumption being that having occupational skills will make an individual more acceptable to the labour market. Hence, there is some desire to make general secondary education more 'vocational'. A debate about how to achieve this is now proceeding, some arguing for expanding the scheme in its current form, essentially by providing more resources to the program, while others argue that the program should target students in lower school grades, perhaps to Grades 9 and 10. Already 'vocationalisation' has spread to universities, especially in Arts degrees. The problem would seem to be that current courses are not vocationally relevant, in which case the approach should be to make them more relevant. But vocationalisation has led to the introduction of courses like sericulture, science journalism and event management.



2.5 While vocational education has been of only marginal benefits, significant expansions were proposed although, so far, not implemented. The 10th Five Year Plan proposed a scheme to expand the target group to include early school leavers, skilled workers, semi-skilled workers, unskilled workers, and unemployed youth. The scheme would allow ITIs, polytechnics or NGOs to deliver the courses. Such of these institutions that qualify the selection criteria would be financially supported by the MHRD to offer modular courses at different levels (Level-I, Level-II, etc.) to all interested persons outside the formal vocational education/training systems. Registrants for these programs would be offered bridge courses based on their individual needs. The proposed National Competency Testing Agency (NCTA), located within MHRD, for testing and certifying graduates of these courses is yet to be established.

## IMPORTANCE OF VOCATIONAL EDUCATION

The need and importance of vocational education can be assessed, and is further highlighted, by having a look at its various uses and advantages:

- Vocational education aims at reducing unemployment among the educated youth and thus help solving the giant problem of unemployment;
- It will entail many economic benefits. It means increased productivity which brings economic prosperity to the people and to the country at large;
- It suits individual aptitudes, and so, ensures better results;
- It instills among the youth a sense of security and usefulness, which goes a long way to make them better citizens.

## ECONOMIC AND SOCIAL BENEFITS REPORTED BY COUNTRIES

### The Economic Dimension

#### Macro level:

- Economic returns on VET: research on the

evaluation of public and private investment in VET in terms of profitability and economic growth;

- Labour-market outcomes of VET: reduction of unemployment and inequality resulting from more people attaining a VET qualification.

#### Meso level:

- Performance of enterprises: costs and benefits of training in terms of profitability and innovativeness;
- Employee productivity: individual abilities and capacity to contribute to profit after VET.

#### Micro level:

The benefit of IVET and CVET on individuals: earnings, finding a job, reduction of skill mismatch, integration into the labour market with satisfactory wage, further career development opportunities and professional status.

## The Social Dimension

#### Macro level:

- Effects of VET across generations within families and how family impacts on skills development;
- Relationship between VET and health: how education and VET can support the health of a nation;
- Social cohesion: multidimensional concept measured by, for example, tolerance, trust, formal and informal networking (social and relation capital), low grade of social polarisation, etc.
- How education and VET can reduce delinquent and criminal acts in a society.

#### Meso level:

Inclusion of disadvantaged or marginalised groups through education and VET.

#### Micro level:

Personal well-being: quality of life for individuals and effects on personal development, attitudes and motivation.

## CAUSES OF SLOW PROGRESS OF VOCATIONALISATION

Vocationalisation should not be alone in an unsystematic or haphazard manner. Vocational education should be imparted in proportion to the manpower requirements; otherwise it will result in a grave situation of unemployed technocrats, so far, very little advancement has been made in the field of vocational education.

Some of the causes of the slow progress of vocationalisation are:

- Planning and a rather casual attitude of the Centre or the States;
- Biased attitude of people, considering vocational education as inferior education;
- Lack of finances, workshops, etc.;
- Obsolete vocations such as book binding and carpentry in this age of electronics and advanced technology;
- No attempt to organize the training of teachers for technical subjects;
- Lack of sufficient co-ordination and co-operation between the different departments of the Government—Directorate of Labour and the Directorate of Education.

## MEASURES TO ADOPT VOCATIONAL EDUCATION

- Expand and upgrade vocational education and training
- Expand and upgrade higher and technical education
- Promote research in educational institutions; and
- Redesign the educational pattern at the school level to facilitate skill development.

### Government has to redefine its role in:

- Reforming & strengthening vocational education and training
- Clear policy for facilitating capacity expansion through private sector participation.

- Make investment in vocational training institutes
- Promote industry and academia interaction to narrow the existing gap between the demand and supply of the skilled

## CONCLUSIONS

A universal singular VET model which can guarantee the maximum benefits may not exist. Context and effectiveness are interrelated and VET systems have strong roots in the national culture of each country. The effects of VET occur at micro, meso and macro level, but these levels are strongly interdependent and often difficult to disentangle: positive effects at micro level can generate effects at meso and macro levels and vice versa. Consequently, VET benefits are outcomes occurring at individual, organisational and societal level that must be understood as intertwined and complex. Research in VET, even if not so developed as research on general education, has registered some progress. Generally, it is concentrated on national social practices; national research reports state which benefits of VET could be observed and measured within the national territories, based on the work culture and the social practice systems that are transmitted from generation to generation. The main characteristics of national VET systems and frameworks impact on the type and the nature of VET research. Research on VET benefits remains limited. Its scattered nature and a number of methodological issues including causality and imperfect research design, imply that the connection between policy formulation and VET research is not well established. It is possible to consider two groups of countries: those reporting a long tradition in VET research and evidence-based policy-making.

And those reporting a short tradition in research (education in general, including VET) for lack of national priorities in the field. However, this simple classification does not do justice to the considerable differences found across countries. A more systematic and fundamental approach to researching VET benefits at national level would enable stronger conclusions. In conclusion, a major restructuring of the system and how it is managed is needed to ensure that it responds effectively to the needs of the economy. Key



recommendations, many of which are similar to those being proposed by the 2005 CABE Committee report on Universalization of Secondary Education, include:

- Ensuring private sector participation in management of vocational education institutions and in curriculum design – to ensure a direct connection to the labour market for graduates, and an effective medium for bringing about organizational and productive innovations.
- Strengthening the general education component of vocational education programs—providing sound basic knowledge in humanities and sciences, preparing students to work in various occupations, teaching students to be problem solvers and encouraging them to continue learning.
- Allowing greater cost-sharing, i.e. moving from a system which is exclusively financed by the government to a system which is increasingly financed by the private sector, who would be willing to do so if it sees the system producing relevant graduates, and the students paying user fees. Students are unlikely to contribute if they do not see accrual of labour market benefits from vocational education.
- Ensuring that vocational education is not a dead end—allowing well performing students in the vocational education track to proceed onto higher education will ensure that the vocational stream is not seen as an option of last resort by prospective students.

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# A Comparative Study of Investment Behaviour of Rural and Urban Investors in Sattur Taluk, Tamil Nadu

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## Abstract

*The main objective of investment is the maximization of the economic welfare of the investors' wealth in the long run. Welfare of the investor relates to two important aspects, namely, maximization of his wealth and the liquidity offered by the wealth. Investment is inevitable in the day-to-day life. For that purpose the researcher has selected this topic and also to know the investment behaviour of rural and urban investors in study area.*

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**Key words:** *Investment Behaviour, Rural Investors, Urban Investors, Investment Alternatives*

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## INTRODUCTION

The word investment has many interpretations as it means different things to different persons. For a person who has lent money to another, it may be an investment for a return. Similarly, if a person purchases shares of a company, bullion or real estate for the purpose of price appreciation, it is also an investment to its purchaser. From these it is clear that investment is a commitment of funds for earning additional income. In order to get future requirements of money, savings is essential. This is possible only when they invest money in land, gold, and securities are keeping the money in the form of deposits in banks. The requirements may be in the form of unavoidable expenses like medical expenses, educational expenses, and marriage expenses and so on. Without

saving an ordinary man cannot bear all the expenses at a time.

The investment is considered as an important one because increase in the employment opportunities in India. After independence with the stage of development in the country a number of new organizations were formed. The banking requirement services, the Indian administrative services, public sector enterprises, expansion in the private corporate sector, establishing of financial institutions are some examples. More income and more avenues of investment have led to the ability and willingness of working people to save and invest their funds. The growth and development of the country is leading the greater economic activity.

The individuals should start by specifying investment goals. Once these goals are

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established, the individuals should be aware of the mechanics of investing and the environment in which securities are issued and subsequently bought and sold, the regulation and tax laws that have been enacted by various levels of government, and the sources of information concerning investment that are available to the individuals. The investment decision should also be determined by the other factors such as age, liquidity of investment, tax savings, and loan facility against our investment.

Savings should be viewed as an integral part of one's life, particularly for a middle-class person who has a fixed income. For him it becomes absolutely necessary to save a portion of his income for the future. The savings could be any number of reasons like children's education, marriage, medical needs or building a house.

One can save money to reduce his or her income tax liability as the income tax laws in the country include certain tax concessions if the person invests his money in specified savings schemes.

Traditional sources of investment are acquisition of immovable property, gold, cattle, etc. But the modern world has introduced several new types of investment-products to boost savings, like stock exchange securities, bank deposits and insurance policies, mutual fund investments, etc. The features of a good investment are security, liquidity, value appreciation and generating a regular and assured income. A prudent investor diversifies his investments, to eliminate possible risks. The dictum is "do not keep all eggs in a single basket".

### STATEMENT OF THE PROBLEM

The concept of saving plays an important role in economic analysis. Saving is defined as the difference between income and consumption. During pre-Independence period in India, people spent most of their income on consumption and only a small amount of income was left in the form of saving. As a result the saving rate was very low, especially in the rural sector.

Savings or investments are acknowledged as a powerful tool in the alleviation in the poverty. Investing even a small amount can produce

considerable rewards over a long term. But people need to make the decision of how much they should invest and where. To choose wisely, people know the investment option thoroughly. But there will be confusion among the people for the selection of best investment avenues and this is the major problem of investors. While investing money, the investors lack awareness of investment alternatives. Especially in rural areas the people are not aware about the investment. Therefore, it is decided to study the investment behaviour of rural and urban investors.

### SCOPE OF THE STUDY

This study covers the investment behaviour of rural and urban investors in Sattur taluk. This study also measures the awareness about various investment avenues of rural and urban investors.

### OBJECTIVES OF THE STUDY

With the following objectives, this study has been carried out:

- To know the nature and importance of investment.
- To study the various investment alternatives available to investors.
- To analyze and compare the attitude of the investors towards various investment avenues in Sattur.
- To offer findings and suggestions to promote investment activity in rural and urban areas of Sattur.

### AREA OF THE STUDY

Sattur taluk of Virudhunagar district is taken as the area of the study. The rural and urban investors of Sattur taluk are taken into account for this study.

### HYPOTHESES OF THE STUDY

Hypothesis is a tentative proportion formulated for empirical testing. It is a declarative statement combining concepts. In order to achieve the objectives of the present study the researcher



has formulated the following null hypotheses:

- There is no significant difference between the awareness of investors in rural and urban areas.
- There is no significant difference between the awareness level of investors having different qualification.

## **METHODOLOGY**

This study is based on the both primary and secondary data. Primary data has been collected from the respondents through well designed interview schedule. Secondary data has been collected from various studies, books, journals, magazines and websites to supplement the present study.

## **SAMPLE DESIGN**

It is impossible to collect the required data from the entire population. Therefore, it is decided to use judgment sampling method to select the respondents for this study. There are a total of 250-125 each from rural and urban investors who were interviewed to collect the data.

## **PLAN OF ANALYSIS**

In order to analyze the data the appropriate statistical techniques, such as percentage, chi-square test, Analysis of variance, Garrett ranking techniques, Mann-Whitney U-Test, and Rank correlation have been used.

Mann-Whitney U-Test have been used to compare the factors considered for investment in stock market by rural and urban investors.

In order to know there is any significant difference between the satisfaction level of rural and urban investors towards customer service in banks, chi-square test has been used.

To know the investment awareness about rural and urban investors, and to know whether there is any significant difference between the awareness level of investors having different qualification, analysis of variance has been applied.

## **AREA-WISE CLASSIFICATION OF THE**

## **INVESTORS**

The researcher has analyzed the respondents on the basis of the place they live in Table 1 brings out the location of the respondents.

It is shown from the Table 1 that 50% of the investors are living in rural areas, and the remaining 50% of the investors are living in urban areas. In this research the data is purposely collects from an equal number of respondents both from rural and urban sectors.

## **GENDER-WISE CLASSIFICATION OF THE INVESTORS**

Gender-wise classification is important to study the investor's behaviour. The researcher has classified investors on the basis of sex, because investment decisions vary from person to person, also from male to female.

It is clear from the Table 2 that out of 125 urban investors, 64% of the investors are males and the remaining 36% of them are females. In another 125 rural investors, 52% of the investors are female, remaining 48% of them are males.

In total 56% of them are male investors.

## **AGE-WISE CLASSIFICATION OF THE INVESTORS**

Age is a mirror of experience. Age is considered as an important factor for deciding the investment patterns. This age-wise classification provides information regarding the age of investors. It has been displayed in Table 3.

The above Table 3 shows that 4% of the urban investors and 4.8% of the rural investors are under the age group of below 20 years, 52.8% of the urban investors and 42.4% of the

**Table 1.** Area-wise classification of the investors

S. No.	Residential area	No. of respondents	(%)
1	Rural	125	50
2	Urban	125	50
	Total	250	100

Source: Primary data

**Table 2.** Category of the investors

S.No.	Gender	Urban		Rural		Total Respondents	%
		No. of respondents	%	No. of respondents	%		
1	Male	80	64	60	48	140	56
2	Female	45	36	65	52	110	44
<b>Total</b>		<b>125</b>	<b>100</b>	<b>125</b>	<b>100</b>	<b>125</b>	<b>100</b>

Source: Primary Data

**Table 3.** Age-wise classification of the investors

S.No.	Age	Urban		Rural		Total respondents	%
		No. of respondents	%	No. of respondents	%		
1	Below 20 years	5	4	6	4.8	11	4.4
2	20-30 years	66	52.8	53	42.4	119	47.6
3	30-40 years	36	28.8	60	4.8	96	38.4
4	Above 40 years	18	14.4	6	4.8	24	9.6
<b>Total</b>		<b>125</b>	<b>100</b>	<b>125</b>	<b>100</b>	<b>250</b>	<b>100</b>

Source: Primary Data

rural investors are coming under the age group of 20-30 years, 28.8% of the urban investors and 4.8% of the rural investors are falling under the age group of 30-40 years, and the remaining 14.4% of the urban investors and 4.8% of the rural investors are coming under the age group of above 40 years.

In total 47.6% of them belong to the age of 20-30 years.

### MARITAL STATUS OF THE INVESTORS

The marital status of the investors decides the saving pattern. In order to analyze the investment pattern, the researcher has taken into accounts the marital status of the investors. Table 4 shows the marital status of the investors

It is clear from the Table 4 that 68% of the urban investors and 74.4% of the rural investors are married, and the remaining 32% of the urban investors and 25.6% of the rural investors are unmarried.

In total 71.2% of the investors are married.

### EDUCATIONAL STATUS OF THE INVESTORS

Education helps the investors to know about the various investment avenues, because investment decision is based on the educational status. A research is made among the investors to know the literacy level of the investors. The data are shown clearly in Table 5.

It is noted from the Table 5 that 7.2% of the urban investors and 40% of the rural investors are illiterate, 24% of the urban investors and 28.8% of the rural investors has completed school education, 28.8% of the urban investors and 16% of the rural investors are graduates, 20.8% of the urban investors and 6.4% of the rural investors are post graduates, 11.2% of the urban investors and 5.6% of the rural investors are professionals, and the remaining 8% of the urban investors and 3.2% of the rural investors are diploma holders.

In total 26.4% of the investors has completed the school level education.

### FAMILY SIZE OF THE RESPONDENTS

The researcher has analyzed that the investment is based on size of the investor's family. Table 6 shows these details.

It is clear from the Table 6 disclosed that 76% of urban investors and 47.2% of the rural investors are in nuclear family, 24% of the urban investors and 52.8% of the rural investors are in the joint family.

In total 61.6% are in nuclear family.

### NATURE OF OCCUPATION

The researcher has also examined the occupation of the investors as it determines the investment pattern. Table 3.1.7 reveals the occupation of the spouse of the investors in the study area.

From Table 7 it is known that 28.8% of the urban investors and 21.6% of the rural investors are doing their own business, 16 per cent of the urban investors and 7.2% of the rural investors are professionals, 20% of the urban investors and 16% of the rural investors

**Table 4.** Marital Status

S.No.	Marital status	Urban		Rural		Total respondents	%
		No. of respondents	%	No. of respondents	%		
1	Married	85	68	93	74.4	178	71.2
2	Single	40	32	32	25.6	72	28.8
<b>Total</b>		<b>125</b>	<b>100</b>	<b>125</b>	<b>100</b>	<b>250</b>	<b>100</b>

Source: Primary Data

**Table 5.** Educational status of the investors

S.No.	Education	Urban		Rural		Total respondents	%
		No. of respondents	%	No. of respondents	%		
1	Illiterate	9	7.2	50	40	59	23.6
2	School Level	30	24	36	28.8	66	26.4
3	Graduate	36	28.8	20	16	56	22.4
4	Post graduate	26	20.8	8	6.4	34	13.6
5	Professional courses	14	11.2	7	5.6	21	8.4
6	Diploma	10	8	4	3.2	14	5.6
<b>Total</b>		<b>125</b>	<b>100</b>	<b>125</b>	<b>100</b>	<b>250</b>	<b>100</b>

Source: Primary Data

**Table 6.** Type of Family

S.No.	Family	Urban		Rural		Total respondents	%
		No. of respondents	%	No. of respondents	%		
1	Joint family	30	24	66	52.8	96	38.4
2	Nuclear family	95	76	59	47.2	14	61.6
<b>Total</b>		<b>125</b>	<b>100</b>	<b>125</b>	<b>100</b>	<b>250</b>	<b>100</b>

Source: Primary Data



are home makers, 27.2% of the urban investors and 24.8% of the rural investors are private employees, and the remaining 8% of the urban investors and 30.4% of the rural investors are agricultural farmer.

It is inferred from the Table 7 that 25.2% of them are doing their own business.

### INCOME LEVEL OF THE INVESTORS

Finance is an important factor in making investment decision. According to the occupation, the level of income is also varying. The income is also an influencing factor to motivate the investors to invest in various sources. The researcher has analyzed the monthly income of the respondents in the study area and the results are tabulated below

It is clear from the Table 8 that 20% of urban investors and 23.2% of the rural investors has got

income less than ₹5000, 40% of the urban investors and 38.4% of rural investors have the monthly income between ₹5000 and ₹10,000, 16% of the urban investors and 24% of the rural investors got the income between ₹10,000 and ₹15,000, and the remaining 24% of the urban investors and 14.4% of the rural investors are getting the income above ₹15,000.

In total 39.2% of the investors have the family income between ₹5000 and ₹10,000.

### REASONS FOR INVESTMENT

The investors, in order to save or invest money for their future earnings, may sacrifice some of their current benefits. The researcher, on evaluating the reasons behind the investors' expectation of employment of their funds, has analyzed the reasons for the investment. The result is depicted in Table 9.

**Table 7.** Occupation of the investors

S.No.	Occupation	Urban		Rural		Total respondents	%
		No. of respondents	%	No. of respondents	%		
1	Business	36	28.8	27	21.6	63	25.2
2	Profession	20	16	9	7.2	29	11.6
3	Home maker	25	20	20	16	45	18
4	Private employee	34	27.2	31	24.8	61	24.4
5	Farmer	10	8	38	30.4	48	19.2
<b>Total</b>		<b>125</b>	<b>100</b>	<b>125</b>	<b>100</b>	<b>250</b>	<b>100</b>

Source: Primary Data

**Table 8.** Income level of the investors

S.No.	Income (₹)	Urban		Rural		Total respondents	%
		No. of respondents	%	No. of respondents	%		
1	Below 5000	25	20	29	23.2	54	21.6
2	5000-10,000	50	40	48	38.4	98	39.2
3	10,000-15,000	20	16	30	24	50	20
4	Above 15,000	30	24	18	14.4	48	19.2
<b>Total</b>		<b>125</b>	<b>100</b>	<b>125</b>	<b>100</b>	<b>250</b>	<b>100</b>

Source: Primary Data

Table 9 reveals that 16.8% of the urban investors and 20% of the rural investors invest their money to earn additional income, 20.8% of the urban investors and 23.2% of the rural investors invest for safety purpose, 38.4% of the urban investors and 42.4% of the rural investors invest their money for future needs, 13.6% of the urban investors and 11.2% of the rural investors invest to appreciate the capital value, and the remaining 10.4% of the urban investors and 3.2% of the rural investors invest their money to reduce the tax liability.

In total 40.4% of the investors are invest money for future needs.

### **AWARENESS ABOUT THE INVESTMENT AVENUES**

A survey was made among the respondents about their knowledge on various investment avenues and the result of that have been presented in the following Table 10.

Table 10 reveals that 76.8% of the urban investors and 56% of the rural investors have the knowledge on various investment avenues and the remaining 23.2% of the urban investors and 44% of the rural investors are not aware of various investment alternatives.

In total 66.4% of the investors have awared the various investment avenues.

### **EDUCATIONAL QUALIFICATIONS AND AWARENESS LEVEL OF INVESTORS**

The researcher has compared the awareness level and educational status of the investors.

### **ANALYSIS OF VARIANCE**

In the manifold classifications, we consider two or more characteristics or attributes. The table dealing with data on such grouping has a number of columns and rows. The analysis in that case will get extended to include the sum

**Table 9.** Reasons for investment

S.No.	Reasons	Urban		Rural		Total respondents	%
		No. of respondents	%	No. of respondents	%		
1	Additional income	21	16.8	25	20	46	18.4
2	Safety	26	20.8	29	23.2	55	22
3	Future needs	48	38.4	53	42.4	101	40.4
4	Capital gain	17	13.6	14	11.2	31	12.4
5	Reducing tax liability	13	10.4	4	3.2	17	6.8
<b>Total</b>		<b>125</b>	<b>100</b>	<b>125</b>	<b>100</b>	<b>250</b>	<b>100</b>

Source: Primary Data

**Table 10.** Awareness about the investment avenues

S.No.	Awareness	Urban		Rural		Total respondents	%
		No. of respondents	%	No. of respondents	%		
1	Awared	96	76.8	70	56	166	66.4
2	Not awared	29	23.2	55	44	84	33.6
<b>Total</b>		<b>125</b>	<b>100</b>	<b>125</b>	<b>100</b>	<b>250</b>	<b>100</b>

Source: Primary Data

of squares between rows. There are following steps to be taken into calculation purpose:

**Step I. Correction factor**

$$C.F = \frac{T^2}{N}$$

**Step II. Sum of square between columns**

$$SSC = \frac{(\sum C_1)^2}{n_1} + \frac{(\sum C_2)^2}{n_2} - C.F.$$

**Step III. Degrees of freedom**

Degrees of freedom = (C-1)

**Step IV. Mean square between columns**

$$MSC = \frac{SSC}{C-1}$$

**Step V. Sum of Squares between rows**

$$SSR = \frac{(\sum r_1)^2}{n_1} + \frac{(\sum r_2)^2}{n_2} + \frac{(\sum r_3)^2}{n_3} + \frac{(\sum r_4)^2}{n_4} + \frac{(\sum r_5)^2}{n_5} - C.F.$$

**Step VI. Degrees of Freedom**

Degrees of Freedom = (r-1)

**Step VII. Mean square between rows**

$$MSR = \frac{SSR}{r-1}$$

**Step VIII. Sum of square between errors**

SSE = SST - (SSR + SSC)

**Step IX. Mean square between errors**

$$MSE = \frac{SSE}{(c-1)(r-1)}$$

**Step X. Calculated value of F**

$$F_1 = \frac{MSC}{MSE}$$

**APPLICATION OF ANOVA TO TEST THE EDUCATIONAL QUALIFICATION AND AWARENESS LEVEL**

To know the investment awareness about rural and urban investors, and to know whether there is any significant difference between the awareness level of rural and urban investors having different qualification, analysis of variance has been applied.

For the purpose of the study, the following null hypotheses are framed:

- There is no significant difference between the awareness of the investors in rural and urban areas.
- There is no significant difference between the awareness levels of the rural and urban investors having different qualifications.

**Step I. Correction factor**

$$C.F = \frac{T^2}{N} = \frac{(166)^2}{10} = \frac{27556}{10} = 2755.6$$

**Step II. Sum of square between columns**

$$SSC = \frac{(\sum C_1)^2}{n_1} + \frac{(\sum C_2)^2}{n_2} - C.F. = \frac{(70)^2}{70} + \frac{(96)^2}{96} - 2755.6$$

**Table 11.** Educational qualification and awareness level of investors

Qualification	No. of investors have awareness		Total
	Rural	Urban	
Up to school level	28	25	53
Under Graduate	18	34	52
Post Graduate	17	32	36
Professional Courses	7	11	118
Diploma	3	4	7
<b>Total</b>	<b>70</b>	<b>96</b>	<b>166</b>

Source: Primary Data



$$\begin{aligned}
 &= \frac{\quad}{5} + \frac{\quad}{5} - 2755.6 \\
 &= \frac{4900}{5} + \frac{9216}{5} - 2755.6 \\
 &= 980 + 1843.2 - 2755.6 \\
 &= 2823.2 - 2755.6 \\
 &= 67.6
 \end{aligned}$$

**Step III. Degrees of freedom**

$$\begin{aligned}
 \text{Degrees of Freedom} &= (C-1) \\
 &= (2-1) = 1
 \end{aligned}$$

**Step IV. Mean square between columns**

$$\begin{aligned}
 \text{MSC} &= \frac{\text{SSC}}{C-1} \\
 &= \frac{67.6}{1} \\
 &= 67.6
 \end{aligned}$$

**Step V. Sum of squares between rows**

$$\begin{aligned}
 \text{SSR} &= \frac{(\sum r_1)^2}{n_1} + \frac{(\sum r_2)^2}{n_2} + \frac{(\sum r_3)^2}{n_3} + \frac{(\sum r_4)^2}{n_4} + \frac{(\sum r_5)^2}{n_5} - \text{C.F.} \\
 &= \frac{(53)^2}{2} + \frac{(52)^2}{2} + \frac{(36)^2}{2} + \frac{(18)^2}{2} + \frac{(7)^2}{2} - 2755.6 \\
 &= \frac{2809}{2} + \frac{2704}{2} + \frac{1296}{2} + \frac{324}{2} + \frac{49}{2} - 2755.6 \\
 &= 1404.5 + 1352 + 648 + 162 + 24.5 - 2755.6 \\
 &= 3591 - 2755.6 \\
 &= 835.4
 \end{aligned}$$

**Step VI. Degrees of freedom**

$$\text{Degrees of freedom} = (r-1) = (5-1) = 4$$

**Step VII. Mean square between rows**

$$\begin{aligned}
 \text{MSR} &= \frac{\text{SSR}}{r-1} \\
 &= \frac{835.4}{4} = 208.85
 \end{aligned}$$

**Step VIII. Sum of square between errors**

$$\begin{aligned}
 \text{SSE} &= \text{SST} - (\text{SSR} + \text{SSC}) \\
 &= (28)^2 + (25)^2 + (18)^2 + (34)^2 + (14)^2 + \\
 &\quad (22)^2 + (7)^2 + (11)^2 + (3)^2 + (4)^2
 \end{aligned}$$

$$\begin{aligned}
 &= 784+625+324+1156+196+484+14+121+ \\
 &\quad 9+16 - 2755.6 \\
 &= 3729 - 2755.6 = 973.4
 \end{aligned}$$

$$\text{SSE} = 973.4 - (835.4 + 67.6) = 973.4 - 903 = 70.4$$

**Step IX. Mean square between errors**

$$\begin{aligned}
 \text{MSE} &= \frac{\text{SSE}}{(c-1)(r-1)} \\
 &= \frac{70.4}{4} = 17.6
 \end{aligned}$$

**Step X. Calculated value of F**

$$\begin{aligned}
 F_1 &= \frac{\text{MSC}}{\text{MSE}} \\
 &= \frac{67.6}{17.6} = 3.841
 \end{aligned}$$

$$\begin{aligned}
 F_2 &= \frac{\text{MSR}}{\text{MSE}} \\
 &= \frac{208.85}{17.6} = 11.866
 \end{aligned}$$

**Step XI. ANOVA TABLE**

Source	Sum of variance	Degrees of square	Mean square	F
Between columns	67.6	1	67.6	$F_1=3.841$
Between rows	835.4	4	208.85	
Between errors	70.4		17.6	$F_2=11.866$

**Step XII. Degrees of freedom**

$$\begin{aligned}
 \nu_1 &= (c-1) = 1 \\
 &= (c-1)(r-1) = 4 \\
 \nu_2 &= (r-1) = 4 \\
 &= (c-1)(r-1) = 4
 \end{aligned}$$

For 1 and 4 degrees of freedom @ 5% level of significance is 7.71

For 4 and 4 degrees of freedom @ 5% level of significance is 6.39

1. Calculated value (3.841) is less than the table value (7.71). Hence the hypothesis is accepted.
2. Calculated value (11.866) is higher than the table value (6.39). Hence the hypothesis is rejected.

### Step XIII. Decision

- i) There is no significance difference between the awareness of investors in rural and urban areas.
- ii) There is significant difference between the awareness levels of rural and urban investors having different classifications.

## FINDINGS OF THE STUDY

The findings of the study are summarized as below:

- In this study the researcher has investigated category of the investors, it is clear that 64% of the urban investors are male, and 52% of the rural investors are female.
- Age is an important factor which influences the behaviour of the investors and the investing ability also differs according to the age of investors. This study shows that 52.8% of the urban investors are belonging to the age group of 20-30 years, and 42.4% of the rural investors are in the age group of 30-40 years.
- The researcher brought out the educational level of rural and urban investors that 28.8% of the urban investors are graduates, and 28.8% of the rural investors have passed school level.
- The researcher has enquired about the type of family of urban and rural investors. 76% of the urban investors belong to nuclear family, and 52.8% of the rural investors belong to joint families.
- Occupation is one of the important factors in the investors' behaviour in making investment. The study reveals that 28.8% of the urban investors are businessmen, and 38% of the rural investors are farmers.
- Money is the important factor while making

investment decisions and the investable amount which depends upon the monthly income of the family. It is clearly understood that 40% of the urban investors and 38.4% of the rural investors have a monthly income of ₹5000 to ₹10,000 per month.

- Nothing will happen without a valuable reasons, so the researcher found out that the reasons for investment that 38.4% of the urban investors and 53% of the rural investors invest their money in various sources for future needs.
- To know the investment awareness about rural and urban investors, and there is any significant difference between the awareness level of investors having different qualifications, by using Two-Way Classification (Analysis of variance). It is found that there is no significant difference between the awareness level about rural and urban investors, and significant difference between the awareness level of the investors having different qualifications.
- The researcher has also found out the awareness of the investors in various investment avenues. It is clearly visible that 76.8% of the urban investors and 56% of the rural investors have awareness of the various investment avenues.
- There are so many investment avenues available in the market. This study reveals that 24.56% of the urban investors and 23.03% of the rural investors have made investment only in banks.

## SUGGESTIONS

After having analyzed the investors' attitude towards investment planning the researcher offers the following suggestions for the investors in connection with the present study.

- The investors have to invest regularly instead of making lump sum.
- Before entering into the stock market, the investors have to have a complete knowledge about the stock exchange.
- The investors have to invest their money in less risky securities i.e., mutual funds,

because the above securities have a minimum risk, while comparing equity shares.

- Under the bank deposits, the investor can adopt the best scheme which is giving more interest.
- Post office may offer more savings schemes compared with banks so that the investors can choose best schemes to invest their money in postal schemes.
- The awareness about investment avenues is very low among rural people compared to urban people. So, the educational status has to be improved in the rural sector.
- Most of them prefer only banks for investment, so concentration should be given to the other alternatives of investment.
- About post office savings, people are not aware of. And so, the necessary steps should be taken to explore its merits to people.
- A suitable portfolio is to be prepared to earn more return on investment.

## CONCLUSION

Investment is essential for human life. Investors earn money by taking timely investment decision. Wise investment decision will give more returns. "No Pain No Gains" is the golden principle of investment management. More risk leads to more profit. Investors cannot avoid risk but they can minimize the risk by investing their money in various forms of investments so that they can get moderate profit. Investors have to bear in mind the principles of liquidity, profitability and safety while investing in any security.

In this era of financial innovation, investors must be wise to include various kinds of securities in their investment portfolio so that they can maximize their returns.

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3. **Decision**, Half yearly, IIM-Kolkata
4. **Global Business Review**, Quarterly, International Mgmt. Instt., New Delhi
5. **Management & Labour Studies**, Half-yearly, XLRI, Jamshedpur
6. **Vision**, Quarterly, MDI, Gurgaon
7. **Asia-Pacific Business Review**, Half-yearly, Asia-Pacific Instt. of Mgmt., New Delhi
8. **Paradigm**, Half-yearly, IMT, Ghaziabad
9. **Indian Journal of Industrial Relations**, Quarterly, Sri Ram Centre for Industrial Relations and Human Resources, New Delhi
10. **NICE Journal of Business**, Half-yearly, Shobhit University, Meerut
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12. **Foreign Trade Review**, Quarterly, Indian Instt. of Foreign Trade, New Delhi
13. **Journal of Advances in Management Research**, Half-yearly, DMS, IIT-D, Delhi
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37. **Journal of Marketing Research**, Half-yearly, SONA School of Mgmt., Salem, Tamil Nadu
38. **IME Journal**, Half-yearly, Institute of Mgmt. Education, Ghaziabad
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# Transportation Management: An Imperative Dimension of Effectual Supply Chain Management

Vipul Chalotra\*

## ABSTRACT

*Transportation management is recognised as imperative dimension of supply chain management as transportation now a days accounts for major cost of distribution. Product manufactured at one place is globally required, so role of transportation becomes indispensable. The present study highlights the importance of effective transportation management in 44 small scale units operating in district Udhampur of Jammu and Kashmir State. The research framework was examined by empirical analysis of primary data collected. Validity and reliability of the scales in the construct were assessed through BTS and Cronbach-alpha. The results of linear regression revealed that proper transportation has positive impact on cost reduction, leads to improved customer service, influences business performance, and which leads to proper routenization of goods & services.*

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**Key Words:** *Transportation, Supply Chain, effectiveness, Small Scale Industries (SSIs)*

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## INTRODUCTION

Supply chain in simple words means sequence of partners/members intermediaries engaged or involved to supply & manage the flow of manufactured products to the ultimate customers. These partners/members/intermediaries are known as channel functionaries encompassing suppliers, manufacturers, wholesalers, retailers and the ultimate customers. These members collaborate and work together by forming a chain (to ensure the delivery of the goods to the markets or customers) known as supply chain. The supply chain is often known as all the parties/

channel members involved in satisfying the end customers.

The APICS dictionary defines the term supply chain as either the "processes from the initial raw materials to the ultimate consumption of the finished product linking across supplier-user companies", or as the "functions within and outside a company that enables the value chain to make products and provide services to the customer. The supply chain management (SCM) often refers to the entire supply activity of the firm. Whilst it is interesting to note that many authors do not like the term, the SCM has been adopted by the global academic community,

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despite several attempts to advance the debate and offer new terms such as pipeline management, network sourcing, demand management and value stream management. There are many dimensions of the supply chain management. The most common are inventory management, information sharing, communication, shared values and goals, ethics, trust, cooperation, commitment, collaboration, warehousing, knowledge management, green supply chain and even transportation management. The transport system makes products movable through timely and regional efficacy for promoting value-added services under the least cost principle. Transport affects the results of logistics activities and influences production and sale. The value of transportation varies with different industries. For those products with small volume, low weight and high value, transportation cost simply occupies a very small part of sale and is less regarded; for those big, heavy and low-valued products, transportation occupies a very big part of sale and affects profits more and therefore it is more regarded. The transportation design and networks result in supply chain effectiveness by lowering inventory (Barrett, 1998), moving timely inbound goods from supply sites to manufacturing facilities (Carter & Ferrin, 1995), plant efficiencies and delivering quality products to customers in a cost efficient manner (Goldsby, 2000).

## REVIEW OF LITERATURE

The research on transportation issues succeeded after the mid-1980s and took a somewhat sclerotic approach from basic spatial inter-action models to more sophisticated network approaches to cost effective movement of goods across space and time (Knowles, 1993 and Black, 2003). As technologies and economies became more sophisticated and globalised, the transport geographers began to embrace on new ways of understanding the role of transport at local, national and global scales (Tolley & Turton, 1995). As a consequence, there has been a considerable increase in the number of means and number of transport modes to cater the needs of high performance products at lower maintenance costs. The transport manufacturers have focused their attention on the minimisation of the life-cycle-cost and on its main determining

factors, in particular reliability, maintainability and availability of products (Black, 2001). Proper transportation management in supply chains emphasises on numerous activities such as distance and time travelled (Holtzclaw, 1990 and Schimek, 1996), trip making frequency (Boarnet & Sarmiento, 1998; Ewing et al., 1996; Glaister & Graham 2002 and Giuliano & Narayan, 2003), mode choice (Cervero, 2002; Cervero & Kockelman, 1997 and Frank & Pivo, 1994) and fuel consumption (Banister et al., 1997 and Newman & Kenworthy, 1989). These attributes include city size (Gordon et al., 1989; Kenworthy & Laube, 1999 and Levinson & Kumar, 1997), land use patterns and densities (Cervero, 1996; Cervero & Kockelman, 1997; Frank & Pivo, 1994 and Messenger & Ewing, 1996), street networks (Boarnet & Sarmiento, 1998; Greenwald & Boarnet, 2000 and Kitamura et al., 1997) and micro and macro accessibility to activity centres (Cervero, 1994; Cervero & Kockelman, 1997; Ewing et al., 1996 and Rodriguez & Joo, 2004). The present research portrays the significance of transportation management in 44 small manufacturing industries operating in District Udhampur of Jammu & Kashmir State.

## TESTABLE HYPOTHESES

Based on extensive review of literature the following hypotheses had been framed for the present study:

*H1: Proper transportation has positive impact on cost reduction.*

*H2: Effectual transportation leads to improved customer service.*

*H3: Effective transportation management influences business performance.*

*H4: Appropriate transportation leads to proper routenization of goods.*

*Obj: To analyse the impact of transportation on cost reduction, customer service, business performance and routenization.*

## RESEARCH DESIGN AND METHODOLOGY

The research design and methodology comprises area of research, nature of data/



information (Primary or secondary), questionnaire/schedule, research tools applied, etc. The research methodology adopted proceeds as follows:

### Sampling and data collection

The primary data for the study were collected from 44 functional manufacturing SSIs registered under District Industries Centre (DIC), Udhampur sub-divided into ten lines of operation comprising cement (8), pesticide (3), steel (3), battery/lead/alloy (5), menthol (2), guns (2), conduit pipes (2), gates/grills/varnish (5), maize/atta/dal mills (3) and miscellaneous (11).

### The Survey Instrument

The information was collected by administering self developed questionnaire prepared after consulting experts and review of literature which comprised of general information and 30 statements originally kept in the domain of transportation management. The statements in the questionnaire were in descriptive form, ranking, dichotomous, open ended and five-point Likert scale, where 1 stands for strongly disagree and 5 for strongly agree.

### Collection of data

The primary data were collected by making three to four visits for getting response from respondents. Census method was applied for collecting data from the respective respondents. The secondary information was collected from various sources, namely, books, empirical papers from online and hard copies of journals. Various multivariate tools such as mean, standard deviation were used for drawing meaningful inferences.

### Reliability and validity of the instrument

**Reliability:** Five factors were obtained after scale purification falling within the domain of transportation management in supply chain management. As evident from the Table 1.1, the Cronbach's reliability coefficients for all 22 scale items underlying five factors ranges from 0.652 to 0.852. The alpha reliability

coefficients for  $F_1$  (0.852),  $F_2$  (0.809), is higher than the criteria of 0.77 obtained by Gordon and Narayanan (1984) indicating high internal consistency.  $F_3$  (0.769),  $F_4$  (0.652) and  $F_5$  (0.704) are also at a minimum acceptable level of 0.50 as recommended by Brown et al. (2001) and Kakati and Dhar (2002) thereby obtaining satisfactory internal consistency. However, the overall alpha reliability score for all factors is very much satisfactory at 0.757. Adequacy and reliability of sample size to yield distinct and reliable factors is further demonstrated through Kaiser-Meyer-Olkin Measure of Sampling Adequacy that is 0.599 and all factor loadings between items and their respective constructs being greater than equal to 0.55.

**Validity:** The five factors obtained alpha reliability higher and equal to 0.50 and KMO value at 0.599, indicating significant construct validity of the construct (Hair et al., 1995).

### DATA ANALYSIS AND MAJOR FINDINGS

The suitability of raw data for factor analysis obtained from SSI managers was examined through Anti-image, KMO value, Bartlett's Test of Sphericity (p-value=0.000), Principal Component Analysis and Varimax Rotation (Stewart, 1981) indicating sufficient common variance and correlation matrix (Dess et al., 1997 and Field, 2000). The KMO value for fourth, fifth and sixth round was: .582, .622 & .587 connoting low values of factor loadings (below 0.5) and communalities (below 0.60) for few items. On seventh round, the KMO value (0.599) and Bartlett Test of Sphericity (624.049) indicated acceptable and significant values. The process of R-Mode Principal Component Analysis (PSA) with Varimax Rotation brought the construct to the level of 22 statements out of 30 statements originally kept in the domain of transportation management. Therefore, factor loadings in the final factorial design, are consistent with conservative criteria, thereby resulting into five-factor solution using Kaiser Criteria (i.e., eigen value  $\geq 1$ ) with 71.21% of the total variance explained, i.e., 22 items got grouped in five factors. The communality for 22 items ranged from 0.59 to 0.88, indicating moderate to high degree of linear association

**Table 1.** Results Showing Factor Loadings and Variance Explained After Scale Purification (Rotated Component Method) for Transportation Management

Factor-wise Dimensions	Mean	S.D.	F.L.	Eigen Value	Variance Explained %	Cumulative Variance %	Communality	$\alpha$
<b>F1 Cost reduction</b>	<b>4.18</b>	<b>.411</b>		<b>6.458</b>	<b>18.982</b>	<b>18.982</b>		<b>.8526</b>
Lowers the overall cost	4.20	.408	.775				.667	
Improved safety and social regulations	4.11	.321	.751				.765	
Results in lowering inventory	4.11	.386	.746				.776	
Improves plant efficiencies	4.13	.347	.726				.831	
Maximises customer service	4.27	.450	.661				.641	
Timely movement of goods	4.25	.575	.630				.606	
<b>F2 Improvement in business performance</b>	<b>4.11</b>	<b>.438</b>		<b>3.025</b>	<b>15.904</b>	<b>34.886</b>		<b>.8097</b>
Creates time and place utilities		4.15	.428	.905				.853
Improved production technology	4.13	.408	.815				.869	
Simplifies customer search process	4.13	.347	.775				.670	
Inbound and outbound	4.04	.568	.585				.637	
<b>F3 Effective transportation design</b>	<b>4.19</b>	<b>.477</b>		<b>2.046</b>	<b>13.902</b>	<b>48.789</b>		<b>.7696</b>
Huge profit margins	4.13	.462	.729				.759	
Reduces warehousing costing	4.20	.509	.716				.772	
Prices of products	4.29	.509	.701				.592	
Influences product costs	4.15	.428	.669				.667	
<b>F4 Proper routenization</b>	<b>4.30</b>	<b>.460</b>		<b>1.499</b>	<b>13.070</b>	<b>61.858</b>		<b>.6528</b>
Freight rates and inter state tax		4.09	.421	.783				.697
Supplier scheduling	4.04	.370	.680				.779	
Places right product at the right time	4.50	.505	.612				.685	
Proper routenization of goods	4.56	.545	.599				.599	
<b>F5 Customer service</b>	<b>4.15</b>	<b>.357</b>		<b>1.214</b>	<b>9.394</b>	<b>71.212</b>		<b>.7047</b>
Customer responsive	4.09	.290	.848				.882	
Speed is critical	4.22	.423	.764				.814	

KMO Value=.599, Bartlett's Test of Sphericity=624.049, df=190, Sig.=.000, Extraction Method Principal Component Analysis, Varimax with Kaiser Normalisation, Rotation converged in 7 iterations, 'FL' stands for Factor Loadings, 'S.D' for Standard Deviation and  $\alpha$  for Alpha.

among the variables. The factor loadings ranges from 0.585 to 0.905 and the cumulative variance extracted ranges from 18.98 to 71.21%. The percentage of variance explained by each factor came out to be  $F_1$  (18.98%),  $F_2$  (15.90%),  $F_3$  (13.90%),  $F_4$  (13.07%) and  $F_5$  (9.395) and is displayed in the Table 1. A brief description of factors emerged is as under:

**Factor 1 (Cost reduction):** Six items included in this factor were: "Responsive transportation system lowers the overall cost", "Efficient transportation design leads to improved safety and social regulations", "Effective inventory design results in lowering inventory", "Proper transportation network improves plant efficiencies", "Effective transportation maximises customer service" and "Timely movement of goods from supply sites to manufacturing firms". "Responsive transportation system lowers the overall cost" scored good mean value (4.20) with highest factor loading (.775) which indicates that this variable is significantly contributing towards the factor. The SSI managers are concentrating on responsive transport system which helps in reducing overall costs and emphasises on improving profits. The other variables also significantly contributed towards the factor with mean values ranging from 4.11–4.25 and factor loadings .630–.775. The communalities of the variables are beyond .60 which again proves significance of all the variables contributing towards the factor.

**Factor 2 (Improvement in business performance):** Variables underlying under this factor includes: "Transportation design helps in creating time and place utilities", "Transportation disseminates improved production technology", "Responsive transportation design simplifies customer search process" and "You have effective inbound and outbound transportation". "Transportation design helps in creating time and place utilities" gushed to the strongest variable with highest mean score (4.15) and factor loading (.905) and is significantly contributing to the factor. "You have effective inbound and outbound transportation" declared to be average variable with mean value (4.04), factor loading (.585) and communality (.637). The factor depicts that transportation is a lucrative tool for creating place utilities.

**Factor 3 (Effective transportation design):** This factor also concentrated on four items, namely: "Huge profit margins are kept by transportation agencies", "Effective transportation design reduces warehousing costing", "Transportation affects prices of products in markets" and "Transportation design influences product costs". The mean values for all the items ranges between 4.13–4.29 signifying above average score, factor loadings between .669–.729 implying good loadings and communalities between .667–.759 disclosing significant values. As a whole all the four items were significantly contributing towards this factor.

**Factor 4 (Proper routenization):** The variables contributing towards this factor include: "Freight rates and inter state tax influences transportation design", "Supplier scheduling affects transportation design", "Transportation design places right product at the right time" and "Transportation management provides proper routenization of goods". This is the most significant factor among all as the mean value derived by this factor is 4.30. The variable "Freight rates and inter state tax influences transportation design" contributes significantly to this factor with mean score 4.09, factor loading .783 and communality .697 which depicts that freight rates and taxes really influences small manufacturing firms. The variables "Transportation design places right product at the right time" and "Transportation management provides proper routenization of goods" scored good mean values of 4.50 and 4.56 but average values of factor loadings (.612 and .599) which states that these variables do not significantly contributes to this factor. The communality of the second variable (.779) indicates its significant contribution towards the factor.

**Factor 5 (Customer centric):** Two variables identified by this factor are "Transportation network is customer responsive" and "Speed is critical element in transportation". The mean score of factor is good (4.15) signifying valuable contribution of this factor to the domain of transportation management. The two variables scored mean values 4.09 and 4.22, factor loadings .848 and .764 and communalities .882 and .814 respectively which divulges that the variables



significantly and positively contributes to the factor. The factor connotes that their transportation system is highly customer responsive.

Table 2 shows output from regression analysis to elicit the impact of transportation on cost reduction. The result of linear regression analysis (Table 1.2) enticed that the correlation between predictor and outcome is positive with values of R as .890, which signifies good correlation between predictor and the outcome. In the model 1, R is .890 which indicates 89% association between dependent and independent variable. R-square for this model is .792 which means that 79% of variation in transportation can be explained from the independent variable. Adjusted R-square (.765) indicates that if anytime another independent variable is added to model, the R-square will increase. Further beta value reveals significant relationship of independent variable with dependent variable. Change in R-square is also found to be significant with F-values significant at 5% confidence level. Thus the hypothesis "Proper transportation has positive impact on cost reduction" is accepted as represented by its significance level  $p < .05$ .

Table 3 avows output from regression analysis to elicit the impact of transportation management on customer service. The result of linear regression analysis (Table 1.3) enticed that the correlation between predictor and outcome is positive with values of R as .903, which signifies high correlation between predictor and the outcome. In the model 1, R is .903 which indicates 90% association between dependent and independent variable and that too high correlation. R-square for this model is .816 which means that 81% of variation in transportation can be explained from the independent variable. Adjusted R-square (.786) indicates that if anytime another independent variable is added to model, the R-square will increase. Further beta value reveals significant relationship of independent variable with dependent variable. Change in R-square is also found to be significant with F-values significant at 5% confidence level. Thus the hypothesis "Effectual transportation leads to improved customer service"

is accepted as represented by its significance level  $p < .05$  (.035).

Table 4 shows output from regression analysis to elicit the impact of transportation management on business performance. The result of linear regression analysis (Table 1.4) enticed that the correlation between predictor and outcome is positive with values of R as .839, which signifies good correlation between predictor and the outcome. In the model 1, R is .839 which indicates 83% association between dependent and independent variable. R-square for this model is .703 which means that 70% of variation in transportation management can be explained from the independent variable. Adjusted R-square (.681) indicates that if anytime another independent variable is added to model, the R-square will increase. Further, beta value reveals significant relationship of independent variable with dependent variable. Change in R-square is also found to be significant with F-values significant at 5% confidence level. Thus the hypothesis "Effective transportation management influences business performance" is accepted as represented by its significance level  $p < .05$ .

Table 5 shows output from regression analysis to elicit the impact of transportation management on routenization of goods. The result of linear regression analysis (Table 1.5) enticed that the correlation between predictor and outcome is positive with values of R as .434, which signifies good correlation between predictor and the outcome. In the model 1, R is .434 which indicates 43% association between dependent and independent variable. R-Square for this model is .217 which means that 21% of variation in transportation management can be explained from the independent variable. Adjusted R-square (.188) indicates that if anytime another independent variable is added to model, the R-square will increase. Further, beta value reveals significant relationship of independent variable with dependent variable. Change in R-square is also found to be significant with F-values significant at 5% confidence level. Thus the hypothesis "Appropriate transportation leads to proper routenization of goods" is accepted as represented by its significance level  $p < .05$ .

**Table 2.** Regression Model Summary

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of Estimate	F value ANOVA	Sig. level	β	t	Sig. level
1.	.890	.792	.765	.2184	28.981	.000	.198	2.303	.027

a. Predictors: (Constant), Cost reduction, b. Dependent Variable: Effective transportation management

**Table 3.** Regression Model Summary

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of Estimate	F value ANOVA	Sig. level	β	t	Sig. level
1.	.903	.816	.786	.2083	27.343	.000	.286	2.184	.035

a. Predictors: (Constant), Cost reduction, b. Dependent Variable: Effective transportation management

**Table 4.** Regression Model Summary

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of Estimate	F value ANOVA	Sig. level	β	t	Sig. level
1.	.839	.703	.681	.2543	31.621	.000	.272	2.893	.006

a. Predictors: (Constant), Improvement in business performance, b. Dependent Variable: Effective transportation management

**Table 5.** Regression Model Summary

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of Estimate	F value ANOVA	Sig. level	β	t	Sig. level
1.	.434	.217	.188	.3582	10.941	.002	.455	3.308	.001

a. Predictors: (Constant), Proper routenization, b. Dependent Variable: Effective transportation management

## CONCLUSION

The transportation management in small manufacturing firms reduces the overall costs, creates time and places utilities. Its design should be customer responsive with high speed criterion. The present study conducted on 44 small manufacturing units operating in district Udhampur (J&K State) revealed the significance of transportation management to these petite manufacturers. The study revealed that effectual and effective transportation leads to costs reduction, improved customer service, good business performance and provides proper routenization to goods and services. Managers of small scale industries can be sensitized through training programmes which should be supported by District Industries

Centres (DIC's) and government bodies. Further, the findings of the study is limited to small scale industries of district Udhampur of J&K State, so results drawn cannot be generalized for medium or large scale industries functioning in other parts of country having dissimilar business environment.

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2. The review can range from 1000-3000 words, depending upon the topic and the importance of the book.
3. Reviewer 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.

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# Entrepreneurial Skills of the College Students: A Study with Reference to Sivakasi, Tamil Nadu

M. Selvakumar\*, K. Jegatheesan\* and G. Divya Karthiga\*

## ABSTRACT

*The aim of the study is to analyze the entrepreneurial skills of the college students in Sivakasi, Tamil Nadu. Since entrepreneurs are the backbone of today's society—even more so now than ever, whenever the economy gets rough or things begin to tighten up, it is always the entrepreneurs who are the first to rebound and lead the way to recovery. In fact, during tough times, that the smartest business people become the most profitable and go through the most rapid growth and expansion. This cycle has repeated itself many times over and is evident all the way back to the Great Depression. Yes, many lost a lot, but a record number of people skyrocketed their success during those very same times. Therefore, this type of study is undertaken.*

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**Key Words:** *Entrepreneurs, College Students, Entrepreneurial skills*

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## INTRODUCTION

The industrial health of a society depends on the level of entrepreneurship existing in it. A country might remain backward not because of lack of natural resources or dearth of capital [as it is many times believed] but because of lack of entrepreneurial talents or its inability to tap the latent entrepreneurial talents existing in that society. Entrepreneurs historically have altered the direction of national economies, industry or markets—Japan, Singapore, Korea, Taiwan, to name a few<sup>1</sup>.

## ECONOMIC DEVELOPMENT

Entrepreneurship is basically concerned with creating wealth through production of goods

and services. This results in a process of upward change whereby the real per capita income of a country rises overtime or, in other words, economic development takes place. Thus entrepreneurial development is the key to economic development. In fact, it is one of the most critical inputs in the economic development of a region. It speeds up the process of activating factors of production leading to a higher rate of economic growth, dispersal of economic activities and development of backward regions. If a region is unable to throw up a sufficient number of entrepreneurs then alien entrepreneurs usually step in to provide goods and services needed by the people.

However, the profits earned by these entrepreneurs are usually not ploughed back but

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repatriated to their place of origin. As a result, the development in that region cannot take place. Dr. M.M. Akhori refers to this practice as 'The Leech Effect'. The above reiterates the importance of entrepreneurship development for fuelling economic growth of a region.

Entrepreneurship begets and also injects entrepreneurship by starting a chain reaction when the entrepreneur continuously tries to improve the quality of existing goods and services and adds new ones. For example, when computers came into the market there was continuous improvement in the models, their functions, etc. like first generation computers, personal computers, laptops, palmtops, etc. Not only had this fostered the development of the software industry, computer education institutes, computer maintenance and stationery units, etc. but also other industries like banking, railways, education, travel, films, medical and legal transcriptions, business process outsourcing [BPOs], etc. In this manner by harnessing the entrepreneurial talent a society comes out of traditional lethargy to modern industrial culture. India needs entrepreneurs to capitalize on new opportunities and to create wealth and new jobs.

## ENTREPRENEURSHIP AND EDUCATION

Towards the end of the sixties, two significant contributions were made in the field of entrepreneurship. One was that there is a positive linkage between entrepreneurship and economic development, and the other was regarding the emergence of a strong hypothesis that entrepreneurship can be developed through planned efforts. Consequently, planners realized that the absence of a strong entrepreneurial base acts as a serious handicap in the industrial development of a region. The identification and development of first generation entrepreneurs through Entrepreneurial Development Programmes is an important strategy. There is a growing realization that presence of resources and favourable government policies cannot automatically manufacture economic development. It is the entrepreneurial spirit of the people, which can transform the economy of that region. Both the quantity and quality of entrepreneurs are of utmost significance for achieving the goal of

economic development. The myth that entrepreneurs are born with some innate traits is fortunately no longer held. The necessary competencies required of a successful entrepreneur can be acquired through training and development. Numerous courses in entrepreneurship are being taught all over the world in schools and colleges, seminars and conferences are being organized and EDPs are being conducted. The thinking today is why just create managers why not create people who can absorb managers. One can acquire the traits and learn the skills for becoming an entrepreneur for example, a person can learn to be achievement-oriented, self-confident, perseverant, etc. which are all part of the characteristics of a successful entrepreneur.

Usually the model used for entrepreneurial education has three phases:

**Stimulatory Phase:** This phase involves planned publicity for opportunities, motivation training and help and guidance in selection of product or service.

**Support Phase:** This provides help in registration of units, arrangement of finance as well as land, sheds, power, water, common facility centres, etc. Help is also provided in marketing of products.

**Sustenance Phase:** Once the enterprise is set up then help is provided for modernization, diversification, additional finance, etc.

## STATEMENT OF THE PROBLEM

A developing country needs entrepreneurs who are competent to perceive new opportunities and are willing to incur the necessary risk in exploiting them. So the researcher examines the entrepreneurial skills of the college students. Since these students are going to be the future responsible citizens of society, an attempt is made to study about them.

## OBJECTIVES OF THE STUDY

The researcher has framed the following objectives:

- To know the willingness of the students to become an entrepreneur

- To identify the entrepreneurial qualities of the students
- To determine whether their education helps to develop their entrepreneurial skills
- To examine the capacity of the students to invest the funds in their future enterprise
- To identify their future choice of business

## HYPOTHESES

The hypotheses framed for the study are:

- There is no significant association between the nature of the colleges and the skill level.
- There is no relationship between the course taken and the skill level.
- There is no association between the educational level of the father and the students' skill level.
- There is no significant relationship between the educational level of the mother and the students' skill level.
- There is no relationship between the income of parents of the college students and their skill level.

## METHODOLOGICAL DESIGN

This study is based on both primary and secondary data.

- **Primary Data:** The primary data have been collected from the college students in Sivakasi using questionnaire.
- **Secondary Data:** The secondary data have been collected from the secondary sources like books, magazines, journals, newspapers and websites.

## SAMPLING DESIGN

There are three Arts and Science colleges in Sivakasi town. The researcher has taken all the colleges, namely, Ayya Nadar Janaki Ammal College, Standard Fireworks Rajarathnam College, Sri Kaliswari College.

The total number of undergraduate students studying in these three colleges is 7210. Of that population, 1.5% sample respondents are taken for the study. Random sampling technique has been used for this research. The number of students studying in these colleges is given in Table 1.

## STATISTICAL TOOLS

The following statistical tools have been used to present, analyze and interpret the collected data of the present study.

- Table
- Averages
- Percentage
- Chi-square test
- Weighted Arithmetic Mean
- Garrett Ranking

## DEMOGRAPHIC CLASSIFICATION

Demographic classification is based upon the characteristics such as age, qualification, income of the respondents' family and so on. Sometimes the attitude of the students may be influenced by the demographic variations which influence the researcher to classify the respondents based upon demography. The details are presented in Table 2.

From Table 2, it is cleared that most of

**Table 1.** Number of Students

Name of the Colleges	Total No. of UG Students	Sample respondents
Ayya Nadar Janaki Ammal College	2886	43
The Standard Fireworks Rajaratnam College	2211	33
Sri Kaliswari College	2113	32
Total	7210	108

respondents are female, belong to 18–21 years, have selected Government-aided colleges, belong to science subjects and belong to Government-aided courses.

### EDUCATIONAL STATUS OF THE FATHER

The present research work has also unfolded the educational status of the respondents' fathers in the study area. The details have been shown in Table 3

Table 3 illustrates that 66.67% of the respondents' fathers are literate and the remaining 33.33% of the respondents' fathers are illiterate.

**Table 2.** Demographic classification

Gender	No. of respondents	%
<i>Gender wise Classification</i>		
Female	67	62.00
Male	41	38.00
<i>Age Group</i>		
18–21 Years	76	70.37
22–24 Years	29	26.85
25–27 Years	3	2.78
<i>Nature of the Colleges</i>		
Government-aided	76	70.37
Self-finance	32	29.63
<i>Course Details</i>		
B.Sc. (Physics, Chemistry, Maths, Botany, Zoology)	25	23.15
B.Sc. (others)/B.C.A.	33	30.56
B.Com./B.B.A.	43	39.81
B.A.	7	6.48
<i>Nature of the Courses</i>		
Government-aided	72	66.67
Self-finance	36	33.33
Total	108	100

Source: Primary Data

**Table 3.** Educational status of the father

Educational Status	No. of respondents	%
Literate	72	66.67
Illiterate	36	33.33
Total	108	100

Source: Primary Data

It is identified that the majority (66.67%) of the respondents' fathers are literate.

### EDUCATIONAL STATUS OF THE MOTHER

The present research work has also unfolded the educational status of the respondents' mothers and put in Table 4.

Table 4 illustrates that 66.67% of the respondents' mothers are literate and the remaining 33.33% of the respondents' mothers are illiterate.

It is identified that the majority (52.78%) of the respondents' mothers are illiterate.

### EMPLOYMENT STATUS OF THE PARENTS

The researcher has collected the information about the employment status of the parents of the respondents'. The details are captured in Table 5.

Table 5 elicits the fact that 68.52% of the respondents' father only is employed; 28.70% of the respondents' both parents are employed and the remaining 2.78% of the respondents' mother only is employed.

It is lucid that the majority (68.52%) of the respondents' fathers only are employed.

**Table 4.** Educational status of the mother

Educational Status	No. of respondents	%
Literate	51	47.22
Illiterate	57	52.78
Total	108	100

Source: Primary Data

**Table 5.** Employment status of the parents

Educational Status	No. of respondents	%
Both are working	31	28.70
Father only	74	68.52
Mother only	3	2.78
Total	108	100

Source: Primary Data



### OCCUPATION LEVEL OF THE FATHER

The researcher has undergone an enquiry about the occupation level of the respondents' fathers. These details are put in Table 6.

Table 6 reveals that out of 108 respondents 55.55% of respondents' fathers are private employees; 21.30% of respondents' fathers are businessmen; 10.19% of the respondents' fathers are professionals; 9.26% of the respondents' fathers are government employee and the remaining 3.70% of the respondents' fathers are agriculturists.

It is identified that the majority (55.55%) of the respondents' fathers are private employees.

### OCCUPATION LEVEL OF THE MOTHER

The researcher has analyzed the occupation level of the respondents' mothers. The results are depicted in Table 7.

Out of 108 respondents, 68.52% of the respondents' mothers are homemakers; 18.52% of the respondents' mothers are private employees; 9.26% of the respondents' mothers are professionals whereas the government employee and agriculturist each constitute 1.85% respectively.

The majority (68.52%) of the respondents' mothers are homemakers.

### INCOME LEVEL

The researcher has observed the income level of the parents and records the details in Table 8.

Table 8 elicits the fact that out of 108 respondents, 39.82% of respondents' parents belong to the income level between ₹5001 and ₹10000; 26.85% of respondents' parents earn below ₹5000; 19.44% of respondents' parents earn ₹10001 and ₹15000; 13.89% of respondents' parents earn above ₹15000.

The income of the most (39.82%) of the respondents' parents are between ₹5001 and ₹10000.

### WILLINGNESS TO BECOME AN ENTREPRENEUR

The researcher has contacted 108 students to

know about their willingness to become an entrepreneur and the results are shown in Table 9.

From Table 9, it is observed that out of 108 respondents 79.63% of the respondents expressed their desire to become an entrepreneur and the remaining 20.37% of the respondents are not willing to become an entrepreneur.

It is apparent that the majority (79.63%) of the selected respondents are willing to become an entrepreneur.

**Table 6.** Occupation level of the father

Occupation	No. of respondents	%
Government employees	10	9.26
Private employees	60	55.55
Professionals	11	10.19
Businessmen	23	21.30
Agriculturists	4	3.70
Total	108	100

Source: Primary Data

**Table 7.** Occupation level of the mother

Occupation	No. of respondents	%
Government employees	2	1.85
Private employees	20	18.52
Professionals	10	9.26
Homemakers	74	68.52
Agriculturists	2	1.85
Total	108	100

Source: Primary Data

**Table 8.** Income level of the parents

Occupation	No. of respondents	%
Below ₹5000	29	26.85
₹5001-10000	43	39.82
₹10001-15000	21	19.44
Above ₹15000	15	13.89
Total	108	100

Source: Primary Data

### REASONS FOR WILLINGNESS

The researcher has analyzed the reasons for the willingness of the respondents to become an entrepreneur. The data found are given in Table 10.

Table 10 explains that out of 86 respondents, 54.65% of the respondents express their willingness to become an entrepreneur out of self-interest; 25.58% to earn more income; 12.79% by social prestige and the remaining 6.98% of the respondents said that their father is indulged in business.

It is noticeable that the majority (54.65%) of the respondents have stated that their willingness is to become an entrepreneur out of self-interest.

### REASONS FOR UNWILLINGNESS

The researcher has undergone an enquiry about the reasons for unwillingness of the respondents to become an entrepreneur and explained the details in Table 11.

From Table 11, it is tacit that out of 22 respondents 40.91% of the respondents need huge amounts for investment; 36.36% of the respondents require support from their parents and relatives; 13.64% of the respondents are not willing to work round a clock and the remaining 9.09% of the respondents says that there is no assurance for the return of money.

It is clear that the most of the respondents demand huge amounts for investment.

### HAVING THE QUALITIES OF AN ENTREPRENEUR

The researcher has examined the attitude of respondents having the qualities of an entrepreneur. It is stated in Table 12.

**Table 9.** Willingness of the respondents

Particulars	No. of respondents	%
Willing	86	79.63
Unwilling	22	20.37
Total	108	100

Source: Primary Data

It is cogent from the above Table that 84.26% of the respondents have the qualities of an entrepreneur and the remaining 15.74% of the respondents stated that they are not having the qualities of an entrepreneur.

It is explicit that the majority (84.26%) of the respondents have the qualities of an entrepreneur.

### REASONS FOR NOT HAVING THE QUALITIES

The researcher has observed the reasons for not having the qualities of an entrepreneur among the respondents. It is mentioned in Table 13.

**Table 10.** Reasons for willingness

Reasons	No. of respondents	%
Father is indulged in business	6	6.98
Self-Interest	47	54.65
Chance to earn more income	22	25.58
Social prestige	11	12.79
Total	86	100

Source: Primary Data

**Table 11.** Reasons for unwillingness

Reasons	No. of respondents	%
Need bulk amount of investment	9	40.91
No guarantee for return	2	9.09
Need support from parents and relatives	8	36.36
Not ready for round the clock work	3	13.64
Total	22	100

Source: Primary Data

**Table 12.** Having the qualities of an entrepreneur

Particulars	No. of respondents	%
Have	91	84.26
Do not Have	17	15.74
Total	108	100

Source: Primary Data

From the above table it is clear that 41.18% of the respondents have poor decision-making quality; 29.41% are lazy; 17.65% of the respondents are pessimistic and the remaining 11.76% have ignorance.

It is understood that most of the respondents have poor decision-making quality.

### QUALITIES OF AN ENTREPRENEUR

To access the qualities of an entrepreneur the researcher has used the Garrett ranking technique.

### RANKING THE QUALITIES OF AN ENTREPRENEUR-GARRETT SCORE

The Garrett ranks are calculated by using appropriate Garrett ranking formula. Then based on the Garrett ranks, the Garrett table value is ascertained. The Garrett table values

**Table 13.** Reasons for not having the qualities of an entrepreneur

Reasons	No. of respondents	%
Poor decision making	7	41.18
Pessimistic	3	17.65
Laziness	5	29.41
Ignorance	2	11.76
Perfectionism	-	-
Inability to compromise	-	-
Refusal to learn	-	-
Procrastination	-	-
Total	17	100

Source: Primary Data

**Table 14.** Qualities of an entrepreneur

Particulars	No. of respondents								Total
	I	II	III	IV	V	VI	VII	VIII	
Innovation	11	5	52	16	11	1	4	8	108
Prudence	16	6	31	31	6	5	7	6	108
Hard work	24	8	5	20	27	3	14	7	108
Sincerity	15	12	12	12	13	3	16	25	108
Risk taking	15	19	2	5	16	13	20	18	108
Keen foresight	8	10	4	15	16	28	17	10	108
Achievement motivation	10	19	2	5	10	22	22	18	108
Decision making function	9	29	-	4	9	33	8	16	108
Total	108	108	108	108	108	108	108	108	

and scores of each rank in Table 2 are multiplied to record scores in Table 3.

Finally by adding each row total Garrett score is obtained.

### Percentage position and Garrett value

$$\text{Percentage position} = \frac{-100 (R_{ij}-0.5)}{N_j}$$

$R_{ij}$  = Rank given for the  $i^{\text{th}}$  item by the  $j^{\text{th}}$  sample respondents.

$N_j$  = Total rank given by the  $i^{\text{th}}$  sample respondents.

Table 16 shows the Garrett scores and Average scores. The Average scores are ranked according to their values. The first rank is given to "Innovation" and the last rank is given to "Achievement Motivation".

Out of 108 respondents, 11 have given 1st rank to innovation; 5 have given 2nd rank to

**Table 15.** Garrett score

$100(R_{ij}-0.5)/N_j$	Calculated value	Garrett value
$100(1-0.5)/8$	6.25	80
$100(2-0.5)/8$	18.75	68
$100(3-0.5)/8$	31.25	60
$100(4-0.5)/8$	43.75	53
$100(5-0.5)/8$	56.25	47
$100(6-0.5)/8$	68.75	40
$100(7-0.5)/8$	81.25	32
$100(8-0.5)/8$	93.75	20



innovation; 52 have given 3rd rank to innovation; 16 have given 4th rank to innovation; 11 have given 5th rank to innovation; 1 has given 6th rank to innovation; 4 have given 7th rank to innovation; 8 have given 8th rank to innovation.

**INFERENCE**

The respondents have stated that "Innovation" is the best quality for an entrepreneur.

**PRESENT QUALITIES OF THE RESPONDENTS**

The researcher has gathered the information regarding the opinion of the respondents about their present qualities, applied weighted arithmetic mean technique and captured the result for analysis on Table 17.

**Table 16.** Garrett scores and Average scores

Particulars	Garrett score	Garrett rank	Average score
Innovation	6033	I	55.86
Prudence	6017	II	55.71
Hard work	5801	III	53.71
Sincerity	5118	VI	47.39
Risk taking	5149	V	47.68
Keen foresight	4971	VII	46.03
Achievement	4891	VIII	45.29
Motivation			
Decision making Function	5223	IV	48.36

**Calculation of Scaling**

$$1. = \frac{64*3+38*2+6*1}{108} = 2.54$$

$$2. = \frac{31*3+69*2+8*1}{108} = 2.21$$

$$3. = \frac{60*3+34*2+14*1}{108} = 2.43$$

$$4. = \frac{54*3+43*2+21*1}{108} = 2.49$$

$$5. = \frac{58*3+40*2+10*1}{108} = 2.44$$

$$6. = \frac{29*3+56*2+23*1}{108} = 2.05$$

$$7. = \frac{34*3+59*2+15*1}{108} = 2.18$$

$$8. = \frac{44*3+46*2+18*1}{108} = 2.24$$

$$9. = \frac{62*3+37*2+9*1}{108} = 2.49$$

$$10. = \frac{60*3+35*2+13*1}{108} = 2.44$$

$$11. = \frac{46*3+43*2+19*1}{108} = 2.25$$

**Table 17.** Present qualities

Occupation	High	Moderate	Low	Total	WAM	Rank
Hard work	64	38	6	108	2.25	I
Prudence	31	69	8	108	2.21	X
Positive thinking	60	34	14	108	2.43	VI
Self-reliance	54	43	21	108	2.49	II
Innovative	58	40	10	108	2.44	IV
Highly optimistic	29	56	23	108	2.05	XII
Keen foresight	34	59	15	108	2.18	XI
Organising ability	44	46	18	108	2.24	IX
Decision making ability	62	37	9	108	2.49	II
Managerial function	60	35	13	108	2.44	IV
Doer and not a dreamer	46	43	19	108	2.25	VII
Risk taker	49	37	22	108	2.25	VII

$$12. = \frac{49*3+37*2+22*1}{108} = 2.25$$

## INFERENCE

The respondents have suggested "Innovation" as the best quality for an entrepreneur, but they possess "Hard work" as the highest quality with them.

## KNOWLEDGE ABOUT THE BUSINESS

The researcher has also made an attempt to analyze the respondents' knowledge about the business and its characters. These details are displayed in Table 18.

From the above stated Table it is clear that 75% of the respondents are having the knowledge about the business and the remaining 25% of the respondents are not having the knowledge about the business.

It is transparent that the majority (75%) of the respondents are having the knowledge about the business.

## ENLIGHTENMENT ABOUT ENTREPRENEURSHIP

The researcher has collected the opinion of the respondents whether they are educated about entrepreneurship or not and put the results in Table 19.

Table 19 examines that out of 108 respondents, 71.30% are educated about entrepreneurship and the remaining 28.70% are not educated about entrepreneurship

It is transparent that the majority (71.30%) of the respondents are educated about entrepreneurship.

## EDUCATION HELPS TO DEVELOP THE ENTREPRENEURIAL SKILL

The researcher has collected the opinion of the respondents whether their education helps to develop the entrepreneurial skill or not and put results in Table 20.

It is stated that from Table 20 that 85.19% of the respondents state that their education helps to develop the entrepreneurial skill and

the remaining 14.81% of the respondents state that their education does not help to develop the entrepreneurial skill.

It is explicit that the majority (85.19%) of the respondents state that their education helps to develop the entrepreneurial skill.

## PRACTICAL KNOWLEDGE ON ENTREPRENEURSHIP

The researcher has examined the respondents' practical knowledge on entrepreneurship. The results are depicted in Table 21.

Table 21 elaborates the fact that 58.33% of the respondents are having the practical knowledge on entrepreneurship and the remaining 41.67% of the respondents are not having the practical knowledge on entrepreneurship.

**Table 18.** Knowledge about the business

Particulars	No. of respondents	%
Known	81	75
Unknown	27	25
Total	108	100

Source: Primary Data

**Table 19.** Enlightenment about entrepreneurship

Particulars	No. of respondents	%
Educated	77	71.30
Not educated	31	28.70
Total	108	100

Source: Primary Data

**Table 20.** Education helps to develop the entrepreneurial skill

Particulars	No. of respondents	%
Develop	92	85.19
Do not develop	16	14.81
Total	108	100

Source: Primary Data

It is lucid that the majority (58.33%) of the respondents are having the practical knowledge.

### SOURCES OF PRACTICAL KNOWLEDGE

The researcher has scrutinized the sources of practical knowledge of the respondents and put the details in Table 22.

It is examined from Table 22 that 49.21% of the respondents have gained the practical knowledge from part-time employment; 25.39% by employment in vocation; 23.81% through training; 1.59% from the business of their parents.

It is clear that most of the respondents have gained the practical knowledge from part-time employment.

### CAPABLE OF INVESTING FUNDS

The researcher has undergone an enquiry about the capacity to invest the funds in their future enterprise of the respondents. Table 23 shows the number of respondents capable of investing funds.

It is explicit from Table 23 that 60.19% of the respondents are having capacity to invest funds in their future enterprise and the remaining 39.81% of the respondents are not having capacity to invest funds in their future enterprise.

It is clear that the majority (60.19%) of the respondents are having capacity to invest funds in their future enterprise.

### SOURCES OF OWNED FUND

Finance holds the key to all business activities. No business activity can ever prosper without adequate financial support. The researcher has made an attempt to analyze the sources of finance of the respondents in the study area. The following table shows the sources of finance.

Table 24 shows that out of 65 respondents, 46.15% each will get their fund from parents and own savings correspondingly and the remaining 7.70% from ancestral properties.

Most of the respondents will get their fund from parents and own savings.

### SOURCES OF BORROWED FUND

The researcher has recorded the opinion of the respondents regarding the sources of borrowed fund in Table 25.

**Table 21.** Practical knowledge on entrepreneurship

Particulars	No. of respondents	%
Having	63	58.33
Not having	45	41.67
Total	108	100

Source: Primary Data

**Table 22.** Sources of practical knowledge

Particulars	No. of respondents	%
From business of parents	1	1.59
Part-time employment	31	49.21
Through training	15	23.81
Employment in vocation	16	25.39
Total	63	100

Source: Primary Data

**Table 23.** Capable of investing funds

Particulars	No. of respondents	%
Capable	65	60.19
Not capable	43	39.81
Total	108	100

Source: Primary Data

**Table 24.** Sources of owned fund

Sources	No. of respondents	%
From parents	30	46.15
Own savings	30	46.15
Ancestral properties	5	7.70
Total	65	100

Source: Primary Data



Table 25 clarifies that out of 43 respondents, 60.47% of respondents will get their fund from banks and financial institutions; 27.9% from friends and relatives; 11.63% from money lenders.

It is cleared that the majority (60.47%) of the respondents will get their fund from banks and financial institutions.

### PROCEDURE FOR BORROWING FUND

As educated personalities, the researcher has asked the respondents about the procedure for borrowing fund from banks and financial institutions and grouped the outcomes in Table 26.

It is implied that 53.71% of the respondents are aware about the procedure for borrowing funds from banks and financial institutions and the remaining 46.29% of the respondents are not aware about the procedure for borrowing fund from banks and financial institutions.

It is clear from the above Table 26 that majority of the respondents are aware of the procedures.

### EVALUATION OF PERSISTENT

The researcher has acquired the details regarding the respondents persistent. It is important to get past the ego blow and learn the lesson, then use the experience to move forward. The details have been shown in Table 27.

Table 27 shows the fact that 71.30% of the respondents are persistent and the remaining 28.70% of the respondents are not persistent.

It is clear that the majority (71.30%) of the respondents are persistent.

### FINANCIAL CONSCIOUSNESS

Being one's boss is one of the strongest needs of an entrepreneur. They are a CEO, Accountant and Finance Manager wrapped in one, then they have to know how to manage it wisely. The researcher has analyzed the financial consciousness of the respondents and presented the details in Table 28.

Table 28 shows that out of 108 respondents,

76.85% of the respondents are financially responsible and the remaining 23.15% of the respondents are not financially responsible.

It is inferred that the majority (76.85%) of the respondents are financially responsible.

### REQUIRED HEALTH AND PHYSICAL CONDITION

Being the founder of a startup means that they will to put most of their time and energy into

**Table 25.** Sources of borrowed fund

Sources	No. of respondents	%
From banks and financial institutions	26	60.47
Borrowed from money-lenders	5	11.63
Friends and relatives	12	27.90
Total	43	100

Source: Primary Data

**Table 26.** Procedure for borrowing fund

Procedure	No. of respondents	%
Known	58	53.71
Unknown	50	46.29
Total	108	100

Source: Primary Data

**Table 27.** Evaluation of persistent

Procedure	No. of respondents	%
Persistent	77	71.30
Not persistent	31	28.70
Total	108	100

Source: Primary Data

**Table 28.** Financial consciousness

Procedure	No. of respondents	%
Responsible	83	76.85
Not responsible	25	23.15
Total	108	100

Source: Primary Data

their new venture. The researcher has enquired the respondents that they have required health and physical condition or not and captured the result for analysis on Table 29.

Table 29 elicits the fact that out of 108 respondents, 90.74% of the respondents are having the required health and physical condition and the remaining 9.26% of the respondents are not having the required health and physical condition.

It is clear that the majority (90.74%) of the respondents are having the required health and physical condition.

**SUPPORTIVE FRIENDS AND FAMILY**

Being an entrepreneur often means having to deal with tough personal, financial and emotional challenges. People around them may doubt their plans, vision and growth strategy. The researcher has analyzed that the respondents are having supportive friends and family or not and the results are shown in Table 30.

From the above stated table it is clear that 90.74% of the respondents are having enough supportive friends and family and the remaining 9.26% of the respondents are not having enough supportive friends and family.

It is understood that the majority (90.74%) of the respondents are having enough supportive friends and family.

**SELF-MOTIVATION**

Without self-motivation, the students are doomed as an entrepreneur, since there's no one to egg them on or watch over their shoulder. The researcher has analyzed the self-motivation of the respondents and put in Table 31.

Table 31 examines that out of 108 respondents, 85.19% of the respondents are self-motivated and the remaining 14.81% of the respondents are not self-motivated.

It is transparent that the majority (85.19%) of the respondents are self-motivated.

**MISSION TO BECOME AN ENTREPRENEUR**

The researcher has recorded the opinions of the

respondents regarding their mission to become an entrepreneur in Table 32.

It is observed from Table 32 that 79.63% of the respondents are having the effective mission to become an entrepreneur and the remaining 20.37% of the respondents are not having the effective mission to become an entrepreneur.

It is clear that the majority (79.63%) of the respondents are having the effective mission to become an entrepreneur.

**Table 29.** Required health and physical condition

Procedure	No. of respondents	%
Have	98	90.74
Not have	10	9.26
Total	108	100

Source: Primary Data

**Table 30.** Supportive friends and family

Procedure	No. of respondents	%
Have	98	90.74
Not Have	10	9.26
Total	108	100

Source: Primary Data

**Table 31.** Self-motivation

Procedure	No. of respondents	%
Self-motivated	92	85.19
Not self-motivated	16	14.81
Total	108	100

Source: Primary Data

**Table 32.** Mission to become an entrepreneur

Procedure	No. of respondents	%
Have	86	79.63
Not have	22	20.37
Total	108	100

Source: Primary Data

### HUNGRY FOR SUCCESS

The researcher has hereby analyzed the respondents' opinion towards hungry for success and shows the results in Table 33.

It is exposed from Table 33 that 96.30% of the respondents are hungry for success and the remaining 3.70% of the respondents are not hungry for success.

It is clear that the majority (96.30%) of the respondents are hungry for success.

### SPECIAL COURSE FOR ENTREPRENEURSHIP

The researcher has recorded the opinion of the respondents regarding their willingness to join special course for entrepreneurship in Table 34.

It is observed from Table 34 that 61.11% of the respondents are willing to join special course for entrepreneurship and the remaining 38.89% of the respondents are not willing to join special course for entrepreneurship.

It is clear that the majority (61.11%) of the respondents are willing to join special course for entrepreneurship.

### CHOICE OF BUSINESS

The researcher has collected the opinion of the

**Table 33.** Hungry for success

Procedure	No. of respondents	%
Hungry	104	96.30
Not hungry	4	3.70
Total	108	100

Source: Primary Data

**Table 34.** Special Course for entrepreneur

Procedure	No. of respondents	%
Willing to join	66	61.11
Not willing to join	42	38.89
Total	108	100

Source: Primary Data

respondents regarding their choice of business and put the results in Table 35.

Out of 108 respondents, 25.93% of the respondents' choice of business is textile, followed by hotel, hardware, beauty parlour, verticulture, ice-cream making, etc., with 12.96%; fireworks/match works with 11.11%; stationery shop with 9.26%; Grocery with 6.49%.

It is inferred that most of the respondents' choice of business is textile.

**Table 35.** Choice of business

Procedure	No. of respondents	%
Printing	9	8.33
Fireworks/Match works	12	11.11
Textile	28	25.93
Grocery	7	6.49
Stationery shop	10	9.26
Hotel	14	12.96
Hardware	14	12.96
Beauty parlor, designing, Ice-cream making, etc...	14	12.96
Total	108	100

Source: Primary Data

### ENTREPRENEURIAL SKILLS OF THE STUDENTS

The researcher has analyzed the number of the respondents who has answered for each skill at various levels and put the results in Table 36.

To analyze high, medium, low levels of the respondents' skills, the researcher has used the Mean and Standard Deviation.

#### Calculation

$$\text{Mean } x = \frac{\sum X}{N} = \frac{2462}{108} = 22.80$$

Standard Deviation

$$\sigma = \frac{\sqrt{\sum (x-x)^2}}{N} = \frac{\sqrt{4370.20}}{108} = 6.36$$

$$\text{High} = x + \sigma = 22.80 + 6.36 = 29.16$$



**Table 36.** Skills

Skills	No. of respondents				Total
	Not developed	Beginner	Quite capable	Very capable	
Creative thinking (I find new ways to solve problems.)	2	19	36	51	108
Planning and research (I know how and where to find information and how to use it.)	11	41	40	16	108
Decision making (I study my option, and then decide.)	4	15	41	48	108
Organization (I set priorities and organize to achieve them.)	6	39	37	26	108
Communication (oral) (I speak and present clearly and effectively.)	5	29	32	42	108
Communication (writing) (I produce accurate, clear and error-free writing.)	6	36	34	32	108
Team building (I know how to assemble, motivate, and empower an effective team.)	6	42	31	29	108
Marketing (selling) (I know how to sell and can describe what selling involves.)	12	33	37	26	108
Financial management (I know how to manage cash flow and how to read the bottom line.)	19	30	32	27	108
Record keeping (I can identify and use business forms; file and record financial transactions.)	16	31	29	32	108
Goal setting (I set and work toward short-, medium-, and long-term goals.)	12	16	44	36	108
Business management (I can manage people effectively, delegate responsibility, and answer for the bottom line.)	10	26	28	44	108

Low =  $x - \sigma = 22.80 - 6.36 = 16.44$   
 Medium = between 29.16 and 16.44

The number of respondents selected from each level is put in Table 37.

Out of 108 respondents, 79 respondents have medium level of skills; 16 respondents

**Table 37.** Level of the respondents' skills

Skill level	No. of respondents
High	13
Medium	79
Low	16
<b>Total</b>	<b>108</b>

have low level of skills and the remaining 13 respondents have high level of skills.

### NATURE OF THE COLLEGES AND THE SKILL LEVEL OF THE RESPONDENTS

Based on the nature of the colleges, the skill level of the students may differ. Hence in order to analyze the relationship between the nature of the colleges and the skill level, the researcher has framed the following hypothesis and applied chi-square test.

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

**Hypothesis**

There is no significant association between the nature of the colleges and the skill level. Table 38 shows the skill level of the respondents and the nature of the colleges.

Table 39 shows the calculation of chi-square value.

**Degrees of freedom**

$$\Sigma = (\Sigma-1) (\Sigma-1)$$

$$= (3-1) (2-1) = 2 \times 1 = 2$$

For 2 degrees of freedom at 5% level of significance table value is 5.99. Since the calculated value is more than the table value, the hypothesis is rejected.

**Inference**

It is concluded that there is an association between the nature of the colleges and the skill level of the students.

**COURSE AND THE SKILL LEVEL OF THE RESPONDENTS**

In order to analyze the relationship between the course and skill level of the students, the

researcher has structured the following hypothesis and used chi-square test.

$$\chi^2 = \Sigma \frac{(O-E)^2}{E}$$

**Hypothesis**

There is no association between the course taken and the skill level of the respondents. Table 40 shows the skill level of the students and the course taken.

Table 41 shows the calculation of chi-square value.

**Degrees of freedom**

$$\Sigma = (\Sigma-1) (\Sigma-1)$$

$$= (3-1) (4-1) = 2 \times 3 = 6$$

For 6 degrees of freedom at 5% level of significance the table value is 12.6. Since the calculated value is less than the table value, the hypothesis is accepted.

**Inference**

It is concluded that there is no association between the course and the skill level of the students.

**Table 38.** Nature of the colleges and the skill level

Nature of the colleges	Skill level			Total
	High	Moderate	Low	
Government-aided	9	55	12	76
Self-finance	4	24	4	32
Total	13	79	16	108

Source: Table 2, Table 36 and Table 37

**Table 39.** Calculation of chi-square table

O	E	[(O-E)-0.5]	[(O-E)-0.5] <sup>2</sup>	[(O-E)-0.5] <sup>2</sup> /E
9	9.15	-0.15	0.0225	0.0024
55	55.59	-0.59	1.881	0.0338
12	11.25	0.75	0.0625	0.0056
4	3.85	0.15	0.0225	0.0058
24	23.11	0.89	0.7921	0.0343
14	5.04	8.96	80.2816	15.9288
<b>Σ[(O-E)-0.5]<sup>2</sup>/E=</b>				<b>16.0108</b>

**Table 40.** Course and the skill level

Course Details	Skill level			Total
	High	Moderate	Low	
B.Sc. (Physics, Chemistry, Maths, Botany, Zoology)	3	20	2	25
B.Sc. (others)/B.C.A.	4	23	6	33
B.Com./B.B.A.	5	32	6	43
B.A.	1	4	2	7
<b>Total</b>	12	80	16	108

Source: Table 2, Table 36 and Table 37

**Table 41.** Calculation of chi-square table

O	E	[(O-E)-0.5]	[(O-E)-0.5] <sup>2</sup>	[(O-E)-0.5] <sup>2</sup> /E
3	2.78	0	0	0
20	18.52	1.21	1.46	0.4880
2	3.70	-2.2	4.84	1.3081
4	3.67	-0.47	0.2209	0.0556
23	24.44	-1.64	2.6896	0.1114
6	4.89	0.61	0.3721	0.0761
5	4.78	-1.68	2.8224	0.5449
32	31.85	1.05	1.1025	0.0351
6	6.37	-0.87	0.7569	0.1188
1	0.77	-0.34	0.7056	0.84
4	5.19	-1.62	2.6244	0.5503
2	1.04	0.46	0.2116	0.5126
<b>Σ[(O-E)-0.5]<sup>2</sup>/E=</b>				<b>4.2941</b>

### EDUCATIONAL LEVEL OF THE FATHER AND THE SKILL LEVEL OF THE RESPONDENTS

Qualification is one of the important factors that create awareness and improving the knowledge. That could help the parents to educate their children. Hence in order to analyze the education level of the mother and the skill level of the respondents, the researcher has outlined the following hypothesis and chi-square test is used.

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

#### Hypothesis

There is no association between the educational level of the father and the students' skill level. Table 42 shows the education level of the father

**Table 42.** Education level of the father and the skill level

Educational Level	Skill level			Total
	High	Moderate	Low	
Literate	10	51	11	72
Illiterate	3	28	5	36
<b>Total</b>	13	79	16	108

Source: Table 7, Table 36 and Table 37

and the skill of the students.

Table 43 shows the calculation of chi-square value.

#### Degrees of freedom

$$\begin{aligned} \Sigma &= (\Sigma-1) (\Sigma-1) \\ &= (3-1) (2-1) = 2 \times 1 = 2 \end{aligned}$$



For 2 degrees of freedom at 5% level of significance the table value is 5.99. Since the calculated value is less than the table value, the hypothesis is accepted.

**Inference**

It is concluded that there is no association between the education level of the father and the skill level of the respondents.

**EDUCATIONAL LEVEL OF THE MOTHER AND THE SKILL LEVEL OF THE RESPONDENTS**

In order to analyze the relationship between the educational level of the mother and the skill level of the respondents, the researcher has structured the following hypothesis and applied chi-square test.

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

**Hypothesis**

There is no association between the educational level of the mother and the students' skill level.

Table 44 shows the educational level of the mother and the skill of the students.

Table 45 shows the calculation of chi-square value.

**Degrees of freedom**

$$\begin{aligned} \Sigma &= (\Sigma-1) (\Sigma-1) \\ &= (3-1) (2-1) = 2 \times 1 = 2 \end{aligned}$$

For 2 degrees of freedom at 5% level of significance the table value is 5.99. Since the calculated value is less than the table value, the hypothesis is accepted.

**Inference**

It is concluded that there is no association between the educational level of the mother and the skill level of the respondents.

**PARENT INCOME AND THE SKILL LEVEL OF THE RESPONDENTS**

To analyze the relationship between the income of the parents and the skill level, the researcher has framed the following hypothesis and applied chi-square test.

**Table 43.** Calculation of chi-square table

O	E	[(O-E)-0.5]	[(O-E)-0.5] <sup>2</sup>	[(O-E)-0.5] <sup>2</sup> /E
3	2.78	0	0	0
10	8.67	0.83	0.6889	0.0795
51	52.67	-2.17	4.7089	0.0894
11	10.66	-0.16	0.0256	0.0024
3	4.33	-1.83	3.3489	0.7734
28	26.33	1.17	1.3689	0.0520
5	5.34	-0.84	0.7056	0.1321
<b>Σ[(O-E)-0.5]<sup>2</sup>/E=</b>				<b>1.1288</b>

**Table 44.** Educational level of the father and the skill level

Educational level	Skill level			Total
	High	Moderate	Low	
B.Com./B.B.A.	5	32	6	43
Literate	6	34	11	51
Illiterate	7	45	5	57
<b>Total</b>	<b>13</b>	<b>79</b>	<b>16</b>	<b>108</b>

Source: Table 4, Table 36 and Table 37.

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

### Hypothesis

There is no significant association between the educational level of the mother and the skill level of the respondents. Table 46 shows the parents' income and the skill level of the respondents.

Table 47 shows the calculation of chi-square value.

### Degrees of freedom

$$\Sigma = (\Sigma-1) (\Sigma-1)$$

$$= (3-1) (4-1) = 2 \times 3 = 6$$

For 6 degrees of freedom at 5% level of significance the table value is 12.6. Since the

**Table 45.** Calculation of chi-square table

O	E	[(O-E)-0.5]	[(O-E)-0.5] <sup>2</sup>	[(O-E)-0.5] <sup>2</sup> /E
6	6.14	-0.64	0.4096	0.0667
34	37.31	-3.81	14.5161	0.3891
11	7.56	2.94	8.6436	1.4333
7	6.86	-0.36	0.1296	0.0189
45	41.69	2.81	7.8961	0.1894
5	8.44	-3.94	15.5236	1.8393
$\Sigma[(O-E)-0.5]^2/E=$				3.9367

**Table 46.** Parents' income and the skill level

Income	Skill level			Total
	High	Moderate	Low	
Below ₹5000	2	23	4	29
₹5001-₹10000	4	34	5	43
₹10001-₹15000	6	10	5	21
Above ₹15000	1	12	2	15
Total	13	79	16	108

Source: Table 8, Table 36 and Table 37

**Table 47.** Calculation of chi-square table

O	E	[(O-E)-0.5]	[(O-E)-0.5] <sup>2</sup>	[(O-E)-0.5] <sup>2</sup> /E
2	3.49	-1.99	3.9601	1.1347
23	21.21	1.29	1.6641	0.0785
4	4.30	-0.8	0.64	0.1488
4	5.18	-1.68	2.8224	0.5449
34	31.45	2.05	4.2025	0.1336
5	6.37	-1.87	3.4969	0.5490
6	2.53	2.97	8.8209	3.4865
10	15.36	-5.86	34.3396	2.2357
5	3.11	1.39	1.9321	0.6213
1	1.81	-1.31	1.7161	0.9481
12	10.97	0.53	0.2809	0.0256
2	2.22	-0.72	0.5184	0.2335
$\Sigma[(O-E)-0.5]^2/E=$				10.1402

calculated value is less than the table value, the hypothesis is accepted.

### **Inference**

It is concluded that there is no association between the income of the parents and the skill level of the respondents.

### **SUMMARY OF FINDINGS**

- It is found that majority (62%) of the respondents are female.
- It clarifies the fact that the majority (70.37%) of the respondents belong to the age group of 18 to 21 years.
- It is inferred that the majority (70.37%) of the respondents are selected from the Government-aided college.
- It is apparent that most (39.81%) of the selected respondents belong to B.Com/B.B.A.
- It is tacit that the majority (66.67%) of the respondents belong to Self-finance courses.
- It is identified that the majority (66.67%) of the respondents' fathers are literate.
- It is recognized that the majority (52.78%) of the respondents' mothers are illiterate.
- It is lucid that the majority (68.52%) of the respondents' fathers only are employed.
- It is identified that the majority (55.55%) of the respondents' fathers are private employee.
- The majority (68.52%) of the respondents' mothers are homemakers.
- The income of the most (39.82%) of the respondents' parents are between ₹5001 and ₹10000.
- It is apparent that the majority (79.63%) of the selected respondents are willing to become an entrepreneur.
- It is noticeable that the majority (54.65%) of the respondents have stated that their willingness is to become an entrepreneur out of self-interest.
- It is clear that the most of the respondents demand a huge amount for investment.
- It is explicit that the majority (84.26%) of the respondents have the qualities of an entrepreneur.
- It is understood that most of the respondents have poor decision-making quality.
- The respondents have stated that "Innovation" is the best quality for an entrepreneur.
- The respondents have suggested "Innovation" as the best quality for an entrepreneur, but they possess "Hard work" as the highest quality with them.
- It is transparent that the majority (75%) of the respondents are having the knowledge about the business.
- It is transparent that the majority (71.30%) of the respondents are educated about entrepreneurship.
- It is explicit that the majority (85.19%) of the respondents state that their education helps to develop the entrepreneurial skill.
- It is lucid that the majority (58.33%) of the respondents are having the practical knowledge.
- It is clear that most of the respondents have gained the practical knowledge from part-time employment.
- It is clear that the majority (60.19%) of the respondents are having capacity to invest funds in their future enterprise.
- Most of the respondents will get their fund from parents and own savings.
- It is clear that the majority (60.47%) of the respondents will get their fund from banks and financial institutions.
- It is clear that the majority of the respondents are aware of the procedures.
- It is mirrored that the majority (71.30%) of the respondents are persistent.
- It is inferred that the majority (76.85%) of the respondents are financially responsible.
- It is clear that the majority (90.74%) of the respondents are having the required health and physical condition.
- It is understood that the majority (90.74%)



of the respondents are having enough supportive friends and family.

- It is transparent that the majority (85.19%) of the respondents are self-motivated.
- It is clear that the majority (79.63%) of the respondents are having the effective mission to become an entrepreneur.
- It is tacit that the majority (96.30%) of the respondents are hungry for success.
- It is clear that the majority (61.11%) of the respondents are willing to join special course for entrepreneurship.
- There is an association between the nature of the colleges and the skill level of the students.
- There is no association between the course and the skill level of the students.
- There is no association between the education level of the father and the skill level of the respondents.
- There is no association between the education level of the mother and the skill level of the respondents.
- There is no association between the income of the parents and the skill level of the respondents.

## SUGGESTIONS

- Students must have creative thinking to solve problems.
- Students must know how and where to find information and how to use it in their future enterprise.
- Students must articulate their intimate thoughts and feelings accurately and clearly.
- Students must have destination towards which all efforts are directed.
- Students must be motivated intrinsically for accomplishing a specific task in the right direction.

- Students must use their financial resources in an effective way to develop their future enterprise.
- Involvement in the business field enables the students to know the tricks and the trades of business from planning to application.
- Students should learn from their own mistakes.
- Students must obtain the practical knowledge on entrepreneurship.
- Most of the students feel that the innovation is the best quality required for entrepreneurship. Therefore, the scheme for under graduate degree should be modified to develop the innovation skills of the students.
- The colleges should make arrangements for summer training and institutional training to the students, that will be very helpful to the students to know about the particular business.

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# Implementation of T+1 Settlement in Indian Capital Market

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## Abstract

*Capital markets are in the midst of a global, systemic restructuring. Communication and technology have enabled individual financial markets to link together creating global market. Internationally, retail and institutional investors have been empowered leading to a more dynamic and sensitive market. The use of technology has enabled the investor populace to discount news more quickly and comprehensively. Technology has also enabled the formation of a larger and a fair marketplace. This platform has been a launching pad for the exponential growth in volumes showing a widespread and diverse interest in the securities market. As the volume of securities trading in the global marketplace has increased in the recent years, the need for shortening the settlement and clearance cycle as a cost saving and risk management discipline has become critical to the orderly conduct of business. As a result many jurisdictions around the world are adopting shorter settlement cycles. In view of this, the paper focuses on present settlement system and feasibility of T+1 in Indian capital market.*

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**Key Words:** Capital Market, T+1 settlement

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## INTRODUCTION

Capital market is the backbone of any country's economy. It facilitates conversion of savings to investments. It can be classified as primary and secondary market. The fresh issue of securities takes place in primary market, and trading among investors takes place in the secondary market. A major challenge for countries like India relates to the need for achieving efficiency in situations where large-scale increases in the quantum and complexity of processing of financial transactions occur. Today's investors have access to the latest

information and have a wide array of options to choose from. Each investor would yearn for the best service or faster settlement at the least possible cost. Against this backdrop, efficiency has become critical if the payment system has to generate a high degree of investor confidence. Hence, ensuring safe and expeditious movement of funds at an optimal cost is the key to success of all financial markets reforms particularly settlement system. In order to protect the interest of investors, transactions should be settled in a short period of time. A further improvement in the process can be sought by introduction of T+1

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day settlement, which would require quite a bit of change in the current style of workings.

### OBJECTIVES OF THE STUDY

- To study the clearing and settlement system in the Indian Capital Market.
- To study the working aspect of T+2 Settlement system in the Indian Capital Market.
- To study and analyze prerequisites for T+1 settlements in the Indian Capital Market.

### METHODOLOGY OF THE STUDY

The present study is based on the Primary and Secondary sources of data. The primary data was collected through a structured "questionnaire" prepared and administered to sample investors in the study area. The study has selected a sample size of 100 investors based on the Berhampur city of Odisha only. The data so collected are analyzed and classified for the purpose of identifying the Relevance and Working of T+2 Settlement, and the Prerequisites for T+1 Settlements into the Secondary Market. The study constructs various suitable tables and graphs for the purpose of achieving the objective of the study.

### HYPOTHESIS

To achieve the above objectives the study has developed the following hypothesis.

**H1:** More than 50% of the investors are unhappy or facing difficulties with the present settlement system in the Indian Capital Market.

**H2:** 50% and more investors prefer the implementation of T+1 Settlement system in the Indian Capital Market.

## CLEARING AND SETTLEMENT SYSTEM IN INDIAN STOCK MARKET

National Securities Depositories Ltd. (NSDL) and Central Depositories Services Ltd. (CDSL) provide electronic transfer of securities and more than 99% of turnover is settled in dematerialized form. All actively traded scripts are held, traded and settled in DEMAT form. SEBI had introduced T+5 rolling settlement in equity market from July 2001 and subsequently shortened the settlement cycle to T+3 from April 2002. After having gained experience of T+3 rolling settlement and also taking further steps such as introduction of STP, it is now felt appropriate to further reduce the settlement cycle to T+2 thereby reducing the risk in the market and to protect the interest of investors. SEBI had held several rounds of consultation with all the market participants and based on the consensus, decided to introduce T+2 rolling settlement in Indian equity market from 1st April 2003. At present T+1 settlement system is yet to implement in the Indian Capital Market.

### T+2 SETTLEMENTS IN INDIAN CAPITAL MARKET

Settlement is the process by which investors pay for shares they have bought and receive payment for shares they have sold. The T stands for transaction date, which is the day the transaction takes place. The numbers 1, 2 or 3 denote how many days after the transaction date the settlement or the transfer of money and security ownership takes place. T+1 means that if a transaction occurs on a Monday, settlement must occur by Tuesday. Likewise, T+2 means that a transaction occurring on a Monday must be settled by Wednesday, assuming no holidays occur between these days. But if you sell a

**Table 1.** Schedule of settlement in the Indian Capital Market

Sl. No	Day	Time	Description of activity
1	T	—	Trade Day
2	T+1	By 11.00 a.m. By 1.30 p.m.	Confirmation of all trades, including custodial trades Processing and downloading of obligation files to brokers/ custodians
3	T+2	By 11.00 a.m. By 1.30 p.m.	Pay-in of securities and funds Pay-out of securities and funds

Sources: *nseindia.com*



security with a T+2 settlement date on a Friday, ownership and money transfer does not have to take place until the following Tuesday.

### ANALYSIS OF STUDY

For the purpose of study, 100 investors are contacted from Berhampur city of Odisha as sample area using survey method. Collected data is analyzed with proper weighted method and tested hypotheses as below.

The present study is based on Berhampur city of Odisha State comprising of investor who invest in the stocks. Table 3 shows the per cent of investor who invested in the stock market. Looking at the above table, 40% of the investors prefer to invest their holdings in 8 to 10 stocks. 25% of the investors prefer to invest their holdings in more than 10 stocks.

### Portfolio of Shares

The portfolio of shares is a combination of different shares of different types of companies held by the investor. During the survey the study reveals portfolio of shares held by the investor in the sample area are summarized from the following Table 3 as follows.

### Types of stocks normally trade

In a stock market companies are classified depending upon the market capitalization of

shares. They are classified in to large cap, mid cap or small cap. Market capitalization is a measurement of corporate size equal to the share price times the number of shares outstanding of a public company. As owning stock represents owning the company, including all its equity, capitalization could represent the public opinion of a company's net worth and is a determining factor in stock valuation.

Table 4 shows the type of stocks normally investor invest in the share market. It may be seen from the table that, there were 35% of the investors who invest and trade in the large cap and 30% of the investors invest and trade in small cap stocks. An overall observation of the type of stock normally trade indicates that, there were more number of traders are involved in speculation rather than investment.

### Reasons for investment in equity market

The reasons for investment in equity market may be voting rights, holdings by founders/directors/acquirers which have control element, holdings by persons/bodies with "Controlling Interest", government holdings as promoter/acquirer, holdings through the Foreign Direct Investment (FDI) Route, Strategic stakes by private corporate bodies/individuals and Equity held by associate/group of companies.

Table 5, shows that, 26.96% of investor feels that equity market is for speculations purpose.

**Table 2.** Settlement/payment cycle when customer Buys shares

Day	Transaction Day	Party with obligation activity
DAY1	T	Customer buys shares of a particular company.
DAY2	T+1	Customer funds to be paid by customer to the DP for Broking house/shares purchased.
DAY3	T+2	The broking house /DP transfer funds to stock exchange.
DAYS	T+2	Stock exchange transfers shares to the DP.
DAYS	T+3	Shares purchased on day 1 are reflected in the customers account and are made available for delivery trade.

Sources: nseindia.com

**Table 3.** Portfolio of shares by the investors

a. 1-3 stocks	b. 4-7 stocks	c. 8-10 stocks	d. More than 10 stocks
20 percentage	15 percentage	40 percentage	25 percentage

Source: Primary Data

**Table 4.** Stocks normally trade

Large cap stocks	Mid cap stocks	Sector specific stocks	Small cap stocks
35 percentage	20 percentage	15 percentage	30 percentage

Source: Primary Data

Certain classes of investors also feel that liquidity is very high 19.72%, which will benefit them as compared to banks and other means. Unlike the other means of investment, equity assures returns that have generally higher return 18.36% of investors feels so. Overall observations of the reasons for sample investor in equity market are speculation and getting higher return and liquidity of funds for a shorter period.

### Reason for the down trend in stock market

The era of international capital mobility, geographical boundaries are no longer a matter of concern for international trade and finance. In view of this the study analyzed the reasons for downward trend in the stock market in the study area. The following Table 6 gives preferential weightage of reasons for down trend in the stock market.

Table 6 shows that, 21.17% of investors feel that down trend in the equity stock market is for Global liquidity crisis. On the other hand the decreasing Foreign Direct Investment in the country is also reason for the decrease trend in the stock market. Certain classes of investors' also feel that Decline in the performance of companies that 19.43% and SEBI regulations 19.93% are also concern main reasons for the decline trend. An overall observation of the equity market in the study area is recession. It is concluded that there is the down trend in the study area. In general the entire world market that is the main concern for down trend in the entire equity stock market in the world.

### The present settlement period

The following Table 7 gives the details of opinion about present settlement period.

Out of 100 investors' surveyed, it was found that most of them were in favour of the present settlement period. 62 of them believed that the system is good, 21 of them regarded the system

to be moderate. An overall observation of the settlement system is that, investors are finding difficulty in settling the transaction in pay in and pay out.

Table 8 shows that, 27.56% of investor feels that there is chance of settlement failures in case of implementation of T+2 settlements in the Indian Capital market, this leads to shorter settlement cycle that is on same day trade and delivery of Delivery Instruction Slips to broker and execution of pay in and payout will happen on the same day. An overall observation of the implementation of T+1 settlement in the Indian Capital market is that India should be ready for technological up- gradation in the stock market that leads to improvement in the settlement.

Table 9 shows that, 36.16% of investor feels that there should be usage of Speed-E and electronic Delivery Instruction Slips for settlement purpose. The implementation of T+1 Settlements in Indian Capital market, this leads to shorter settlement cycle that results into failure of transaction between the parties and in minimization of such failure is usage of electronic delivery instruction slips and confirmation or trade through SMS message from NSDL/CDSL. An overall observation for the implementation of T+1 settlement cycle in the Indian Capital market is usage of banking technology for stock market which leads to less chances of failure in the transactions.

**Table 7.** Opinion about current settlement period

Opinion	Response	% of response
Very good	9	9
Good	62	62
Neither Good or Bad	21	21
Bad	6	6
Very Bad	2	2
Total	100	100

Source: Primary Data

Table 5. Table showing reasons for investment in equity market

	Reason A	W	Total	Reason B	W	Total	Reason C	W	Total	Reason D	W	Total	Reason E	W	Total	Reason F	W	Total	Grand Total	% of ranks
a. Higher returns	65	40	2600	54	50	2700	52	30	1560	45	60	2700	48	10	480	52	20	1040	11080	18.36
b. Liquidity	70	40	2800	65	50	3250	59	30	1770	48	60	2880	42	10	420	39	20	780	11900	19.72
c. Regular dividends	15	40	600	35	50	1750	36	30	1080	45	60	2700	63	10	630	67	20	1340	8100	13.42
d. Speculations	85	40	3400	82	50	4100	79	30	2370	72	60	4320	70	10	700	69	20	1380	16270	26.96
e. Safety	5	40	200	20	50	1000	16	30	480	50	60	3000	52	10	520	60	20	1200	6400	10.60
f. Transparency	2	40	80	15	50	750	25	30	750	45	60	2700	54	10	540	89	20	1780	6600	10.94
			9680			13550			8010			18300			3290			7520	60350	100.00

Source: Primary Data W = weights

Table 6. Down trend in stock market

	Reason A	W	Total	Reason B	W	Total	Reason C	W	Total	Reason D	W	Total	Reason E	W	Total	Reason F	W	Total	Grand Total	% of ranks
a. Decreasing FDI inflows	80	40	3200	74	10	740	69	20	1380	62	50	3100	58	30	1740	58	30	1740	10160	20.09
b. Decline in the performance of companies	65	40	2600	62	10	620	70	20	1400	64	50	3200	67	30	2010	67	30	2010	9830	19.43
c. SEBI regulations	78	40	3120	72	10	720	70	20	1400	62	50	3100	58	30	1740	58	30	1740	10080	19.93
d. Global liquidity crisis	85	40	3400	79	10	790	72	20	1440	65	50	3250	61	30	1830	61	30	1830	10710	21.17
e. Fear of recession	79	40	3160	71	10	710	63	20	1260	61	50	3050	54	30	1620	54	30	1620	9800	19.38
			15480			3580			6880			15700			8940			8940	50580	100.00

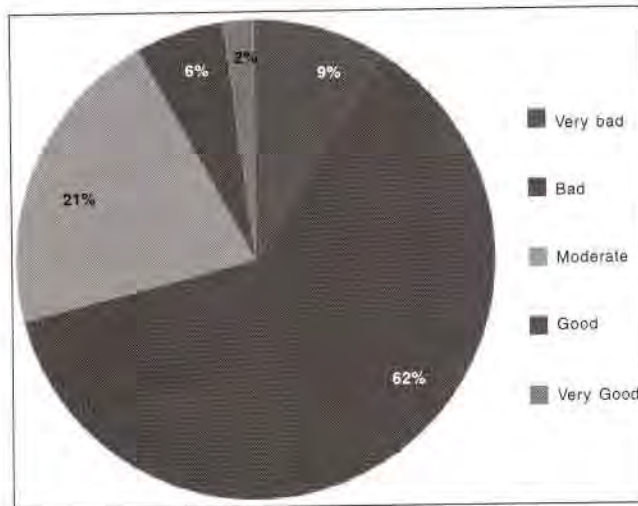
Source: Primary Data W = weights



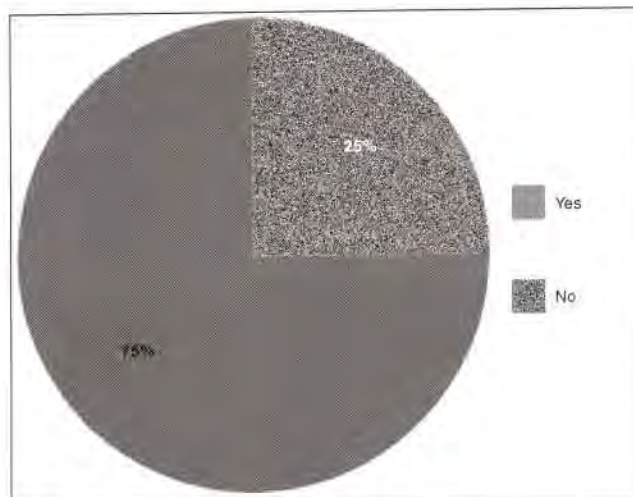
With the success of T+2, SEBI has given a thought towards the further reduction of settlement cycle to T+1 in April 2009. With the advancement in technology, the developments in capital markets, the officials are considering the option of introducing T+0 settlements sooner than later. The survey results showed that the investors are not in favour of T+0 settlement, as 75 of them said Indian exchange still needs to improve on the working efficiencies in order to implement the newer version. However, 25 of them think the time has come to implement the shorter settlement cycle. An overall observation of the settlement system is investors are finding difficulty in settling the transaction in pay in and pay out.

### HYPOTHESIS TESTING

Setting up and testing hypotheses is an essential



How do you rate present settlement?



Do you prefer T+1 settlement?

part of statistical inference, in order to formulate such test, usually some theory has been put forward, either because it is believed to be true or because it is to be used as a basis for argument, but has not been proved. In each problem considered, the question of interest is simplified into two competing hypotheses between which we have a choice that is null hypothesis, denoted  $H_0$ , against the alternative hypothesis, denoted  $H_1$ .

To achieve the objectives of the study, the study formulated and tested the following hypothesis with the help of chi-squared test. The chi-squared test of association allows the comparison of two attributes in a sample of data to determine if there is any relationship between them. This test is to compare the observed frequencies with the frequencies that would be expected if the null hypothesis is true.

#### Null Hypothesis

$H_0$ : More than 30% of the investors are unhappy (facing difficulties) with the present settlement period.

Sample proportion

No. of respondents in favour = 16 = 0.16

Total no. of respondents 100

$$\begin{aligned} \text{Critical Value} &= M + Z_{\alpha} * \sigma p \\ &= 0.6 + 1.64 * 0.045 \\ &= 0.6738 \end{aligned}$$

$$\sigma p = \sqrt{\frac{P(1-P)}{n-1}}$$

$$= \sqrt{\frac{0.6(1-0.6)}{100-1}}$$

$$= 0.045$$

Since, the observed value of sample proportion [0.16] is lesser than the critical value [0.6738], the null hypothesis is rejected. It implies that the alternative hypothesis qualify for acceptance. It is concluded that majority of the investors are always happy with the present T+2 settlement system.

#### Null Hypothesis

$H_0$ : 50% and more investors prefer the implementation of T+1 settlement system in the Indian Capital Market.

**Table 8.** Difficulties with the T+2 Settlements

	Reason A	W	Total	Reason B	W	Total	Reason C	W	Total	Reason D	W	Total	Grand Total	% of ranks
a. Shorter settlement cycle	89	30	2670	78	10	780	69	20	1380	62	40	2480	7310	24.91
b. Settlement failures/chance of auction in the trade	94	30	2820	83	10	830	78	20	1560	72	40	2880	8090	27.56
c. Difficulty for foreign institutions to confirm and settle trade	78	30	2340	67	10	670	65	20	1300	62	40	2480	6790	23.13
d. Automation from trade order and execution.	78	30	2340	78	10	780	78	20	1560	62	40	2480	7160	24.40
			10170			3060			5800			10320	29350	100.00

Source: Primary Data, W = weights

**Table 9.** Settlement cycle and alternatives for T+1

	Reason A	W	Total	Reason B	W	Total	Reason C	W	Total	Reason D	W	Total	Grand Total	% of ranks
a. Usage of internet banking and phone banking instead of cheque/DD	94	20	1880	82	30	2460	74	40	2960	65	10	650	7950	21.27
b. Usage of speed-E and electronic delivery instruction slips	90	82	7380	85	30	2550	72	40	2880	71	10	710	13520	36.16
c. Opting for E-contract notes by the investors.	85	65	5525	74	30	2220	71	40	2840	62	10	620	11205	29.97
d. Confirmation of trade through message by the NSDL/CDSL	78	20	1560	49	30	1470	35	40	1400	28	10	280	4710	12.60
			16345			8700			10080			2260	37385	100.00

Source: Primary Data, W = weights

Sample proportion

No. of respondents in favour/Total no. of respondents

$$= \frac{25}{100} = 0.25$$

Critical Value

$$M + Z_{\infty} * \sigma p$$

$$= 0.6 + 1.64 * 0.045$$

$$= 0.6738 = 0.045$$

Since, the observed value of Sample proportion [0.25] is lesser than the critical value [0.6738], the null hypothesis qualify for rejection. It is concluded that majority (69%) of the investor prefer T+2 settlement systems rather than the T+1 settlement system.

### MAJOR FINDINGS

- 40% of the investors prefer to invest their holdings in 8 to 10 stocks. 25% of the investors prefer to invest their holdings in >10 stocks.
- There are 35% of the investors who invest and trade in the large cap and 30% of the investor invest and trade in small cap stocks.
- Out of 100 investors surveyed, it was found that most of them were in favour of the present settlement period. 62 of them believed that the system is good, 21 of them regarded the system to be moderate.
- It is found that, 27.56% of investor feels that there is chance of settlement failures in case of implementation of T+1 settlements in the Indian Capital market, this leads to shorter settlement cycle that is on same day trade and delivery of delivery instruction slips to broker and execution of pay in and payout will happen on the same day.
- It shows that 36.16% of investor feels that there should be usage of Speed-E and electronic delivery instruction slips for settlement purpose. The implementation of T+1 settlements in the Indian Capital market, this leads to shorter settlement cycle that results into failure of transaction between the parties and minimization of such failure is usage of electronic delivery instruction slips and

confirmation or trade through SMS message from NSDL/CDSL.

- An overall observation for the implementation of T+1 settlement cycle in the Indian Capital market is usage of banking technology for stock market which leads to less chance of failure in the transactions.

### CONCLUSION AND POLICY INFERENCES

The study has been conducted to know the feasibility of T+1 and existing condition of T+2 settlement systems in the Indian Capital market. As cash inflow is increasing year by year because of FII and FDI, pay in and pay out system should be very transparent. When T+1 system is introduced, depositories and depositories participants should accept the system but practically it becomes a burden to them since they are facing problem of time deadline as the market starts at 9.00 a.m. In case T+1 settlement system is implemented, SEBI has to reconsider the timing of pay in, which in turn help the brokers and investors to deliver their securities to respective clients.

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# e-Waste Management Practices: A Comparison of Formal and Informal Recycling Sector

Rajeev Srivastava

## Abstract

*In the absence of legislation e-Waste recycling systems have been limited to private recycling of high value Waste with only limited consumer participation. e-Waste recycling systems now exist in many locations worldwide and the amount of related legislation continues to increase. Numerous approaches have been proposed including landfill bans, extended producer responsibility (EPR) and consumer advance recovery fee (ARF) funded recycling systems. This paper will give present status of formal and informal sector of e-Waste and finally comparison of both the sectors.*

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**Keywords:** e-Waste, Formal recycling, Informal recycling

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## INTRODUCTION

As the world's largest exporter of electrical and electronic equipments and importer of e-Waste, China plays an important role in the global electronics and e-Waste recycling. Investigation shows that about 85 million units of waste electronic products were produced in 2008 in China (Yang et al., 2008), and about 35 million tons of e-Waste was imported from developed countries each year (Greenpeace China, 2002). Open burning of coated wire, heating of printed circuit boards to remove IC chips, and acid baths for extracting gold are known sources of pollution in several areas of China (Deng et al. and Brigden et al., 2005). These methods of informal recycling, which do not involve investments in pollution control can be found

in other developing countries although the scale is smaller than in China.

There are many technologies that can be used for treating of e-Waste. One of these technologies is the Vertical hammer mill technology, which is a mechanical treatment that uses crushing of waste, density separation by air blowers, iron separation by magnets, and manual separation (Eichert et al., 2008).

Today the electronic waste recycling business is in all areas of the developed world a large and rapidly consolidating business. Audiovisual components, televisions, VCRs, stereo equipment, mobile phones, other handheld devices, and computer components contain valuable elements and substances suitable for reclamation, including lead, copper, and gold. Recycling raw materials from end-of-

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life electronics is the most effective solution to the growing e-Waste problem. Most electronic devices contain a variety of materials, including metals that can be recovered for future uses.

## RECYCLING PROCESS IN INDIA

Recycling rate for e-Waste is low worldwide. The two reasons for this are: the consumers have few recycling options, and they have to pay substantial end of life fees (GAO, 2005). It is suggested that recycling facilities to manage e-Waste should be supported by the government (Gupta et al., 2008). Besides being generated in the country, e-Waste from developed countries lands in India as second hand goods and mixed metal scrap for recycling (Toxics Link, 2004). The main reasons for imports to India are its cheap labour cost and less stringent environmental laws (Ragupathy, 2006). Imports have been regarded as one of the major sources of PC scrap in India (IRGSSA, 2004). Though India is a signatory to Basel Convention on the control of transboundary movements of hazardous wastes and their disposal under which e-Waste is also a component, it fails to stop the illegal imports to India.

During field survey it is found that e-Waste management in India has broadly classified into two components—Informal Recycling and Formal recycling.

Informal recycling means recycling done by informal sector. This category involves low skilled workers, ordinary instruments, and unhygienic conditions. Major Informal groups in India are based in Delhi, Pune and Bengaluru. These informal groups are involved in collection, dismantling, and refurbishment. The entire e-Waste management business of informal groups works within small units with low-skilled, mainly migrant labour. Informal sector can be classified in following hierarchy: waste pickers, thelawalas (collectors), small kabaris (small middlemen), and big kabaris (larger middlemen).

Formal Recycling means recycling done by formal sector. This category involves highly qualified workers, well-equipped recycling facilities, fully hygienic conditions, etc. There

are a few formal recycling organizations in India. It is found in the survey that due to higher proportion of unauthorized recycling in India most of the formal organizations are running below the profitable limit. A comparative evaluation of formal and informal recycling is summarized below in terms of technology, collection network, manpower, activities and level of hygiene in Table 1.

Some of the major e-Waste recycling groups in India are listed in Table 2.

### Informal Sector

During field survey of informal sector it was found that some of the informal groups had already entered in legal frameworks. Among them a few were successful as an organization and a few are still struggling to succeed.

#### a. E-Warrrd

E-Warrrd was set up in Gori Palya, Bengaluru by a group of 10 dismantlers from the informal e-Waste group. There are more than 50 dismantlers in the organization which involves in dismantling and metal recovery from e-Waste.

With the support of GTZ and EMPA, E-Warrrd has setup an e-Waste processing unit in Bomanhally with an installed capacity of 2 tons per day. The unit measuring about 15 sq.ft. had about 10 employees initially and is headed by Mr. Asif Pasha. The CFE (Consent for Establishment) from KPCB (Karnataka State Pollution Control Board) was obtained in April,

**Table 1.** A comparative evaluation of formal and Informal recycling

Current Status	Informal recycling	Formal recycling
Level of technology	Poor	Good
Collection network	Excellent	Poor
Manpower	Low-skilled	Highly-skilled
Major activities	Collection, Dismantling, Segregation, Refurbishment, Reuse	Collection, Dismantling, Segregation, Disposal
Level of hygiene	Poor	Excellent

Source: Literature findings



**Table 2.** e-Waste main recycling organizations in India

NCR	Bengaluru	Chennai	Mumbai/Pune
Attero Recycling	Ash Recyclers	AER Worldwide (India) Private	Eco Recycling Ltd.
Earth Sense Recycling Pvt. Ltd.	E-Waste Agency (EWA)	Sims Recycling Solution	E-Parisara Pvt. Ltd.
Greenscape Eco. Management	E-waRRd	TES-AMM Recyclers India Pvt. Ltd	KKPKP
TIC Group India Pvt. Ltd Responsible, Recycling Recovering, Reuse welfare, Association Earth Sense Recycle Pvt. Ltd.	Eco-bird Masha Allah		

Source: Field survey findings

2007 and a capital investment of about ₹14 lacs was made in building, plant and machinery, pollution control equipments.

The major operations at unit include collection and storage of e-Waste, segregation, functional testing, dismantling, and scrap recovery. The major pollution control equipment installed at the unit are chimney with hood, CRT dismantling chamber with vacuum, cyclone and dust collector, and separate storage for hazardous wastes.

During interview top managers expressed although they are trying to move over from an informal group to a more formal structure in terms of operations, the legal entity of the setup has not undergone any major changes. They feel due to less institutional support, inadequate linkages to procure e-Waste from the producers and the organized sector they are unable to implement effective e-Waste management. However, they got some good orders from companies such as Titan through the efforts of NGO, namely, Saahas based in Bengaluru. E-Warddd Organization profile is shown in Table 3.

### **b. Ecobirdd**

Ecobirdd was started by Mr. Rizwan Khan along with some e-Waste dismantlers from the informal sectors in the year 2003. With the support of GTZ, they formed a company in 2008.

The unit is operational in 1300 sq.ft. area

with a godown measuring 400 sq.ft. The installed capacity is 2 tons per day. The major plant and machinery installed at the unit include dismantling equipment, back filter, cyclone, scrubber, laboratory and acid water recovery facilities. The unit has facilities to recover metals such as gold, palladium, platinum, lead and copper.

The unit was set up with total investment of about ₹20 lacs and an additional investment of about ₹10 lacs envisaged on equipment for mercury recovery as well as CRT dismantling. During interview with the management of the Ecobirdd they said that they are happy to form a company from an informal group with the support of GTZ. They are now awaiting their clearances from CPCB for the e-Waste facility. The major improvements are awareness about the environmental issues.

**Table 3.** E-Warddd Organization profile

Year of Establishment	2007
Location	Bengaluru
No. of employees	More than 50
Major operations at unit	Collection and Storage of e-Waste, Segregation, Functional testing, Dismantling, Scrap recovery
Capital investment	₹14 lacs



Ecobird Organization profile is shown in Table 4.

**c. KKPKP (Kagaz Kach Kachra Kashtakari Panchayat), Pune**

KKPKP was registered in 1993 as a trade union of the workers from the waste management sector. Subsequently, a cooperative of waste pickers by the name of the SWACH was formed in the year 2006 for undertaking waste collection from the 14 municipal wards of PCMC. They have about 6500 waste pickers as members and a strong network of the waste collectors.

As a part of the MSW DTDC initiative, KKPKP has done a pioneering work in Pune city, collecting recyclables which account for almost 22% of the MSW generated in the city. This helps the PMC in a saving of ₹12 crores per annum on waste handling charges and also results in saving of gases emission of ₹2.94 lacs tonnes of CO<sub>2</sub> equivalent. Some of the other related activities of the agency as part of its broader SWW initiatives include the following:

- 1) Decentralized Compost Plants for Garden Waste
- 2) Decentralized Compost of Domestic Waste of Source
- 3) Decentralized Scrap Trading Cooperatives
- 4) Decentralized Biomethanation Plants
- 5) Material Centre Recycling Points for Temporary Storage of Waste
- 6) Aesthetically Attractive Specs for Sorting Waste

**Table 4.** Ecobird Organization profile

Year of Establishment	2008
Location	Bengaluru
No. of employees	More than 50
Major operations at unit	Collection and Storage of e-Waste, Segregation, Functional testing, Dismantling, Scrap recovery
Capital investment	20 lacs

- 7) Centers for Retail and Wholesale Trading of Waste
- 8) Protective Gear for the Workers
- 9) Creation of Social Security Mechanism for the Unorganized Workers

KKPKP Organization profile is shown in Table 5.

**d. Masha Allah Trust**

Masha Allah Trust, Bengaluru is a non-profit charitable organization. The organization is working for producing self-reliant, resourceful and responsible individuals through its various development programs. The organization provides opportunities to individuals to learn skill and translate these skills into productive activities that generate income. Ash recyclers take active part in supporting the efforts of Masha Allah Trust.

Ash recyclers the individuals are trained in disassembly of electronic equipments, like computers, monitors, printers, copiers, etc. Basic skills of operating computers are taught to the trainees after working hours. Awareness programs are conducted at school level about e-Waste and its effect on environment and health aspects. Ash recyclers donate refurbished computers to educational institutions through Masha Allah Trust with an agreement that the computers are to be returned back after end of their life for recycling purposes.

**Formal Sector**

Field visits of Formal sector helped in assessing their viewpoint regarding legalization of informal groups.

**Table 5.** KKPKP Organization profile

Year of Establishment	1993
Location	Pune
No. of employees	More than 6500
Major operations at unit	Waste collection from the 14 municipal wards of PCMC

**a. E-Parisara Pvt.Ltd, Bengaluru**

E-Parisara is one of India's first scientific electronic waste recycling units which has started its operation in September 2005. The process followed at the unit for converting e-Waste product to a raw material broadly includes the following:

- Manual Dismantling
- Hands-on Segregation
- Shredding
- Density Separation

E-Parisara export shredded circuit boards and components for copper smelting to M/s Umicore precious melting refining, Belgium with the approval from Ministry of Environment and Forests. Umicore is a materials technology group. Its activities are centred on four business areas: advanced materials, precious metals products and catalysts, precious metals services and zinc specialties: Umicore is the world's largest recycler of precious metals from old mobile phones, laptops, electronic scrap or spent catalyst material. E-Parisara Organization profile is shown in Table 6.

**b. Ash Recyclers**

Ash recyclers are in the business of e-Waste collection, transportation, dismantling & refurbishing since 1980s under the leadership of Mr. Sayed Hussain. The formal entity was set up in 2003 and in the year 2005. Ash Recyclers became the first organization in India to get registration for e-Waste management. The organization has two units in Benagaluru-one at Haskote (capacity 120 Tonnes per

annum) and other in Thimmiah Road. Ash Recyclers are also authorized to collect, store, transport, handle, recycle e-Waste by KPCB and CPCB. They collect all types of e-Waste from used equipments such as computer systems and peripheral, monitors, copiers, printers, TVs, and mobile handsets. They have set up their own e-Waste collection bins as well as transportation systems and also offer door-step collection.

One of the strong points of Ash recyclers is its skills in refurbishing the computer systems, which are then used for providing gainful employment opportunities to poor sections of the society through Masha Allah Trust. Ash Recyclers initiatives have received wide coverage in media. They are now in the process of setting up a new plant for e-Waste management at Mulbagal, about 120 km from Bengaluru. Ash recyclers Organization profile is shown in Table 7.

**CONCLUSION**

In survey of various formal and informal recycling industries and through existing literature, it was found that informal sector of recycling involves low-skilled workers, ordinary instruments, and unhygienic conditions. Major informal groups in India are based in Delhi, Pune and Bengaluru. These informal groups are involved in collection, dismantling, and refurbishment. Formal recycling sector involves highly qualified workers, well-equipped recycling facility, fully

**Table 6.** E-Parisara Organization profile

Year of establishment	2005 (India's first Scientific Electronic Waste Recycling Units)
Location	Pune
Major operations at unit	Manual dismantling, Hands-on segregation, shredding, density separation

**Table 7.** Ash recyclers Organization profile

Year of establishment	1980 (first organization in India to get registration for e-Waste management)
Location	Two units in Bengaluru-one at Haskote (capacity-120 Tonnes per annum) and other in Thimmiah Road
Major operations at unit	Collection, transportation, dismantling and refurbishing



hygienic conditions, etc. There are a few formal recycling organizations in India. It is found in the survey that due to higher proportion of unauthorized recycling in India most of the formal organizations are running below the profitable limit. During comparison of both the sectors it was found that formal sector use good technology in recycling process as compare to informal sector. It was also found that informal sector focuses only on recovery of precious materials from e-Waste while formal sector focuses on recovery of precious metals as well as safe disposal of unused material.

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# e-Induction Program: Inductor-driven to an Inductee-driven

Sanjoy Roy\* and Anoop Pandey\*\*

## Abstract

*Retaining Employee is a complicated and most tedious task for HR, therefore, we need to focus on the retaining of an employee from the day when he join the organisation. Technology is a great tool for human being and can be used for very significant task of introduction of new employee and also helps in increasing the productivity. Games in any form are being recognized for their universal attraction and ability to involve learners in concepts. Game based learning is a challenge where interactive environment is to be explored and created so as organisation succeeds in branding it to the employees that automatically leads to retaining them.*

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**Key words:** E-Induction Technology, Employee Retention, Entertainment Granada, RPG group, Inductee driven Induction

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## INTRODUCTION

An effective Induction Program is a must for retaining the employee in the organisation. Not only employee retention but it leads to improved morale and increased productivity. Some companies often make the mistake of ignoring induction periods. Instead, they leave the new employee to pick things up themselves, and from existing employees, which costs time and money. This defeats the idea of induction, which is to integrate the employee so that they reach their full potential as soon as possible.

When a new employee joins a firm, the major challenge is to present and brand the organisation in such a manner that it automatically leads to retaining them. When an

organisation takes on a new employee, it is important that they are given a right induction that will benefit them as well as the business. This induction period can be considered as the foundation for getting the most out of the employee and to determine their long-term success in the business.

### How to introduce

Cascio (1995) defines induction as a process to inform new staff concerning:

- Standards, expectations, norms, traditions and policies
- Social behaviour, work climate, getting to know others
- Technical aspects of the job

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While induction programs vary across organisations, the least most programs attempt to do is the following:

Introduce your company by specifying the size (no. of employees, branches, etc), the history and how your company operates. The employee may have already researched your business but any additional information is always good to know.

The role of induction is summarized in Figure 1.

### Study the Exit interview

Information from the exit interview is very precious for the employee retention plan and according to exit interviews, the reasons for employees leaving the organisation are: the dull style of training, the sheer quantity of information they were expected to remember, training style, lots of lectures, the difficulties they faced when they joined their teams, the lack of interest or support from their Team Manager.

### e-induction

A well thought out orientation process takes energy, time and commitment; however, it usually pays off for the individual employee, the department, and the organisation.

In 2002, the Department of Health and Human Services (DHHS) adopted an application developed by Logistics Management Institute (LMI) to automate the Entry on Duty (EOD) process called the e-Induction System: Online Induction for New Hires. e-Induction allows for the preparation and review of new employee forms prior to the new employee's arrival on the job. New employees are able to access required forms via the web and submit information to

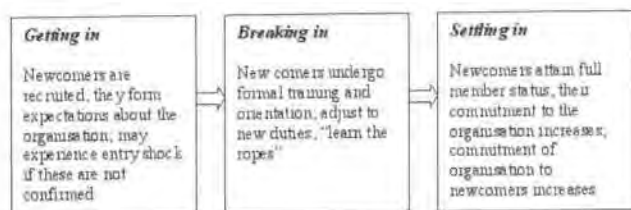
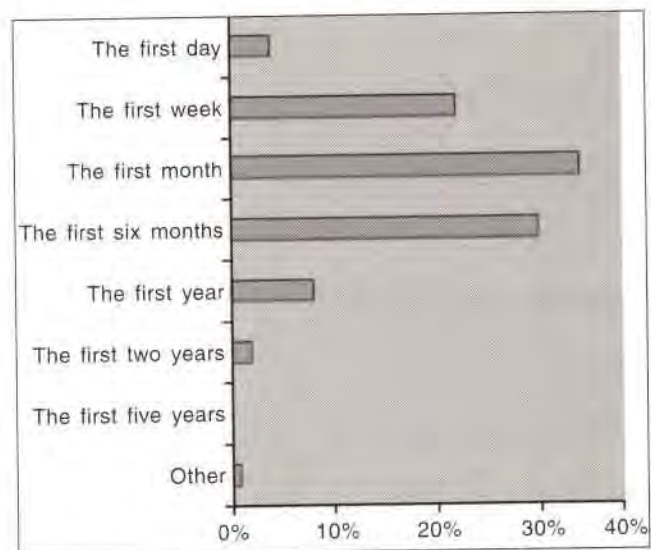


Figure 1. Organisational socialisation: its major phases (Baron and Greenberg, 1990, p. 306)

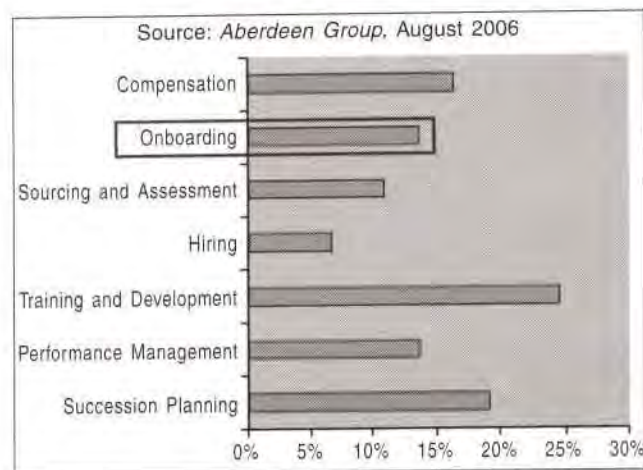
their servicing HR office before they physically report to duty.

There is a clear match between induction's unique mixture of problems and the solutions which e-induction offers. e-induction or game based induction solutions offered by various companies help to:

- e-Learning-based induction training provides a welcome change from the traditional, formal, inductor-driven process to an inductee-driven, fun-based process.



Timeframe for an employee to take a decision to stay on at a company here is a graph of statistics from the survey conducted by the Aberdeen Group in 2006.



What are the determinants of retention? Companies believe the following employee engagement strategies influence retention rates.



- The message is consistently presented across the organisation to all groups at all locations at all times.
- With video, audio-visuals, charts, animations, games... the induction training is made interesting, engaging and effective.
- Lessen the time period that an employee takes to arrive at the preferred level of understanding or proficiency.
- Training standards can be uniform across departments, branches, and locations worldwide.
- Eliminates illegible handwriting of New Hire
- Customized to the needs of each individual
- Eliminates gathering forms, mailing, cost of postage
- Update and modify programs—conveniently and cost effectively.
- Track learners' progress and completion rates.

Employees don't have to spend time on every aspect of the handbook, only on the very important topics. Play some games because this can help the learning process. Games such as: Photo match after the tour. Each employee is provided photos of other employees and a list of names.

The leading organisations in the world such as Granada, Qantas, UNICEF, Att Veta, Ludisco, RPG Enterprises are moving from inductor-driven to an inductee-driven induction programme.

The organisation branding is to be done in a limited time span. Since time is a constraint, many organisations are using the time available to build relationship with the new hire and introduce him to the organisation, rather than focus on informing him about organisational processes.

While the computer-based system ensures that the new-hire is informed of all organisational processes, the induction programme manager can use the available time to get to know the new-hire better. One must treat inductions as the Learning Opportunities.

Most induction programs remain one-way streets with induction programme managers doing most of the talking and the new hires trying to absorb as much as possible.

A simulation or games-based approach via e-learning could give immediate online access to induction before the employee joins. It could show her/him around, get the employee to complete tasks and provide a consistent experience for all the employees. In terms of motivation, this learner-centric experience would set the right tone and create the right first impression.

Introducing a simulation and game-based induction is creative and

- It engages a new starter from the beginning,
- It encourages enthusiasm and enhancing their first experience of the new corporate environment can increase familiarity;
- Get her/him to complete tasks and provide a consistent experience for all new Employees;
- Learner-centric experience;
- It's a replicable asset that goes on saving money;
- It establishes loyalty and productivity from an earlier stage than a 'corporate dump' or standard generic induction.

Orange is the leading mobile operator in the UK. It is at the forefront of innovation in the mobile world, with operations in more than 20 countries. It moved from inductor-driven induction to an inductee-driven Induction programme

An instructor-led induction program using PowerPoint slides was employed earlier but consistency could not be maintained in the training. Tata Interactive Systems designed a special e-induction programme to execute the task. They used an animated bus that took the new inductees on a journey through the world of Orange, providing vital insights into the company. E-induction provided simple, friendly, and visually appealing screens, reflecting the values of Orange. It used imaginative and interesting user interface and activities, without compromising instructional integrity.



**This would set the right tone and create the right first impression.**

RPG Enterprises group e-Induction aims to:

1. Inform inductees about the history of the group and how it evolved.
2. Educate inductees about the group's different business sectors, companies and their Businesses.
3. Make the inductees understand and connect with the group's vision and values.
4. Help the inductees understand (and buy) the role the group would play in their careers.

For the first objective, the company uses a simple animated program of a highway with a user-controlled car. The car takes the inductee through the evolution of the group on a highway with a few milestones. Every milestone represented a landmark development in group's evolution.

For the second objective, the company uses an investigative game. As a new entrant to the group, the aim is to inform of a theft of a dossier containing critical information about the group. The culprit plans to visit other group of companies and updates the dossier with some more information. The inductee, along with an investigator from an agency, is required to nab the culprit.



Source: [www.tatainteractive.com](http://www.tatainteractive.com)

*The visual approach, simulating a journey into the world of Orange, add to its user-friendliness and appeal*

**Challenges**

- Support of the Top-Level Management
- To understand the organisation culture and link it with the game
- Development time
- Expertise in software development/External consultancy
- Cost
- Novelty effect/Resistance to change/static mindset

In this paper we use chi-square test to justify our hypothesis and conclusion of the paper. Primary data used by researcher and sample size is 100.

**Hypothesis 1**

Chi-square test

"E-induction program helps in reducing the labour attrition."

(% Age)		
(Expected)	(Observed)	$[(O-E)^2]/E$
100	84	2.56

Degree of freedom,  $df = (n-1) = 1$   
Critical value = 3.84

(Value of chi-square for 5% level for one degree of freedom is 3.84.)



Source: [www.cnkonline.com](http://www.cnkonline.com)

Here critical value is greater than the calculated value.

Accept the null hypothesis, i.e. "e-induction program helps in reducing the labour attrition". This statement is expected to be believed 90%, and observed as 84% and the difference is due to the sampling.

**Hypothesis 2**

"E-induction program is effective than traditional induction program."

(% Age)		
(Expected)	(Observed)	[(O-E) ^2]/E
100	81	3.61

Degree of freedom, df = (n-1) = 1  
Critical value = 3.84

(Value of chi-square for 5% level for one degree of freedom is 3.84.)

Here critical value is greater than the calculated value.

Accept the null hypothesis, i.e., "e-induction program is effective than traditional induction program". This statement is expected to be believed 95%, and observed as 81% and the difference is due to the sampling.

**Hypothesis 3**

E-induction program increases the royalty of the new employee.

(% Age)		
(Expected)	(Observed)	[(O-E) ^2]/E
100	93	0.49

Degree of freedom, df = (n-1) = 1  
Critical value = 3.84

(Value of chi-square for 5% level for one degree of freedom is 3.84.)

Here critical value is greater than the calculated value.

Accept the null hypothesis, i.e.,

"E-induction program increases the royalty of the new employee." This statement is expected to be believed 90%, and observed as 93%. And the difference is due to the sampling.

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I, Kunwar Shekhar Vijendra, do hereby declare that the particulars given above are true to the best of my knowledge and belief.

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# Analyzing Household Consumption Pattern in Haryana

Kiran Mor\* and Savneet Sethia\*\*

## ABSTRACT

*India's faster economic growth over 1990s has raised per capita income (expenditure) and has significantly impacted its food consumption patterns by causing a change in the structure of food consumption patterns observed earlier during pre-reforms period. With just 1.37% of the total geographical area and less than 2% of India's population, Haryana has carved a place of distinction for itself during the past four decades. Haryana is among the most prosperous states in India, having one of the highest per capita income in the country. The percentage expenditure on food items was higher in rural sector (50.66%) in comparison to urban sector (43.40%). While on non-food items, percentage expenditure was higher in urban sector (56.60%) in comparison to rural sector (49.34%). An attempt is made to view whether there is a significant change in the consumption pattern of Haryana or not.*

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**Keywords:** Consumption, Expenditure, MPCE, Food and non-food items.

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## INTRODUCTION

The performance of any economy is measured in terms of the trends and patterns of macroeconomic variable which include national income, consumption, saving, investment and employment. Per capita income and food consumption both are the indicators of human development but food consumption is a better indicator of human welfare. India's faster economic growth over 1990s has raised per capita income (expenditure) and has significantly impacted its food consumption patterns by causing a change in the structure of food consumption patterns observed earlier during pre-reforms period. This raises the relevance of looking at the composition of India's food consumption basket.

Consumption is an important activity performed by the household sector. Whatever personal income we obtain, from one source or the other, is spent either on consumption or is saved. Today's consumption is exacerbating inequalities. The consumption pattern in India is defined with the reference to the consumer expenditure survey by the NSSO. These surveys divide rural and urban population into different expenditure group. The distribution of household/person and the per capita monthly expenditure on food and non-food items is given for each group.

The Government of India introduced economic reforms in various sectors of the economy in July, 1991. The economic reforms

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were expected to influence the national income and the standard of living of the people. Thereby the consumption expenditure was expected to change after the reform. Generally economic reforms refer to the special efforts aimed at the removal of economic imperfection in an economy.

In other words economic reforms refer to the short term changes for better economic environment and have to refrain from operations. India is one of the fastest growing economies in the world. In the past decade (2000-2010), India's gross domestic product (GDP) has grown at an average rate of 7.27%. According to the Planning Commission estimates, the economy is projected to grow at the rate of 9-9.5% during the 12th Five Year Plan period (2012-2017). GDP growth has been accompanied by a rise in per capita income.

The State of Haryana was formed on 1st November, 1966 as a result of reorganisation of erstwhile Punjab State. At the time of its formation there were only seven districts in the State. The state has made tremendous progress in each sector since its formation. The State has achieved the distinction of highest per capita income, after Goa, and it remained ₹68,914 during the year 2008-09. It has become a role model for other States of the country.

The state has become a trend setter in the field of implementing development programmes and in the execution of social welfare measures. With just 1.37% of the total geographical area and less than 2% of India's population, Haryana has carved a place of distinction for itself during the past four decades. Haryana is among the most prosperous States in India, having one of the highest per capita income in the country. Agriculture and related industries have been the backbone of the local economy. Agriculture is the mainstay of more than 65% population in Haryana with a contribution of 26.4% in GDP of the State.

The economic growth of Haryana has been exemplary since its creation with an average annual growth rate of 6.4% during the period from 1966-67 to 2004-05. Further, during the period of last 7 years (2005-06 to 2011-12), the State economy grew at an excellent average

annual growth rate of 9.4% much higher than the rate of growth of Indian economy at 8.4%. Though, Haryana is geographically a small State accounting for only 1.3% of the total area of the country, but the contribution of the State in the National Gross Domestic Product at constant (2004-05) prices has been recorded as 3.4% as per the Advance Estimates (AE) of 2011-12. With per capita income of ₹94,680 at current prices during 2010-11, it occupies the 2nd position after Goa in the country.

Consumption categories are formed mainly on the basis of the commodities involved. Broadly speaking there are two categories: Food and non-food consumption. (a) These consumption to gratify hunger and thirst needs is food consumption. (b) The consumption that is not related to the above but meant for satisfaction of health, education, travel and recreational needs is regarded as non-food consumption.

## REVIEW OF LITERATURE:

**H.S. Houthakker (1957)** in his study "**An International Comparison of Household Expenditure Patterns Commemorating the Centenary of Engel's Law**" had compared elasticities of food, clothing, housing and miscellaneous items with respect to total expenditure and family size using data from surveys conducted in 30 different countries.

In his study "**Consumption economics: A multi-disciplinary approach**", **David (1962)** have studied the effects of family size on the consumption of selected durable goods. The result revealed that the size of the family and frequency of purchasing durables, kinds of durable purchased and the substitution of durables for commercial services hampers the consumption pattern of households.

In his study "**Structure and Pattern of Food Consumption of farm families in Eastern Nigeria**" **Mann (1963)** had studied the structure and pattern of food consumption in eastern Nigeria. The study revealed that total annual expenditure per family kept a parallel trend upward with an increase in family members.

**Sumitra and Saraswathi (1966)** in their studies "**The income and expenditure pattern**

of 150 selected families in Coimbatore city", founded that the per capita expenditure on individual items increased with the increase in income. With a gradual increase in the income, the proportionate amount of income spent on food, fuel, lighting, house rent and education was decreased.

In their study "Gender Effects in Indian Consumption Patterns", Subramanian and Deaton (1991) examined the effects of gender discrimination on household consumption pattern using the household expenditure data from the NSS. Engel curves had been estimated including detailed demographic variables and tested for the effects of gender in the pattern of demand. Substantial gender related effects in the consumption pattern of households for food and non-food groups were examined.

In their study "Patterns of Consumption and Poverty in Delhi Slums", Kumar and Aggarwal (2004) determined the extent of poverty in Delhi slums through consumption patterns, employment and educational status of the slum population. They found a very low level of education of the migrants, gender disparity in economic status, and a significant number of households below the poverty line.

## OBJECTIVE

- To analyze the consumption pattern of selected food and non-food items in rural-urban households.
- To compare the consumption expenditure of selected food and non-food items between rural and urban households.

## DATA VARIABLES

It is based on the secondary data collected from various source. For collecting secondary data, data will be taken from Central Statistical Organisation, Reports on National Sample Survey of various years, National Accounts Statistics of various year, various websites on the internet, various published and unpublished reports and journals has been considered.

## RESULTS AND DISCUSSION

We present the distribution of budget shares of

all the commodities group considered in this study. Cereals group constitute a major proportion of budget shares in both the areas. It has been observed that majority of the households were having medium level education and as the size of the land holding increased the family education also increased. Majority of the respondents had low social participation.

### Sector-wise monthly per capita/ household consumer expenditure:

The main results of consumer expenditure survey with reference to per capita per household consumer expenditure both in rural and urban areas, distribution of expenditure under main heads, namely, food and non-food items are presented in Table 1 and graph 15. The analysis will help to ascertain the pattern of consumer expenditure in rural and urban areas of the State.

### Percentage break-up of MPCE of food and non-food items:

Table 2 and graphs 16 and 17 shows the percentage break-up of monthly per capita expenditure for broad groups of food and non-food items in rural and urban areas of the State.

**Table 1 Average Per Capita/Household Monthly Consumer Expenditure**

Sector	Food	Non-Food	Total
<i>Average monthly per capita consumer expenditure (₹)</i>			
Rural	486 (50.7)	473 (49.3)	959 (100.0)
Urban	588 (43.4)	767 (56.6)	1354 (100.0)
Haryana	510 (48.4)	543 (51.6)	1053 (100.0)
<i>Average monthly household consumer expenditure (₹)</i>			
Rural	2381 (50.7)	2318 (49.3)	4699 (100.0)
Urban	2587 (43.4)	3375 (56.6)	5958 (100.0)
Haryana	2448 (48.4)	2606 (51.6)	5054 (100.0)

(Figures in brackets are percentages to total)



The above table reveals that the percentage expenditure on food items was higher in rural sector (50.66%) in comparison to urban sector (43.40%). While on non-food items, percentage expenditure was higher in urban sector (56.60%) in comparison to rural sector (49.34%). Milk and milk product items constitute the major part of food items in both sectors. The expenditure on milk and milk product was higher in rural sector (21.91%) as comparison to urban sector (15.83%). The expenditure on

beverages was more in urban sector (3.65%) in comparison to rural sector (2.98%). The expenditure on cereals and pulses was more in rural sector (11.60%) in comparison to urban sector (9.69%). As far as non-food items are concerned, the maximum share to total expenditure in rural area was on Fuel and Light (11.40%) and in urban area it was found to be in miscellaneous consumer services (12.72%) of the State.

**Table: 2 Percentage Break-up of MPCE according to Broad Groups of Food & Non-Food Items**

Items	Percentage	
	Rural	Urban
1. Cereal	9.17	7.59
2. Gram	0.12	0.20
3. Cereal substitute	-	-
4. Pulses and pulse products	2.43	2.10
5. Milk and milk products	21.91	15.83
6. Edible oil	1.99	2.35
7. Egg, fish and meat	0.38	0.53
8. Vegetable	5.33	4.98
9. Fruits (Fresh)	1.50	1.99
10. Fruits (Dry)	0.14	0.70
11. Sugar	2.75	1.87
12. Salt	0.18	0.16
13. Spices	1.78	1.45
14. Beverages etc.	2.98	3.65
<b>Food (Total)</b>	<b>50.66</b>	<b>43.40</b>
15. Pan, tobacco and intoxicants	2.01	1.68
16. Fuel and light	11.40	11.08
17. Clothing and footwear	7.34	7.04
18. Educational	5.60	8.36
19. Medical	6.27	3.32
20. Entertainment	0.81	1.98
21. Misc. consumer goods	4.16	4.46
22. Misc. consumer services	8.45	12.72
23. Rent	0.42	3.16
24. Taxes and cesses	0.06	0.63
25. Durable goods	2.82	2.17
<b>Non-food (Total)</b>	<b>49.34</b>	<b>56.60</b>
<b>Total Consumer expenditure</b>	<b>100.00</b>	<b>100.00</b>

### Rising rural MPCE is a reflection of India's Economic Growth:

During the latest survey, the economy grew at an average annual rate of above 8% and the rural MPCE rose to 65% during the same period. Among the major state, Kerala (INR 1835) has the highest rural MPCE followed by Punjab (INR 1649) and Haryana (INR 1510) while Bihar and Chhattisgarh (around INR 780) had the lowest rural MPCE followed by Orissa and Jharkhand (around INR 820) and Uttar Pradesh and Madhya Pradesh (around INR 900). In the urban sector, MPCE of 6 states was higher than the national average led by

**Table 3. Average MPCE (RS) in rural and urban sectors of major States in India**

State	Rural MPCE	Urban MPCE
Kerala	1835	2413
Punjab	1649	2109
Haryana	1510	2321
Andhra Pradesh	1234	2238
Rajasthan	1179	1663
Tamil Nadu	1160	1948
Maharashtra	1153	2437
Gujarat	1110	1909
Karnataka	1020	2053
Assam	1003	1755
West Bengal	953	1965
Madhya Pradesh	903	1666
Uttar Pradesh	899	1574
Jharkhand	825	1584
Odisha	818	1548
Chhattisgarh	784	1648
Bihar	780	1284
All India	1054	1984

Source: National Sample Survey Organisation, Report No. 538

Maharashtra and Kerala and followed by Haryana, Andhra Pradesh, Punjab and Karnataka. Like in the rural sector, Bihar (INR 1238) also had the lowest urban MPCE followed by Odisha, Uttar Pradesh, Jharkhand and Chhattisgarh.

According to the quinquennial survey, the composition of household expenditure basket in terms of food and non-food items has been steadily changed. The share of food was 57% in rural India and 44.4% in urban India. The progressive decline in the share of food by about 10% and 16% in rural and urban sectors respectively, during the 22 years is widely considered as a measure of economic growth. The consumption of cereals which still form the largest components of household consumption budget has significantly declined since 1987-88 from 26.3% to 15.6% in rural India and from 15% to 9% in urban India.

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# Some Aspects of Development of Marketing Strategy for Spiritual Tourism in Uttarakhand State of India

Himadri Phukan

## Abstract

*Tourism has been considered as one of the only source of income for many countries, globally and most of the countries are naturally convinced to invest in tourism – physically as well as intellectually. In recent years literatures in the field of spiritual tourism, along with other sector-based tourisms (adventure tourism, eco tourism, medical tourism, wedding tourism etc.), have been on rise significantly as it is one of the major sources of the state economy for several countries. A higher trend in reporting case-based studies (geo-specific, shrine specific etc.), rather than on general approach, have been observed.*

*Historically, India has been in the thick of attraction to the global tourists owing to its ancient civilizations, great diversities in many aspects – geographical, religious, cultural, its image as the home to growing intellects, and its growing economy. Her earning through tourism over the years has also been rising substantially. The growth rate of tourism sector of India has been way above the world average in the last few years. According to the World Travel and Tourism Council, by the year 2020, tourism in India could contribute ₹ 8, 50,000 crores to the GDP. In Uttarakhand too, the number of tourists to the state, both inbound and outbound, has been increasing; however, the rate of growth is very marginal. In a recent study under the aegis of the Government of Uttarakhand reveals that the estimated total numbers of domestic and international tourists that will be visiting the state in the year 2022 stand at 143.30 million and 0.703 million respectively. However, sufficient data regarding the spiritual tourists visiting the state, their requirements, priorities, logistics, etc. with respect to different spiritual destinations are not easily available for analysis. More importantly, strategies to attract the spiritual tourists to the state need detailed analysis. Consequently, a systematic study on different aspects of these destinations in the state, the marketing aspects, in particular, was needed. The present research programme is concerned with an intensive study about spiritual tourism and development of marketing strategy along with some analyses regarding the infrastructures at the spiritual destinations. A brief analysis of the impacts of spiritual tourism on state's economy was carried out.*

*A 'descriptive research' with 'conclusive research design' was carried out with primary and secondary data. A self-administered questionnaire survey' methodology has been adopted. Primary data were collected by administering a questionnaire instrument, while secondary data were collected from various Government and non government sources in order to test the hypotheses based on the research questions. College of Engineering Roorkee (CORE), Roorkee, Uttarakhand, India*

*Samples were drawn from a target population spread over two most populated and mostly visited spiritual places – Haridwar and Rishikesh in the Uttarakhand state of India. The hypotheses have been tested with the collected data. Detailed discussions on the findings of the results and hypotheses have been presented.*

The demographic analyses of the data indicate male and female tourists are equally interested for the spiritual activities, although the number of married domestic spiritual tourists is significantly higher than the international married tourists. However, tourists visiting the spiritual places with the lone purpose of spirituality are unexpectedly low (13% and 25% in case of domestic and international tourists respectively) contrary to the reputation of this spiritual state in India. The facts also revealed that, the spiritual tourists are not very specific about the infrastructures of the destinations; however, the tourists expressed that better infrastructures could attract more tourists to the state. There is a need for adopting effective marketing strategy in the state as far as the spiritual tourism is concerned. It was also revealed that, the non government agencies along with the government must take the initiatives for betterment of the facilities/ conditions at the spiritual destinations.

Effects of infrastructure on the state's tourism and vis-à-vis its economy have also been analysed. A Tourist-Infrastructure-Economy model has been developed. The IT and non-IT infrastructures have been identified. It was concluded that the IT revolution can be exploited to attract spiritual tourists to the state. A causal-loop representation of the effect of spiritual tourists on the state's economy has also been developed. Necessity of improved infrastructure for enhancement of spiritual tourism related revenue has been established. Requirement of an effective marketing strategy with respect to spiritual tourism, which is a major stake in the state's Uttarakhand tourism, has been established through data and scientific analyses. Indicators for economic health of the state's economy vis-à-vis spiritual tourism in Uttarakhand have been identified.

The study further concluded that the non government agencies along with the government must take the initiatives for betterment of the facilities/conditions at the spiritual destinations. It was also observed that the tour planning of an informed tourist is primarily based on three key factors – Time, Taste and Technology. Accordingly, a Time-Taste-Technology (T-T-T) model has been developed. Further it was concluded that Uttarakhand has outstanding tourism products and has potential to become a major tourism destination. The state has a greater value for domestic tourist because of its spiritual sites. Further, proper marketing strategies are to be adopted to place Uttarakhand on the tourism map of the world too.



## Book Reviews



**International Human Resource Management**  
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Sadhana Dash  
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The book deals with the concepts and principles of Human Resource Management with special emphasis on the changes accruing in this field in the contemporary business scene.

The authors have adopted a systematic approach to the subject matter. Besides, there is a logical progression of topics which takes the reader through the entire gamut of HRM. Apart from theoretical inputs the book abounds in case studies which bring, abstract concepts to life. Each chapter contains learning objectives, chapter summary, review question, key terms as well as assignments that enable the student to apply theoretical concepts to current happenings in industry. All the above features go towards making the book interesting and student-friendly.

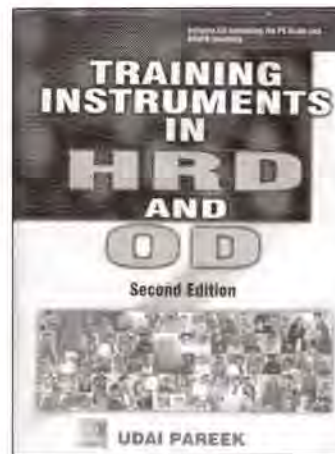
The choice of subject by the authors is commendable in this age of globalization. It is imperative for students to understand the menaces of applying basic HR principles to international business. In this context copies life global perspective, multicultural sin, cross Border mergers and acquisitions and repatriation are very useful for the student. Today's climates of large-scale inter-continental human movement necessitated by forces of globalization makes the

chapter on HRM practices in different countries especially relevant.

The layout of the book is systematic. But the very small print of the text, as well as diagrams and tables make reading somewhat tedious. A slightly larger print would have been more comfortable for the reader.

This small shortcoming notwithstanding, the book is a must-read for students of HRM as well as general management who want to keep themselves constantly updated with emerging trends.

Prof. Dr. Poonam Devdutt  
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**Training Instruments in HRD and OD**  
Dr. Udai Pareek  
2nd edition  
McGraw Hill  
Education (India)  
Pvt. Ltd.  
ISBN: 978-0-07-  
014764-5

Dr. Udai Pareek is a visiting professor at the Indian Institute of Health Management Research and adjunct professor of Health Policy and Administration at the University of North Carolina, Chappell Hill NC USA. He is chairman of the Institute of Development Research and Statistics, Jaipur and vice president of the management board IIHMR. He is on the Management Governing Board of Academy of HRD, IIHMR, ISABS, JIM, Modern Syntax, NIMID, NIA, NAM & RSIHFW. He is the editor of the Journal of



Health Management, and a consulting editor of the Journal of Applied Behavioral Science.

He has been the chairman of governing boards of institute of Development Studies, the South Asian Association of Psychologists (SAAP), the national HRD network and the Indian Society of Applied Behavioral Science and chairman of the Scientific Advisor Committee of IIMR.

He was the only Asian to become fellow of National Training Laboratories (NTL) USA and the only fellow from India to the Society for the Study of Social Issues (SPSSI). He is also the fellow of the Indian Society of Extension on Education.

Dr. Pareek has been US-AIDHRD/OD advisor to the Ministry of Health, Government of Indonesia, LNT professor of Organisational Behaviour, Indian Institute of Management, Ahmedabad, Direct School of Basic Sciences & Humanities, University of Udaipur, Director of SIET institute and Professor at IARI and NIHA.

He was the first editor of 'Vikalp' and has been the Editorial Board of Administrative Science Quarterly, Organisation and Group Studies, psycho logia, etc.

He has authored and edited about 30 books and 35 papers.

He has been awarded several national awards and has been cited in a large number of national and international biographical reference books.

Instruments are needed for Human Resource Development as well as to facilitate the Organisational Development. An instrument in simple language is an individual, a group of people, the teams and the complete organisations. These categories of people are given above and the organisation evolves a system to work for gainful consequences. The instruments are a guide-line to suggest ways and styles of working, the behaviour pattern under stress and strain: and be finally successful with emotional intelligence with people and the teams. Do they accept judgments that override their personal interests? This is examined with special

instruments. The entitled book has 861 pages, divided into 5 major parts as follows:

Part 1. Instruments for HRD

Part 2. Personal Orientation and Behaviour

Part 3. Personal Interpersonal Styles

Part 4. The Role (HR and Organisation).

Part 5. The Organisation.

The book gives out, in all 92 instruments; 13; on personal and interpersonal. 12; on style. 15; on role. 12; on organisation. 16; for non-corporate groups (e.g. farmers, hospitals, etc.). 24; the reminder, give out sociological, psychological, economical, environmental and certain concepts of attitude, personality, motivation, counselling, etc.

The instruments described in the book are behaviour-oriented. For desirable behaviour, there are certain norms which need constant monitoring and changes, if necessary. There is stress on mutual learning and the use of facilitators who are expected to be familiar with entire statistics.

The book specifically brings out that for HR problem areas there may not be readily an instrument available and HRD facilitators may like to develop their own ways, means, styles; but the stress is always on positive developments, help, guide and reassure.

The SELF is at the centre of a person's competence. It is like self-understanding, self-confidence, motivation, initiative, perseverance, self-esteem, self-efficacy, and so on.

Rightly, human problems are there, and the book covers most effectively the following:

1. Personal efficacy; who am I?
2. Goal orientation, such as; I want to become a doctor, I want to improve the educational system, I want to donate my eyes after my death, etc.
3. Desire for personal excellence.
4. Concern for others and society.
5. Awareness of personal strengths and weaknesses.

6. Will for self-development
7. Self-discipline and self-control
8. Proactive orientation; meaning thereby that a situation has to be analyzed critically
9. Resource utilization. Utility concept affordable and yet maximum output
10. Planning for now and for future
11. And, other points like fatalism, hope, optimism, pessimism
12. Finally, balanced orientation and mandatory values

Lastly, the writer emphasizes in this chapter that small challenges that are successfully achieved develop an urge to achieve more and face bigger challenges. Gradually, challenging goals help to develop hope of success.

The writer excellently covers certain styles with specific motives and profile. These are, as given below, and each of these have separate instruments for adult-children; senior-junior, parents, husband-wife, friends, team and an organisation.

While working with people, the aspects of supervision; problem solving attitude; managing the mistake; conflict management; communication; decision making; setting standards; sulking peoples anxiety management. How would they be helped?

The stress in the chapter is specially covered with specific instruments for each situation at each level covering the behavioral qualities and the application of suggested instruments to achieve successful results.

The role is the position one occupies in a system. A role is not defined without the expectations. The position of a personnel manager may be created in an organisation but his role will be defined by the expectations. The author further goes on role stress, role overload, to role ambiguity, role stagnation and suggests exhaustive instruments for role satisfaction with adequate efficacy.

Team building is most essential and in an organisation an atmosphere is created to

develop work culture as well profile of people. Whether it is an individual or a group, openness and perceptiveness have to be given under an instrument.

Further, the author talks of trust and climate of the organisation. The author specifically comes out with the suggested instruments for following values:

Orientation (bridging all gaps with transparency), Interpersonal relations, Supervision, Managing Issues (Problems, mistakes, conflicts), Communications (clear, understanding, skilful), Decision making; delegation of authority, Trust and tolerance. Genuinely committed, Welfare and amenities, Rewards and commendations.

Special instruments have been prescribed by the author for self appraisal and to attain a content level. Employees in an organisation may be dissatisfied because they have been expecting too much from their jobs. There is frustration and irritable syndrome! Therefore, the role should be to develop mutually beneficial relationship, realistic and trustworthy understanding and make job meaningful. The role is that an organisation is able to take calculative risks, work on bold ideas and thrive on innovative as well as creative ways.

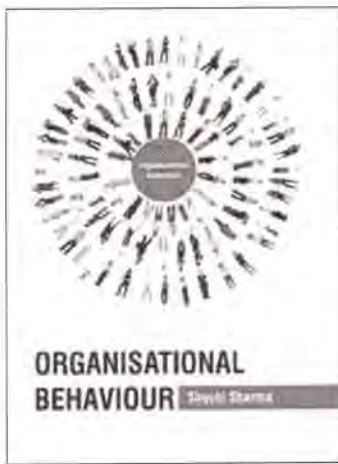
The author further emphasis on integration dedicated training with individuals and the group with well-defined instruments. The approaches and methods to improve the quality need core instruments and there are instruments for such managerial commitments.

The book is repertoire of the instruments with which professionalism could be evolved with dynamism and suggests to remain analytical for each emerging challenges. The role is to even continue reviewing the post achievements with thought process.

This is a very comprehensive book and is well-presented.

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**Organisational Behaviour** by  
**Shuchi Sharma**  
Tata McGraw Hill  
ISBN: 978-1-25-900502-2

The book titled *Organisation Behaviour* is a well written undergraduate and post-graduate students of management.

*A l t h o u g h* organisational behaviour is relevant to many fields like psychology, sociology, etc. the structure and contents of this book are focused in such a way so that they cater to the needs of management students.

The book has been divided into six sections. The first section covers the very basics of organisational behaviour covering the nature, scope, evolution, contemporary challenges and opportunities in organisational behaviour. In these topics, the author has encompassed the very gist of all theories and concepts and given Indian examples which make the book even more relevant while reading. A real edge over the age-old classic text books by Luthans, Stephens and Shane. Besides, all theories have been covered to the appropriate extent which gives the students an insight into all the concepts propagated ever by any social scientist. Moreover, each chapter ends with Developing Competencies exercises in the form of self-assessment instruments.

The second section comprises of individual processes like learning, personality, attitudes, values, motivation and stress. Appropriately placed as to understand the organisational behaviour, it is quite necessary to understand the individual factors. The author has detailed all theories of individual behaviour viz. learning, perception and motivation. The book describes all the four types of personality types and gives a brief introduction of all the major theories of personality. My personal favourite covered extremely well were personality types, personality development theories and Holland's typology of personality.

In the third section the author moves from individual to the organisation talking about group behaviour, team building, communication, leadership, conflict management and decision making. Again, here the author has left nothing for reference. This section is complete in itself with all concepts and practical aspects being taken care of in a very bold manner. The coverage of material does not leave the reader in suspense and he does not need to refer to any other book. The book covers communication and leadership exhaustively panning all theories and even their implications. The chapter titled "Power and Politics in Organisation" is an eye-opener for students on how to manage the rat race.

The fourth section covers the organisation as a whole discussing the structure and design, organisational culture and organisational change. The world is changing fast enough and the only constant now is change. Unless organisations change with changing times, they will perish. The author has brought out the conflict between the organisation's need to change and resistance by the workforce to such changes very nicely. The author also tells the reader on how to do and what to do under different circumstances which eventually makes this book a must-buy for each management student.

The section five of the book is more general comprising of HRM, International organisational behaviour and positive individual and organisational behaviour. In this section, the author has tried to take OB to the next level by incorporating it with its mother Human Resource Management and has also raised the height, as organisations are going global these days in the hunt for economical manufacturing facilities and new customers. When you move out from domestic markets and step into global markets, you interact with people of different languages, cultures, colours, ethnicity and values. This is where this book helps the students. It may not be an exhaustive read about any one particular topic yet, it brings a basic knowledge level to the people who need it most—the students.

The case studies given at the end are very useful for the purpose of class activities and discussions. However, if the same were



accompanied at the end of each chapter or section, it would have been more relevant to the teacher and the taught.

The book covers almost all aspects of organisational behaviour and also goes a little ahead is definitely a must-read for all students of organisational behaviour at the elementary level. However, due to absence of a CD containing ppts and case studies, this book will not prove to be sufficient in case you are doing a major in HR. Although for first year students who have OB as one of their subjects, this is the right book.

Dr. S.Chauhan  
Shobhit University, Meerut

**Management Cases:  
A Strategic Perspective**

**Management  
Cases: A Strategic  
Perspective  
Dr. Himani Sharma  
Galgotia  
Publishing  
Company  
ISBN: 81-8218-024-4**

In the book, "Management Cases: A Strategic Perspective", Dr. Himani Sharma, the author attempts to compile case studies on

various topics including marketing, human resources and strategic management, international business, entrepreneurship development, etc. Having vast experience in academics and research, the author has successfully compiled and portrayed the best practices from each case study and made this book worth possessing.

The book is a collection of quality cases drawn from diverse areas and functional domains. The cases compiled in the book under study are carefully designed after understanding the strategic issues arising within the most widely known corporate houses like Canara Bank, AVIVA Life Insurance

Company, Marvel Overseas, HSBC, Amar Ujala Publication Ltd, Reliance Infrastructure Ltd, Hindustan Times, Escorts Tractor Variants, Standard Chartered, Raymond, Max New York Life Insurance Co. Ltd, Future Generali, Osram India Pvt. Ltd, Indian Oil Corporation Ltd, Titan, DLF Ltd, Sona Koyo, Sharekhan, Nestle, Bisleri, Tata Communication and many more.

The book is composed of around fifty case studies based on the real and practical decision making problems. The case of the North-South Alliance gives details regarding the amalgamation of Nedungadi Bank of Kerala and Punjab National Bank and also the various reasons for which RBI had to take this action in the year 2003. A case of Britannia Industries Ltd., explains problems associated with the company's rural marketing campaign done in UP in 2009. Another remarkable case on HDFC Life Insurance deals with the problems faced by HDFC Standard Life Insurance company in the changing economic scenario and how they identified the problems and changed their working strategies to overcome their troubles.

The selected cases depict the practical problems faced by the individual managers or by an organisation at functional or strategic levels and the decisions taken thereon. The case studies include the studies conducted on various topics ranging from marketing problems of Bisleri and distributional network challenges of Reliance Infrastructure Ltd to innovative ways of customer relationship management of media houses like Hindustan Times. The special emphasis has been laid on the case studies of Finance which include the topics like Strategic Alliance of Tata Communication and Telx, Acquisition Spree by Wadhwan Group of Companies.

One of the cases discusses the increasing requirement of clients from time to time and how MTL resolved those issues through change in its competitive strategy and providing better and convenient financial services to its clients and, thus, made a benchmark in the field of Customer Relationship Management. A good number of case studies cover the problems of CRM and thus channels the energies of the readers to locate and fix the challenges.

The conclusive notes and the examples in every case study facilitate the teachers and students to enhance their learning methodology in management. These various cases play an important role in explaining the various theories of management. Since, this book has a number of cases from various subjects, managers and academicians would find this book as an asset and a must read.

The book gives the most valuable and deep insight into the utilisation and deployment of these case studies as a medium for enhancing teaching learning experience and making it more smooth and enjoyable. A good read that provides entertainment for the casual reader and knowledge for the serious student and faculty of management.

Benu Sharma  
DPC Institute of Management, New Delhi

## GUIDELINES FOR AUTHORS

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