

National Seminar on  
**SUSTAINABLE INNOVATIONS**  
*in* **BUSINESS AND  
COMMERCE**

**Seminar Proceeding &  
Book of Papers**



**J.D. BIRLA INSTITUTE**

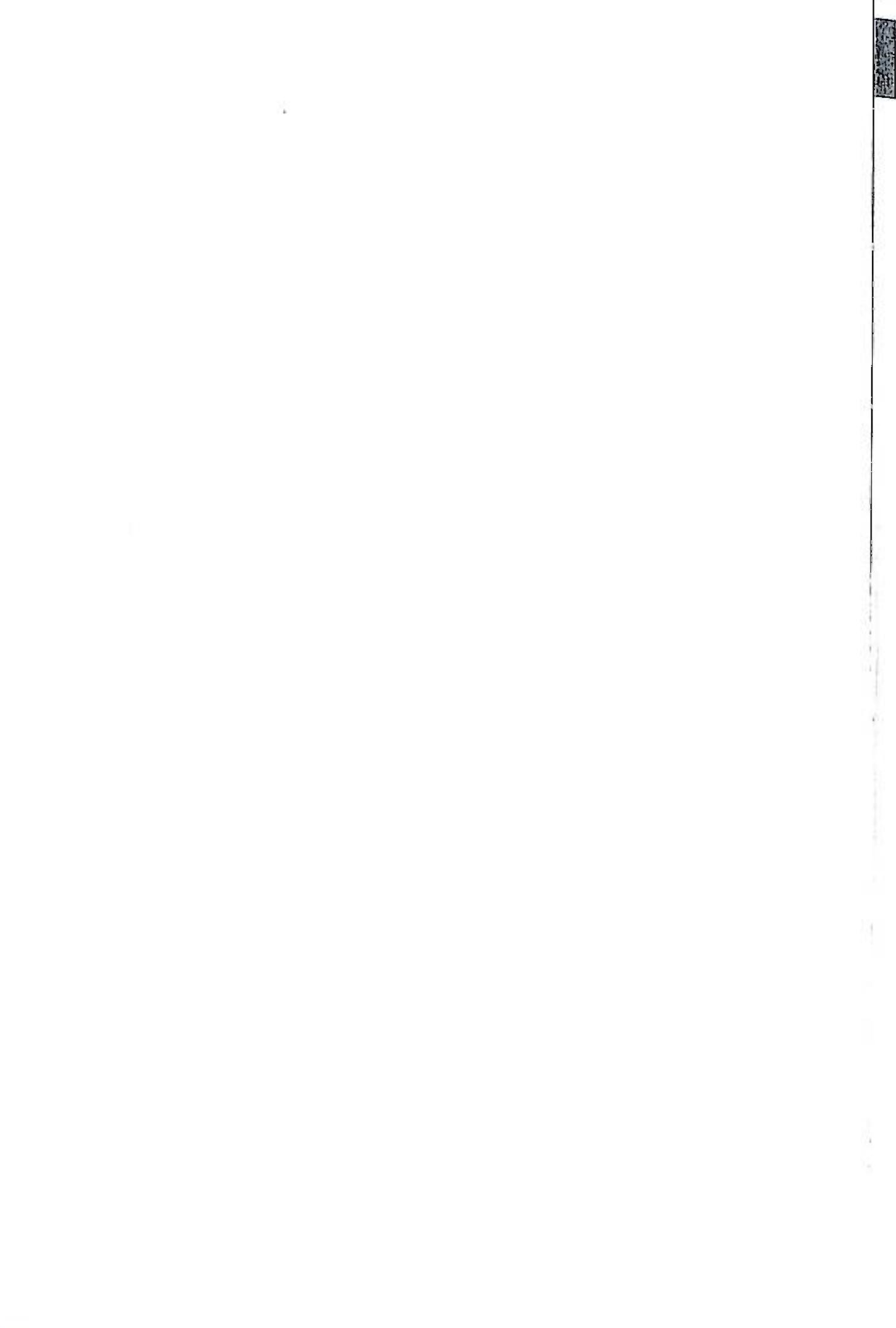
**Department of Commerce**

Affiliated to Jadavpur University

Main Campus & Office : 11 Lower Rawdon Street, Kolkata- 700020

Phone: 033-24575070 / 24767340 • Telefax: 033-24543213

E-mail: comseminar@jdbikolkata.in • Website: [www.jdbikolkata.in](http://www.jdbikolkata.in)



National Seminar on  
**SUSTAINABLE INNOVATIONS**  
*in BUSINESS AND*  
**COMMERCE**

---

19<sup>th</sup> & 20<sup>th</sup> April, 2018

**J. D. BIRLA INSTITUTE**

Department of Commerce  
(Affiliated to Jadavpur University)

11 Lower Rawdon Street, Kolkata-700020  
Phone: 033-24755070, 033-2476340; Telefax: 033-24543243  
Email: comseminar@jdbikolkata.in, Website: [www.jdbikolkata.in](http://www.jdbikolkata.in)

*Compiled by*  
**Dr. Manodip Ray Chaudhuri**  
**Mrs. Monalika Dey**

*Edited by*  
**Dr. Shweta Tuteja**  
**Ms. Yamini Dhanania**

Copyright @ 2018 JDBI  
All rights reserved

Address  
**J. D. Birla Institute**  
11, Lower Rawdon Street, Kolkata - 700020  
(West Bengal), India

First Published : April, 2018  
Price : NIL  
Cover Designed by : Sanjib Adak  
Graphic Designer, JDBI

Printed by CDC Printers (P) Ltd., Tangra Industrial Estate-II, 45, Radhanath Chowdhury Road,  
Kolkata-700015 (WB), India

*Published by:*  
**J.D. Birla Institute, Kolkata (West Bengal), India**



## 55 Years of Educational Excellence

J.D. Birla Institute has volunteered to obtain the National Assessment and Accreditation Council (NAAC) rating since 2004. During the recent re-accreditation procedure in 2010, the NAAC peer team awarded the Institute with 'A' Grade (CGPA - 3.11), the highest possible grade highlighting the Institute's constant quest for self-improvement and excellence.

### Sponsoring TRUST

As a private unaided educational institution, '**Vidya Mandir Society**', an educational trust managed by the S.K. Birla Group, sponsors the college.



Mr. S. K. Birla  
Chairman,  
Vidya Mandir Society



Mrs. Sumangala Birla  
President,  
Governing Body, JDBI



Ms. Rita Bibra  
Secretary General,  
Vidya Mandir Society



## The **J.D. BIRLA INSTITUTE ETHOS**

An educational institution of distinction, J. D. Birla Institute (Departments of Sciences and Commerce) places high value on providing its students with fulfilling educational experiences in their chosen discipline and achieve their individual goals.



**Our LOGO**

The Institute's logo represents a well-known shloka from the Brhadarnyaka Upanishad (*Brhadaranyaka Upanishad – I.iii.28*).

*"Asato ma sadgamaya  
tamaso ma jyotirgamaya  
mrtyorma amrtam gamaya"*

Lead us from all that is untrue and unreal  
to what is real and true.

Lead us from darkness to light, ignorance  
to knowledge.

Lead us from death to immortality

### **Our VISION**

To establish ourselves as a leading college providing higher education of higher standards with integrity, consistency and due diligence.

### **Our MISSION**

To prepare the future generation with academic excellence and practical skill-set needed to face global challenges and lead the country into the world of the future.

### **Our OBJECTIVES**

- To acquire knowledge and skills in the pursuit of academic excellence aimed at advancement into higher education, research and extension activities.
- To educate within a dynamic system structured towards varied professional and vocational applications for career design and development.
- To work proactively towards individual and group goals within an integrated setting of diverse socio-cultural members.
- To attain self-reliance through balance of freedom and discipline within the body, mind and spirit.



**ORGANIZING COMMITTEE**

Committees	In-charge
<b>Chairperson</b>	Prof. (Dr.) Deepali Singhee
<b>Convenor</b>	Mrs. Monalika Dey
<b>Chief Guests and Resource Persons</b>	Dr. Manodip Ray Chaudhuri & Mrs. A.S Manjulakshmi
<b>Auditorium (Back Stage)</b>	Mrs. Geetika Sachdeva & Ms. Priyata Choudhury
<b>Accounts</b>	Mr. Arun Gupta & Mr. Srikant Das
<b>Emcee</b>	Mrs. Basudha Mukhopahdhyay
<b>Cultural Programme</b>	Dr. Adrija Saha
<b>Registration</b>	Dr. Namrata Maheshwari & Mr. Swapnateet Saha, Ms. Pritha Sen, Ms. Shreya Agarwal, Mr. Debjyoti De & Ms. Sapna Mishra
<b>Certificates (<i>Authors</i>)</b>	Mr. Swapnateet Saha
<b>Certificates (<i>Students &amp; Faculty</i>)</b>	Ms. Sapana Mishra & Ms. Shreya Agarwal
<b>Paper Presentation</b>	Oral Presentations <i>Session-1a &amp; b (Marketing)</i> Dr. Namrata Maheshwari & Mr. Debjyoti Dey <i>Session-2 (Finance)</i> Mrs. Basudha Mukhopahdhyay & Ms. Shreya Agarwal <i>Session-3 (General Management &amp; Entrepreneurship)</i> Ms. Pritha Sen & Mrs. AS Manjulakshmi <i>Session-4 (HR)</i> Mrs. Swapnapriya Sethy & Ms. Mahua Pal
<b>Food &amp; Refreshments</b>	Ms. Damanjeet Kaur & Ms. Sudeshna Pramanik
<b>Mementos, Bouquets, Participation Kits &amp; Awards</b>	Mrs. Smita Parekh & Ms. Mousumi Choudhury
<b>Registration</b>	Ms. Khushboo Thakker
<b>Press &amp; Publicity</b>	Mr. Monojit Dutta
<b>Printing &amp; Publication</b>	Mr. Sanjib Adak
<b>Decoration</b>	Mrs. Amita Dutta
<b>Acoustics</b>	Mrs. Mahua Pal
<b>Volunteers &amp; Discipline</b>	Mrs. A.S Manjulakshmi, Mrs. Swapnapriya Sethy, Mrs. Sucharita Sinha & Dr. Rishiparna Guha
<b>Photographer</b>	Mr. Swapnateet Saha



## PROGRAMME SCHEDULE

### DAY-1: 19<sup>th</sup> April 2018

<b>10.00 am to 11.15 am</b>	<b>Inaugural Session</b> Invite Guests on the Dias Welcome Song Greeting of the Guests Welcome Address by Principal Lighting of Lamp Address by Chief Guest Address by Keynote Speaker/Guest of Honour Release of Book of Papers by Chief Guest
<b>11.15 am to 11.30 am</b>	<b>Tea</b>
<b>11.30 am to 1.30 pm</b>	<b>Technical Session-I: Fostering Sustainable Business Innovations</b>  <i>Sustainable Innovation Strategies for International Business Environment</i> Prof. (Dr.) Pramod Pathak Professor, Department of Management Studies, ISM Dhanbad
	 <i>Learning &amp; Knowledge Management as Innovative Business Practices</i> Mr. Rahul Bose Global Manager, IBM
	 <i>Sustainable Innovation through Creation &amp; Protection of Intellectual Property Right</i> Prof. (Dr.) Manas Kumar Sanyal Professor & Head, Department of HRM and Chief Coordinator Incubation Centre, IEST Shibpur
<b>1:30 pm to 2:15 pm</b>	<b>Lunch</b>
<b>2:15 pm to 3:45 pm</b>	<b>Technical Session-II: Harnessing Business Opportunities through Sustainable Financial Strategies</b>  <i>A Critical Appraisal of Funding Mechanism for Generating Sustainability in Business</i> Mr. Somabrata Dutta Senior Professional, Price Water House Coopers (PWC)
	 <i>Business Innovation: Strategy for International Business and use of ICT</i> Prof. (Dr.) Biswajit Nag Professor, Indian Institute of Foreign Trade, New Delhi

**DATE-2: 20<sup>th</sup> April 2018**

10:00 am to 11:30 am                   **PARALLEL SESSION**

**Paper Presentation: Session-1a (Marketing) – ROOM NO. Auditorium**

**Paper Presentation: Session-2 (Finance) – ROOM NO. 502**

**Paper Presentation: Session-3 (General Management & Entrepreneurship) – ROOM NO. 503**

11:30 am to 12:00 pm                   **Tea**

12:00 am to 1:15 pm                   **PARALLEL SESSION**

**Paper Presentation: Session-1b (Marketing) – ROOM NO. Auditorium**

**Paper Presentation: Session-4 (HR) – ROOM NO. 413**

1:15 pm to 2:00 pm                   **Lunch**

2:00 pm to 2:20 pm                   **Valedictory Session & Prize Distribution - AUDITORIUM**

Summing of Session by the Convener of the Seminar

Announcement of Awards

Vote of Thanks by the Dean of Academics

2.20 pm                                  National Anthem

## PROFILE OF RESOURCE PERSONS

### CHIEF GUEST



**Shri S.C. Murmu**  
*Regional Director,  
Reserve Bank of India,  
Kolkata*

**Shri Shirish Chandra Murmu** did M.Sc from Jawaharlal Nehru University, New Delhi and is a Certified Associate of Indian Institute of Bankers from Indian Institute of Banking and Finance. He has more than 25 years of working experience at RBI in Regional Offices of Chennai, Kolkata and Central Office Mumbai and has handled diverse functions at RBI, such as currency management, MSME and financial inclusion, financial literacy, information technology, supervision of urban cooperative banks, regulation and supervision of commercial banks. He is presently heading the Kolkata office of RBI as Regional Director for West Bengal & Sikkim. He is also on the board of Dena Bank as RBI nominee director.

### KEYNOTE SPEAKER



**Smt. Indrani Bagchi**  
*Diplomatic Editor,  
The Times of India,  
New Delhi*

**Smt. Indrani Bagchi** is senior diplomatic editor with The Times of India since 2004. She covers daily news on foreign affairs in the foreign office, as well as interpreting and analyzing global trends with an Indian perspective. She covers Indian foreign and strategic policy, diplomacy, terrorism, nuclear and national security issues for The Times of India. She started her journalism career at The Statesman, where she edited the weekend section, before moving to The Economic Times in Calcutta to edit the Metro Magazine. Ms. Bagchi has also worked as associate editor for India Today, a premier news magazine. Ms. Bagchi graduated from Loreto College, Kolkata with English honours and was a Reuters Fellow at Oxford University in 1997. In 2010, India was awarded the Chang Lin-Tien fellowship by the Asia Foundation to study US-China relations at Brookings Institution, Washington DC. She is a Fellow of the third class of the India Leadership Initiative of Aspen Institute India and a member of the Aspen Global Leadership Network. She writes news stories; opinion articles; news features and a blog, 'Globespottin'.

### PROFILE OF RESOURCE PERSONS

#### Technical Session I: Fostering Sustainable Business Innovation



**Prof. (Dr.) Pramod Pathak**  
Professor, Department of  
Management Studies,  
ISM Dhanbad

**Prof. Pramod Pathak** the senior most professor at the Department of Management Studies, IIT (ISM) Dhanbad is an academic, researcher / trainer and consultant with over three decades of experience. He has completed Consultancy Assignments for organizations like World Bank, Ministry of Coal (GOI), Ministry of Labour (GOI), Ministry of Youth Affairs (GOI), Government of Jharkhand, Indian Oil Corporation, Power Grid Corporation of India, Coal India Ltd, Orissa State Pollution Control Board, and several other leading Public and Private sector Undertakings in India. Holding a M.Sc. in Industrial Psychology / Social Psychology and Mental Testing together with an MBA in HRM, Dr. Pathak completed his PhD in Stress Management from BHU. He has guided over 20 Ph.D scholars. He is on the editorial board of several leading social science journals like Social Science International, Management Insight etc. He is a widely read Columnist and Public Speaker and has several books and edited volumes to his credit. His writings on Spirituality, Values, Ethics and Well Being are published in leading National English and Hindi dailies. He was recently invited by Government of Fiji to deliver a lecture on world Ramayana Conference on the topic Managerial Implications of Ramayana.



**Mr. Rahul Bose**  
Global Manager, IBM

**Mr. Rahul Bose** is currently the Global Manager (Learning and Knowledge) at IBM Global Business Services. Prior to this he was the Senior Service Engineer at BHEL, Assistant Divisional Manager at Tata Steel where he was responsible for technical training upgrade of Jamshedpur facilities to match Hoogovens (now Corus), Netherlands and Principal Consultant Learning and Professional Development at PricewaterhouseCoopers Consulting. Mr. Bose did his BE (Mechanical Engineer) from Jadavpur University and MBA from XLRI Jamshedpur. He is also a certified TBEM Assessor and ISO Auditor. Rahul is an IBM Certified learning professional and has widely travelled in, Asia Pacific, Middle East, Europe and USA, to deliver sessions that help IBM win deals in client facing situations. He is the Chairperson of Bengal Chamber of Commerce People Management Committee, Executive member of NIPM, Visiting Faculty Lincoln University College.

### PROFILE OF RESOURCE PERSONS



**Prof. (Dr.) Manas Kumar Sanyal**  
Professor & Head, Dept. of  
HRM and Chief Coordinator  
Incubation Centre,  
IEST Shibpur

**Dr. Manas Kumar Sanyal** is currently Professor at Indian Institute of Engineering Science & Technology, Shibpur (formerly Bengal Engineering & Science University, Shibpur) and heads the Department of HRM. Prof. Sanyal heads the Entrepreneurship Development Cell, Innovation Facilitation Centre and the Technology Business Incubation Centre at IEST-Shibpur. He holds a Bachelor's, Master's and Ph.D degree in Engineering as also a Master's degree in Management. Prof. Sanyal has more than 34 years of professional experience in industry and academics, both in private and public sectors. He has long association with Patent Facilitation Cell of TIFAC-GoI, Patent Information Cell of West Bengal, Indian Patent Office and many other organizations. Besides having a number of research publications in the area of IPR to his credit, Prof. Sanyal has also guided several Ph.D scholars.

---

### Technical Session II: Harnessing Business Opportunity Through Sustainable Financial Strategy



**Prof. (Dr.) Biswajit Nag**  
Professor, Indian Institute  
of Foreign Trade,  
New Delhi

2018. His book "My World with Rafiki: An Economic Travelogue and Miscellany" focuses on changing international business environment and is based on cases studies used in MBA classes.

**Biswajit Nag** is a Professor of Economics at the Indian Institute of Foreign Trade (IIFT), New Delhi. He has been involved in empirical economic research for close to two decades in addition to have taught both in India and overseas. Dr. Nag has completed number of projects for Government of India and international agencies such as UN, World Bank, Asian Development Bank, WTO, DFID etc. He is also an advisor to Asia Pacific Research and Training Network on Trade (ARTNet) promoted by the UN-ESCAP. His current research interest covers areas of International Production Networks, Global Value Chains, Trade in Services, Regional Trade Agreements, Trade and Development etc. Dr. Nag has also recently co-authored an article "Long Run Determinants of Sovereign Bond Yields" which was published in Economic & Political Weekly (EPW) on March 31,

### JURY MEMBERS

#### SESSION 1A: MARKETING

**Dr. Sharmistha Banerjee**

Professor of Management, University of Calcutta

**Ms. Deepa Basu Roy**

Director HR, CSR and Operations, Dolphin Lifecare Limited

**Dr. Ayan Chatterjee**

Associate Professor, HOD & Army Institute of Management

#### SESSION 1B: MARKETING

**Dr. Shivaji Banerjee**

Assistant Professor & HOD (Management), St. Xavier's College, Kolkata

**Dr. Soumik Gangopadhyay**

Professor of Marketing, ISB&M

**Mr. Surojit Banerjee**

Marketing Head, Bhagirathi Neotia Women and Child Care Centre

#### SESSION 2: FINANCE

**Prof. Arup Chowdhury**

Former Dean, ICFAI Business School, Kolkata

**Dr. Shantanu Chakraborty**

Associate Professor, Bhavan's Institute of Management

**Ms. Shraddha Ghosh**

Consultant and Legal Advisor

#### SESSION 3: GENERAL MANAGEMENT & ENTREPRENEURSHIP

**Ms. Debjani Gupta**

Associate VP (HR), NRI Fintech

**Mr. Subrata Saha**

Deputy Chief Manager, Times of India

**Mr. Sumanta Dutta**

Assistant Professor, St. Xavier's College, Kolkata

#### SESSION 4: HR

**Dr. Sumati Ray**

Professor, IISWBM

**Mr. Sanjoy Bhattacharyya**

VP, Pathfinder Group of Institutions

**Prof. Sarbari Saha**

Adjunct Professor, ICRAI Business School

**PAPER PRESENTATIONS (ORAL)**

Paper Code	Author/s & Title of Papers	Page No.
<b>SESSION -1: MARKETING</b>		
COM/MARK/1	Anirban Majumdar, Madhurima Talukdar & Upayan Chatterjee <i>Market Segmentation for Industrial Goods (HR and CR Sheets): An Application of Cluster Analysis</i>	1-10
COM/MARK/8	Sumanta Deb <i>Economics of Spatial Configuration: Framework for Tenenting Decision of Shopping Malls</i>	11-18
COM/MARK/3	Mahananda Sen Gupta, Sayani Sikdar & Gourab Das <i>Green Marketing: A Key Approach Towards the World of Sustainability</i>	19-25
COM/MARK/4	Sandeep Bhattacharjee <i>A Study on Brand Loyalty for DTH Service Providers in The City of Kolkata</i>	26-28
COM/MARK/5	Subhadip Chowdhury, Madhurima Kundu & Koyel Mondal <i>A Study on Inpatient Satisfaction Who Admitted in General Ward in IQ City Narayana Multispeciality Hospital and Medical College in Durgapur</i>	39-48
COM/MARK/6	Parantap Chatterjee <i>Study of Consumer Buying Influencing Attributes Based on Mobile Phone Purchasing</i>	49-53
COM/MARK/6	Priyanka Kothary & Namrata Maheshwari <i>Impact of Sensory Marketing on Consumer Behaviour in Restaurants of Kolkata</i>	54-62
<b>SESSION -2: FINANCE</b>		
COM/FIN/1	Tanzia Nasrin & Monojit Dutta <i>A Study on Financial Futures</i>	63-71
COM/FIN/2	Priyanka Banik & Rajendra Nath Datta <i>Financial Literacy and Financial Planning: An Empirical Study Based on Educational Sector of Kolkata</i>	72-79
COM/FIN/3	Sandip Basak, Gourab Das & Sayani Sikdar <i>Post - GST Impact on Different Industrial Sectors</i>	80-87
COM/FIN/4	Priyata Chaudhury <i>Prospects &amp; Financial Constraints of Indian Manufacturing Firm</i>	88-95
COM/FIN/5	Tanmayananda Chattaraj & Namrata Roy <i>The Standing of Extraordinary Items in Today's Indian Accounting Context: A Study With Special Reference to Ind AS 1</i>	96-99
<b>SESSION -3: GENERAL MANAGEMENT &amp; ENTREPRENEURSHIP</b>		
COM/GM & E/1	Amit Kumar Das & Shubhasmita De <i>Demonetization: An Enemy for Real Estate</i>	100-105
COM/GM & E/2	Anwesha Tripathi & Pritha Sen <i>Role of Self-Help Groups in Empowering Rural Women for a Better India: A Case Study on Selected SHGs in Purulia I, Baghmundi and Santuri Blocks of Purulia District of West Bengal</i>	106-114
COM/GM & E/3	Sapana Mishra & Debjyoti Dey <i>An Overview of CSR Compliances of the Leading Cement Producing Companies in India</i>	115-125
COM/GM & E/4	Sukanta Kundu & Priyanka Jaiswal <i>Goods and Services Tax: The Game Changer</i>	126-135
COM/GM & E/5	Sneha Singh <i>Mediation and Conciliation of Disputes Under Companies Act, 2013: Cost and Time Effective Way Forward</i>	136-141
<b>Session 4: HR</b>		
COM/HR/1	Chinhita Bose <i>Line of Influence: Facets of Leading</i>	142-144
COM/HR/2	Dipanjan Basu, Rishav Bose & Ankita Mazumdar <i>An Empirical Analysis on the Quality of Work Life among Support Staffs in the Shopping Malls of South Kolkata</i>	145-151

1920-1921  
1921-1922

1922-1923  
1923-1924

---



---

# **POSTER PRESENTATION**

---



COM/MARK/1

## Market Segmentation for Industrial Goods (HR and CR Sheets): An Application of Cluster Analysis

Anirban Majumdar<sup>1</sup>, Madhurima Talukdar<sup>2</sup> & Upayan Chatterjee<sup>3</sup>

<sup>1</sup> Associate Professor, Future Institute of Engineering & Management Kolkata;  
animaj1970@gmail.com

<sup>2</sup> M.B.A. Student Future Institute of Engineering and Management Kolkata;  
madhurimatalukdar96@gmail.com

<sup>3</sup> M.B.A. Student Future Institute of Engineering and Management Kolkata;  
upayan.jobs@gmail.com

### Abstract

*One of the major instrument for optimising marketing strategy and product portfolio is market segmentation that helps to form homogenous group of customers. It is important for a marketer to understand the needs and preferences of customers closely. Customer segmentation is a practice which helps marketers to form the cluster of customers based on their needs and preference. Marketers can easily implement the marketing strategies for their product offerings by distinguishing certain categories of needs on the basis of such kind of customer segmentation. This paper has an objective to study on industrial goods viz. Hot Rolled and Cold Rolled Steel Sheets (HR and CR Sheets). This paper emphasises to segment the customers on the basis of consumption rate of HR and CR sheets for different types of finished products. Cluster analysis is a statistical tool which is applied to divide a population into homogenous clusters. Therefore, in this study, cluster analysis has been considered for developing market segments based on the consumption rate of HR and CR sheets.*

**Keywords:** Cluster analysis, Consumption rate, Industrial goods, Market segmentation

### Introduction

Today, in the competitive environment, success of a business organization depends mostly on marketing activities of a firm. Effective marketing Strategy helps an organization to achieve a competitive advantage over rivals (Goyat, 2011). In order to get the optimum benefit of the marketing strategies, an organisation has to recognize the needs and preferences of their customers closely. Market segmentation is a technique that helps in dividing market into homogenous segments that share certain preferences and needs of customers (Witschel, et. al. 2015, Tikmani et. al. 2015). According to Otuedon(2016), business organizations must have better understanding of customer needs by segmenting a heterogeneous market into relatively homogeneous units. The market segmentation helps them to focus their efforts on the right customers (Otuedon 2016). Market segmentation helps get the easy access to and identification of potential market for the product or service to be marketed (Shuaib 2015).

Cluster analysis is a statistical tool to sort raw data into relatively homogenous and meaningful clusters or groups. Formation of cluster is accomplished by finding similarities in characteristics among raw data (Kashwan 2013). Cluster analysis is applicable for determining market segment (Rundle-Thiele et. al. 2015). The purpose of market segmentation is to recognize related cluster of consumers that can be dealt efficiently by marketers. Clustering is applied to segment the market to form the

clusters of individuals so that the individual groups or customers can be targeted differently (Mullensiefen et.al. 2017). This paper focuses on market segmentation of the industrial customers of Hot Rolled (HR) and Cold Rolled (CR) sheets by applying cluster analysis.

## Review of Literature

### *Market Segmentation – Meaning and Concept*

In the mid 1950s the concept of market segmentation was put forward by Wendell. R. Smith (Goyat, 2011, Asiedu, 2016). Smith (1956) considered market segmentation as an alternative technique for market development where there are few competitors with identical products. Market segmentation is determined on the basis of certain parameters viz. Demography, Geography, Psychography and Behaviour (Goyat, 2011, Otuedon 2016). Wedel and Kamakura (1988) suggested a general and product specific market segmentation. According to them a general base of market segmentation deals with cultural, geographic, and demographic and socio economic variables whereas product specific approach of market segmentation is related to user status, usage frequency, store loyalty or patronage and situations. This study considers the product specific market segmentation with the special emphasis on usage rate or consumption rate of HR and CR sheets in different industries.

### *Market Segmentation of Industrial Goods:*

Industrial market or Business to business (B2B) market has been defined as “markets, where one business makes and sells products and services for an organization’s own use or to sell on to other businesses for their own use” (Wright 2004). Business between organizations had its existence in the world since the birth of the concept of organizations. Therefore it can be considered that business to business (B2B) or industrial marketing has also existed for millennia, though the significant contribution to industrial marketing has been made for last three decades (Hadjikhani & LaPlaca, 2012). A research on target market selection for B2B technology market has pointed out that the effectiveness of strategy implementation in industrial marketing depends on market segmentation as far as identification of target market is concerned (Weinstein, 2014). Another research on market segmentation of industrial product like corrugated cardboard conducted by Grossova et.al.(2011) pointed out that segmentation B2B market helps in implementing marketing strategy effectively.

### *Cluster Analysis – A Tool for Market Segmentation:*

Sarstedt and Mooi (2014) defined the cluster analysis as a method for identifying homogenous groups of objects which are known as clusters. Cluster analysis has a number of applications for determining market segment. Grossova et.al. (2011), in their study, segmented the market of industrial product like corrugated cardboard by applying cluster analysis. Prashar et.al. (2016) have applied cluster analysis to determine the market segmentation for online shoppers. Lamees et.al. (2015) applied cluster analysis as one of the methods of segmenting Patients in hospitals in Jordan. Rodriguez Cote et.al. (2017) applied cluster analysis to identify market segments of travellers. In this study, hierarchical cluster analysis has been considered for identifying the market segments for the product of HR sheets and CR sheets.

### *Consumption Rate – One of the Bases of Market Segmentation:*

According to Armstrong and Kotler (2015), usage rate is one of the parameters for market segmentation which generally considers three segments of users viz. light, medium and heavy users. The heavy users comprise of a small portion of the market

but account for a high percentage of total consumption where as light users constitute a large portion of the market with low percentage of total consumption. Ramaswamy and Namakumari (2014) introduced a segmentation parameter called volume segment considering the market segment on the basis of light, medium and heavy users. They also mentioned that volume segmentation helps identify heavy users which increase the Customer Lifetime Value (CLV). In this study the clustering of industrial customers has been considered on the basis of consumption rate of HR and CR sheets for producing different types of finished goods.

### **Objectives of the Study**

The discussion in the above section of literature review gives clear indication that this study has definite focus on two basic objectives. These are as follows:

- To determine the segment of customers of HR and CR sheets on the basis of their consumption or usage rate for producing different finished products
- Identification and categorization of heavy users, medium users and light users for HR and CR sheets

### **Methodology**

The study considered descriptive research design to describe the characteristics of relevant groups such as industrial customers of HR and CR sheets on the basis of their consumption rate and production of finished goods. The research design provides the guideline for collecting primary data from different industries that use HR and CR sheets.

#### *Data Collection Method:*

Primary data has been collected by conducting a survey at different industrial areas in and around Kolkata viz. Sankrail Industrial Park, Jalan Industrial Complex, Kasba Industrial Estate etc. A simple random sample technique has been applied for selecting a sample of 33 manufacturing units that use HR and CR sheets. A response sheet has been used as an instrument to collect the information viz. quantity demanded for HR and CR sheets, types of finished goods produced by those manufacturing units at the above-mentioned industrial areas.

#### *Data Analysis:*

The section on literature review shows that cluster analysis is a scientific and also a well-accepted statistical tool for identification of market segments. As the study has a focus on segmentation of industrial customers, the cluster analysis has been applied. Cluster analysis can be done with the help of various algorithms that differ significantly in their notion of what constitutes a cluster and how to efficiently find them. One of the most common algorithms is Hierarchical clustering. There are two types of Hierarchical clustering algorithms. These are top-down and bottom-up algorithm. Bottom-up algorithms is known hierarchical agglomerative clustering or HAC. HAC is presented in the form of dendrogram, a hierarchical diagram which shows the clusters of different components. This study considers HAC as a tool for clustering the industrial customers of HR and CR Sheets.

### **Results & Discussion**

The survey of 33 manufacturing units or industrial customers helps in identifying the following finished goods and consumption rate of both HR and CR sheets.

Table-1: Survey Data

Manufacturing Unit	Consumption Rate of HR Sheets	Consumption Rate of CR Sheets	Finished Goods
1	1	2	V20 Drive Panel, Trainer kit, PLC Panel, Control Desk
2	1	60	11 KVA Panel, Vacuum Circuit Breaker
3	0	0	Electric Circuit Panel
4	0	0	Isolation Transformer, Voltage Stabilizer, CVT
5	1	15	PCC, MCC, LAVT Panel
6	0	0	Tea garden Drier Tray
7	0	0	Paper Cutting Machine
8	0	0	Pharmaceutical Packaging Machine, Food Packaging Machine.
9	0	0	Bulk Cooker, Dish Washers, Kitchen Trolley
10	5	5	Railway Tank, Electrical Cabinet
11	0	0	Kitchen Sink
12	0	50	Side Walls, End Walls, Flap Doors of Wagons, Steel Sheet Piles.
13	25	50	Automobile Press Component, Light Fitting Tools
14	0	25	RBT wire, Reinforce Bar Tape
15	10	10	Industrial Ladder, Perforated Ladder
16	10	0	Metal Sheet
17	0	10	Railway Shades, Ladder
18	5	5	Compressor
19	0	50	Duct Line, Microwave and Electrical Tower
20	0	40	HT, LT panel board (33KV), Bus Duct
21	0	0	Power Distribution Panel, AC Drive Panel
22	5	0	Racks, Electrical Control Panel Cabinet
23	0	30	Locomotive components, Solar Panel Brackets, Steel Furniture Accessories
24	0	30	Diesel Generating Sets Enclosure.
25	0	5	Baking Tray, Electrical Panel Cabinet.
26	0	50	Perforated items, AC Cabinet
27	0	25	Meter Components
28	0	10	LT Electrical Panel
29	0	10	LT & HT Electrical Panel, Metal Enclosure.
30	0	30	Isolator (33 KV to 66 KV)
31	0	50	Kitchen Equipments
32	0	50	Medium & Low Voltage Switcher Panels, Copper Flats, Bus Bars, Rods and Sheet Metal Fabricated Products
33	10	10	Ship-hull Blocks and Panels, Dock Gates, Structural Fabrication, Steel Plate Cutting

Table-2 : Market Segment for HR Sheets

Manufacturing Units	Consumption Rate	Volume Segment	Finished Goods
13	25	Heavy User	Automobile Press Component , Light Fitting Tools
15	10	Medium User	Industrial Ladder, Perforated Ladder
16	10		Metal sheet
33	10		Ship-hull Blocks and Panels, Dock Gates, Structural Fabrication, Steel Plate Cutting.
18	5	Light User	Compressor
22	5		Racks, Electrical Control Panel Cabinet
10	5		Railway Tank, Electrical Cabinet
31	0	Insignificant User	Kitchen Equipments
32	0		Medium & Low Voltage Switcher Panels, Copper Flats, Bus Bars, Rods and Sheet Metal Fabricated Products
3	0		Electric Circuit Panel
29	0		LT & HT Electrical Panel, Metal Enclosure.
30	0		Isolator (33 KV to 66 KV)
27	0		Meter Components
28	0		LT Electrical Panel
25	0		Baking Tray, Electrical Panel Cabinet.
26	0		Perforated Items, AC Cabinet
23	0		Locomotive Components, Solar Panel Brackets, Steel Furniture Accessories
24	0		Diesel Generating Sets Enclosure.
20	0		HT, LT panel board ( 33KV), Bus Duct
21	0		Power Distribution Panel, AC Drive Panel
17	0		Railway Shades, Ladder
19	0		Duct Line, Microwave and Electrical Tower
12	0		Side Walls, End Walls, Flap Doors of Wagons, Steel Sheet Piles.
14	0		RBT wire, Reinforce Bar Tape
9	0		Bulk Cooker, Dish washers, Kitchen Trolley
11	0		Kitchen Sink
7	0		Paper Cutting Machine
8	0		Pharmaceutical Packaging Machine, Food Packaging Machine.
4	0		Isolation Transformer, Voltage Stabilizer, CVT
6	0		Tea Garden Dryer Tray
2	1		11 KVA Panel, Vacuum Circuit Breaker
5	1		PCC, MCC, LAVT Panel
1	1		V20 Drive Panel, Trainer kit, PLC panel, Control Desk

HAC that has been conducted in this study shows the following dendrogram which forms four clusters. Manufacturing units 15<sup>th</sup>, 16<sup>th</sup> and 33<sup>rd</sup> remains in first cluster. Similaly, 10<sup>th</sup>, 18<sup>th</sup> and 22<sup>nd</sup> remain in the second cluster. 13<sup>th</sup> manufacturing unit remains isolated in the fourth group. The third cluster consists of the rest of the manufacturing units from 1<sup>st</sup> to 32<sup>nd</sup>. All these clusters of manufacturing units are formed on the basis of the variables i.e. consumption rate of HR sheets. Considering the above-mentioned components viz. consumption rate, manufacturing unit and types of finished goods, the customers or manufacturing units are divided into different segments.

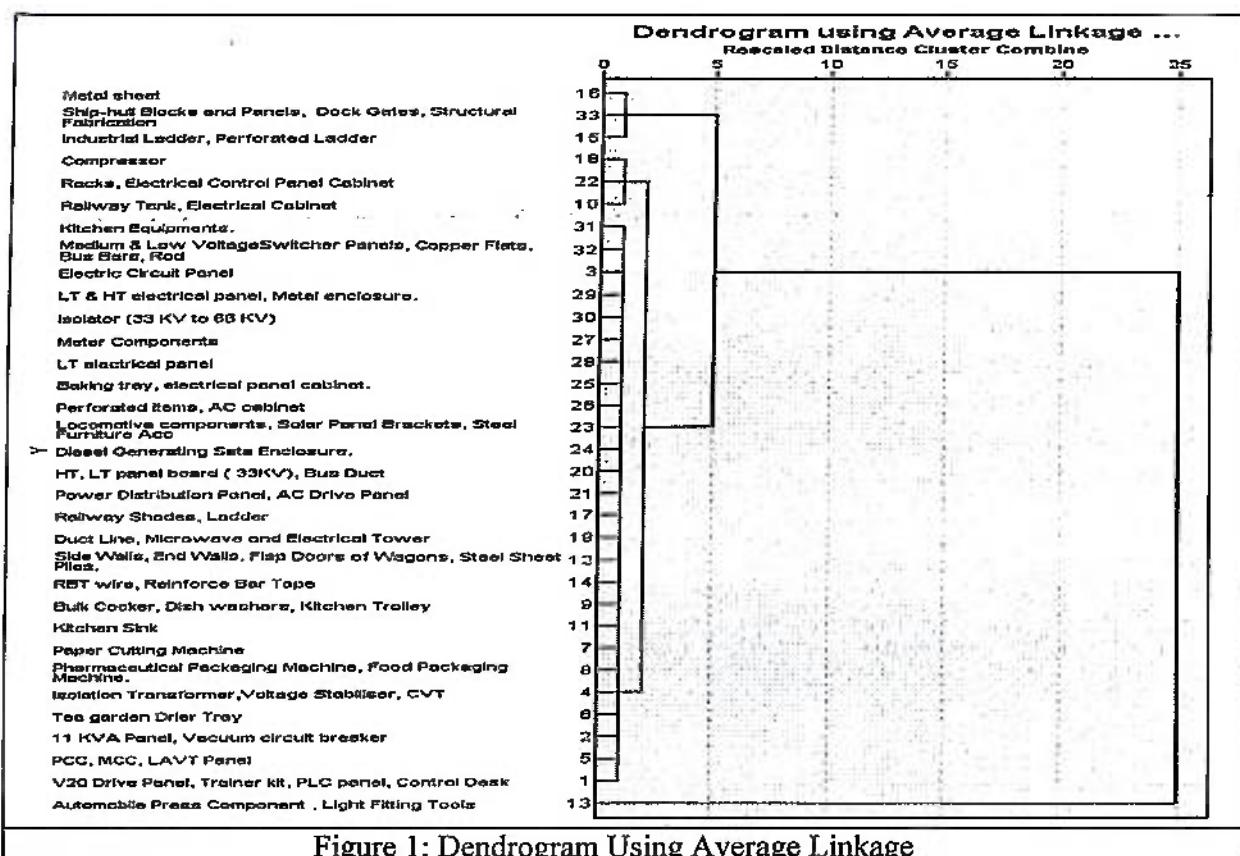


Figure 1: Dendrogram Using Average Linkage

Table-2 shows that 13<sup>th</sup> manufacturing unit consumes 25 tons of HR sheets and can be considered as Heavy User. The next block comprising of 15<sup>th</sup>, 16<sup>th</sup> and 33<sup>rd</sup> manufacturing units consumes 10 tons of HR sheets. These manufacturing units are considered as Medium Users of HR sheets. The heavy user produces following products such as Automobile Press Component and Light Fitting Tools. The medium users produce Industrial Ladder, Perforated Ladder, Metal sheet, Ship-hull Blocks and Panels, Dock Gates, Structural Fabrication, Steel Plate Cutting. Other three manufacturing units 10<sup>th</sup>, 18<sup>th</sup> and 22<sup>nd</sup> that consume 5 ton of HR sheets are considered as Light Users of HR sheets. These Light Users produce Compressor, Racks, Electrical Control Panel Cabinet and Railway Tank, Electrical Cabinet. 1<sup>st</sup>, 2<sup>nd</sup> and 5<sup>th</sup> manufacturing units consume only 1 ton of HR sheets. Those units are grouped together with other units that are not using HR sheets. This entire group is considered as insignificant users of HR sheets.

In the second phase of study, the cluster analysis has been conducted to segment the market on the basis of the consumption rate of CR sheets. Six manufacturing units

viz. 29, 33, 15, 17, 28 and 5 have formed the first cluster. Another five manufacturing units viz. 14, 27, 24, 30 and 23 form the third cluster. Eight manufacturing units viz. 31, 32, 12, 19, 26, 13, 20 and 2 form the fourth cluster. The rest of the manufacturing units form the second cluster. Actually manufacturing units 20 and 2 are in separate group as a single unit in the first layer of dendrogram. However the amount of consumption rate of CR sheets for both the above-mentioned manufacturing units are so close to the fourth group composed of manufacturing units 31, 32, 12, 19, 26, 13 that both the manufacturing units are incorporated in the fourth group at the second layer of the dendrogram.

Table-3 presents the segmentation of customers of CR sheets. It shows six segments. These are 1) Heavy Users, 2) Moderately Heavy Users, 3) Medium Users, 4) Light Users 5) Very Light Users and 6) Non Users. Heavy users consume 40 to 60 tons of CR sheets and they produce Kitchen Equipments, Medium & Low Voltage Switcher Panels, Copper Flats, Bus Bars, Rods and Sheet Metal Fabricated Products, Side Walls, End Walls. Flap Doors of Wagons, Steel Sheet Piles, Duct Line, Microwave and Electrical Tower, Perforated items, AC cabinet, Automobile Press Component, Light Fitting Tools, HT, LT panel board (33KV), Bus Duct and 11 KVA Panel, Vacuum circuit breaker.

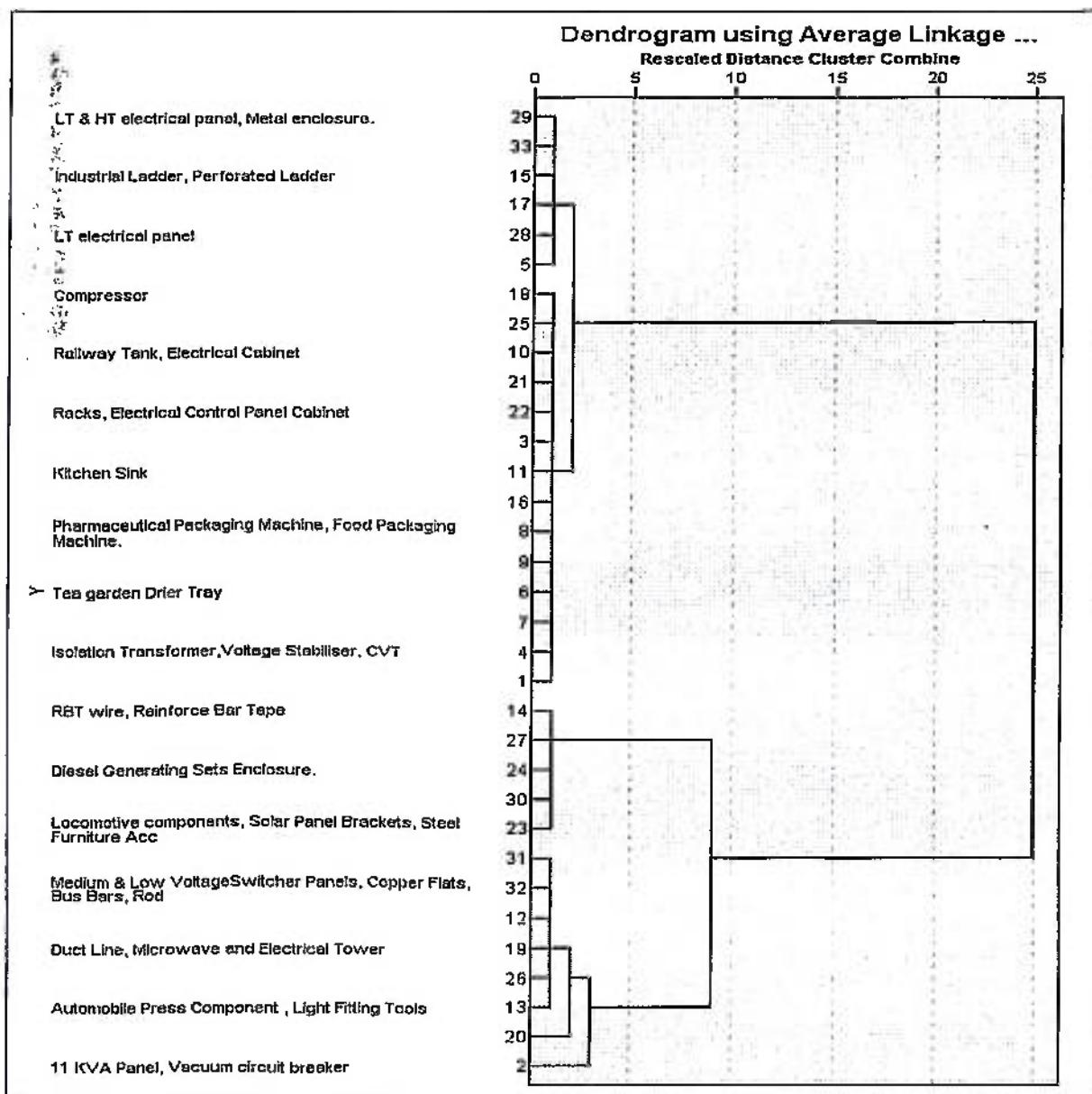


Figure 2: Dendrogram Using Average Linkag

Table - 3: Market Segment for CR Sheets

Manufacturing Unit	Consumption Rate	User Status	Finished Goods
29	10	Light Users	LT & HT electrical panel, Metal enclosure
33	10		Ship-hull Blocks and Panels, Dock Gates, Structural Fabrication, Steel Plate Cutting.
15	10		Industrial Ladder, Perforated Ladder
17	10		Railway Shades, Ladder
28	10		LT Electrical Panel
5	15		PCC, MCC, LAVT Panel
18	5		Compressor
25	5		Baking Tray, Electrical Panel Cabinet.
10	5		Railway Tank, Electrical Cabinet
21	0		Power Distribution Panel, AC Drive Panel
22	0	Insignificant Users	Racks, Electrical Control Panel Cabinet
3	0		Electric Circuit Panel
11	0		Kitchen Sink
16	0		Metal sheet
8	0		Pharmaceutical Packaging Machine, Food Packaging Machine.
9	0		Bulk Cooker, Dish washers, Kitchen Trolley
6	0		Tea garden Drier Tray
7	0		Paper Cutting Machine
4	0		Isolation Transformer, Voltage Stabilizer, CVT
1	2		V20 Drive Panel, Trainer Kit, PLC panel, Control Desk
14	25	Medium Users	RBT Wire, Reinforce Bar Tape
27	25		Meter Components
24	30		Diesel Generating Sets Enclosure.
30	30		Isolator (33 KV to 66 KV)
31	50	Heavy Users	Kitchen Equipments.
32	50		Medium & Low Voltage Switcher Panels, Copper Flats, Bus Bars, Rods and Sheet Metal Fabricated Products
12	50		Side Walls, End Walls, Flap Doors of Wagons, Steel Sheet Piles.
19	50		Duct Line, Microwave and Electrical Tower
26	50		Perforated Items, AC cabinet
13	50		Automobile Press Component, Light Fitting Tools
20	40		HT, LT Panel Board (33KV), Bus Duct
2	60		11 KVA Panel, Vacuum Circuit Breaker

Medium Users consume 25 to 30 tons of CR sheets. They produce RBT wire, Reinforce Bar Tape, Meter Components, Diesel Generating Sets Enclosure, Isolator (33 KV to 66 KV), Locomotive components, Solar Panel Brackets and Steel Furniture Accessories. Light users consume 10 to 15 tons of CR sheets. They produce LT & HT electrical panel, Metal enclosure, Ship-hull Blocks and Panels, Dock Gates, Structural Fabrication, Steel Plate Cutting, Industrial Ladder, Perforated Ladder, Industrial Ladder, Perforated Ladder, Railway Shades, Ladder, LT electrical panel and PCC, MCC, LAVT Panel. Very light users consume 5 tons and 2 tons of CR sheets. They produce Compressor, Baking tray, Electrical panel cabinet. Very Light User who consumes 2 tons of CR sheets produces V20 Drive Panel, Trainer kit, PLC panel and Control Desks. Non-users of CR Sheets produce Power Distribution Panel, AC Drive Panel, Racks, Electrical Control Panel Cabinet, Electric Circuit Panel, Kitchen Sink, Metal sheet, Pharmaceutical Packaging Machine, Food Packaging Machine, Bulk Cooker, Dish washers, Kitchen Trolley, Tea garden Drier Tray, Paper Cutting Machine and Isolation Transformer, Voltage Stabilizer, CVT. The very light users and nonusers have been formed one cluster that indicates that all the customers using 0 – 5 tons of CR sheets belong to more or less same category. This category or segment is known as insignificant users.

It is interpreted that the cluster analysis on different manufacturing units helps identify the segments of Heavy User, Medium users and Light users of HR sheets and Heavy User, Medium users, Light users and Insignificant Users of CR sheets. The analysis has helped in identifying non-users of HR and CR sheets. It has also clarified the profile of target market on the basis of finished goods produced by the manufacturing units.

### Conclusion

Market segmentation is one of the key elements for optimizing marketing strategy. It is also important to segment the industrial customers that are involved in producing and delivering goods for their own target markets. The consumption rate of raw materials by industrial customers can be one of the bases of segmentation. Cluster analysis can be considered as one of the suitable tools for determination of market segments.

This study considers the market of two raw materials viz. hot rolled (HR) and cold rolled (CR) sheets. Market segmentation of users of HR and CR sheets has been done on the basis of their consumption rate. Hierarchical Agglomerative Clustering (HAC) has been applied to form the clusters of heavy user, medium user, light user and non-users of HR sheets and to form the clusters of heavy user, moderately heavy user, medium user, light user, very light user and non-users of CR sheets too. The study ultimately helps identify the target market of industrial customers considering their finished products. This study also helps identify the prospects or potential customers in terms of heavy, medium and light users.

### References

1. Armstrong, G and Kotler, P (2015). Market Segmentation. Marketing: An Introduction. 12 Edition, , Pearson Education Limited,205
2. Asiedu, E. (2016).A Study of use and Impact of Market Segmentation Practices on Bank Performance: With Special Reference to Commercial Banks in Colombia. Journal of Business & Financial Affairs, Vol.5(1),1-1

3. Grosova, S., Gros, I. and Cisarova, M (2011). B2B Segmentation as a Tool for Marketing and Logistic Strategy Formulation, *Intellectual Economics* 2011, Vol. 1(9), 54–64
4. Goyat, S. (2011). The basis of market segmentation: a critical review of literature. *European Journal of Business and Management*, Vol 3(No.9), 45 – 54
5. Hadjikhani, A., & LaPlaca, P. (2012). A note on knowledge development. In M. S. Glynn, & A. G. Woodside (Eds.), *Marketing, business to business marketing management*. Emerald books, Vol. 18, 11–40
6. Hadjikhani, A. and La Placa, P. (2013). Development of B2B marketing theory. *Industrial Marketing Management*, Vol. 42, 294–305
7. Kashwan, R. K. (2013). Customer Segmentation Using Clustering and Data Mining Techniques, *International Journal of Computer Theory and Engineering*, Vol. 5(6), 856-861
8. Lamees M., Al-Durgham, Mahmoud A. B. (2015). Factor and Cluster Analysis as a Tool for Patient Segmentation Applied to Hospital Marketing in Jordan. *American Journal of Operations Research*, 5, 293-30
9. Mullensiefen, D. Hennig and C. Howells, H. (2017). Using clustering of rankings to explain brand preferences with personality and socio-demographic variables. arXiv:1704.00959v1 [stat.AP], <https://arxiv.org/pdf/1704.00959v1.pdf>
10. Otuedon, M. U. (2016). The Role of Creativity in the Market Segmentation Process: The Benefits of Having an Excellent Global Brand Positioning. *International Journal of Economics, Commerce and Management United Kingdom*, Vol. IV(2), 295
11. Prashar,S., Sai Vijay, T and Parsad, C.(2016). Segmenting Online Shoppers: A Study of Consumers' Web Portal Selection Motivations for E-Shopping. *Asian Academy of Management Journal*, Vol. 21, No. 1, 27–46
12. Ramaswamy, S.V. and Namakumari, S (2014). Market Segmentation and Targeting with Value Orientation. *Marketing Management – Global Perspective and Indian Context*. 5<sup>th</sup> Edition. MaGraw Hill Education (India) Pvt. Ltd.
13. Rodriguez Cote, J.D. and Diana, M (2017). Exploring the benefits of a traveller clustering approach based on multimodality attitudes and behaviours. *Transportation Research Procedia*, 25(C), 2556–2569
14. Rundle-Thiele, S. Kubacki, K., Tkaczynski, A. and Parkinson, J. (2015). Using two-step cluster analysis to identify homogeneous physical activity groups. *Marketing Intelligence & Planning*, Vol. 33 (4), 522-537, <https://doi.org/10.1108/MIP-03-2014-0050>
15. Sarstedt, M. and Mooi, E. (2014). *A Concise Guide to Market Research*, Springer Texts in Business and Economics, 273
16. Shuaib, M. K. (2015). Philosophy and Theory of Market Segmentation and its Practical Application in Nigerian Primary Education Services Industry in Kano State. *International Journal of Vocational and Technical Education Research*, Vol.1(2), 32-38
17. Smith, W.R. (1956) Product Differentiation and Market Segmentation as Alternative Marketing Strategies. *Journal of Bank Marketing*, 21, 3-8.
18. Tikmani, J. Tiwari, S. and Khedkar, S. (2015). An Approach to Customer Classification using k-means. *International Journal of Innovative Research in Computer and Communication Engineering*, Vol. 3(11), 10542- 10549
19. Wedel M, Kamakura WA (1988) *Marketing Segmentation: Conceptual and Methodology Foundations*. Kluwer Academic Publishers, Boston, MA.
20. Weinstein, A. (2014) Target market selection in B2B technology markets (PDF Download Available). *Journal of Marketing Analytics* Vol. 2(1), 59–69
21. Witschel, F.H., Loo, S and Riesen, K. (2015). How to Support Customer Segmentation with Useful Cluster Descriptions. Springer International Publishing Switzerland, 17–31
22. Wright, R. (2004). *Business-to-business marketing: a step-by-step guide*. 1<sup>st</sup> ed. New York: Pearson Education, 522

COM/MARK/2

## ECONOMICS OF SPATIAL CONFIGURATION: FRAMEWORK FOR TENANTING DECISION OF SHOPPING MALLS

Sumanta Deb

Research Scholar

Department of Architecture Town and Regional Planning, Indian Institute of Engineering Science and Technology, Shibpur, India  
sumanta04@gmail.com

### Abstract

*The purpose of this paper is to bridge the gap between retail research results on customer movement in shopping centres and importance of Visibility Graph Analysis (VGA) in predicting indoor navigation pattern for better understanding of store space allocation, store location and tenanting decision making in shopping malls. A bid-rent model is specified and solved under the simultaneous condition of profit maximization of individual stores and perfect competition to express total optimal revenue generated from a store in terms of gate counts. To justify the importance of visibility in determining gate counts, Depthmap X software is used for Visibility Graph Analysis and agent based simulation of comparable shopping mall typologies considering natural movement rules.*

*Total revenue generated from a store is explained in terms of gate counts and gate counts on the other hand are expressed in terms of visuo-spatial measures. Profitability of a tenant store can, therefore, be explained in terms of visuo-spatial parameters. The knowledge of spatial configuration variables, consequently, emerges as the determinant of appropriate store types for that area. This paper, thus, integrates retail research wisdom and VGA measures to illustrate the efficacy of space design as a strategic decision making tool, instead of just an accommodator of functions.*

**Keywords:** Agent based simulation, Metric mean shortest path angle, Tenant mix, through vision, Visibility Graph Analysis

### Introduction

Since the inception of the format, studies on shopping mall emphasized on tenanting decision making as a tool for achieving economic sustenance and relied on inter-store externalities (e.g. Eppli and Shilling, 1995; Pashigan and Gould, 1998; Garg and Steyn, 2014; Yuo and Lizieri, 2013) in explaining that. The tenant-mix decisions within a planned shopping mall include compositional structure of tenant stores, space and rental allocation for each category of stores. These are essentially real estate decisions and have been recommended for consideration at early stage of shopping mall design (e.g. Guy, 1994; Beyard and O'Mara, 1999). Real estate decisions have spatial ramifications (e.g. Roulac, 1996), but the potential of spatial factors are not fully exploited in tenanting decision making of malls; these decisions are rather taken on a rule of thumb approach.

### Review of Literature

#### *Significance of Tenant Mix:*

Most of the studies on composition of shopping malls focused on tenant mix by developers (e.g. Dawson, 1983; Brown, 1992; Garg and Steyn, 2014). The underlying rationale behind tenant mix is described through store externalities by Wheaton (1999). Tenant-mix of a shopping mall influences the selection of the mall (e.g.

Bellenger, *et al.*, 1977), frequency of shopping (e.g. Stoltman, *et al.*, 1991), shopping mall image (e.g. Finn and Louviere, 1996) and customer satisfaction (e.g. Abghari and Hanzaee, 2011). Different categories of tenant stores have different capacities of rental payment. A balanced tenant structure is therefore, necessary to maximize the total revenue from the shopping mall.

#### *Configurational Studies on shopping mall:*

During the period, when studies on inter-store externality were gaining popularity; some studies focused on circulation or movement of customers within shopping centres (e.g. Brown, 1991; Fisher and Yezer, 1993; Sim and Way, 1989) in describing tenant-mix. These studies relied on the logic of urban spatial structure and resorted to bid-rent methodology.

#### *Movement and Visibility measures:*

Research results on indoor navigation (e.g. Peponis, *et al.*, 1990; Haq and Zimring, 2003; Hölscher, *et al.*, 2012) highlighted the potential of syntactic properties in influencing human navigation. Research findings of Hillier (1996), Turner and Penn (1999), Turner, *et al.* (2001) and Choi (1999) confirmed that patterns of visibility and accessibility are stronger predictors of movement than normal metric measures. Visibility measures have been identified as superior method compared to other syntactic measures (e.g. Desyllas and Duxbury, 2001; Parvin, *et al.* 2007) in explaining movement within a built environment. A space with higher visibility enjoys more accessibility.

### **Methodology**

The main purpose of this paper is to identify the potential of spatial configuration in influencing tenanting decision. So, revenue from a store has to be explained in terms of spatial parameters. For achieving that objective, a two-step methodology is adopted.

#### *Bid Rent Analysis:*

The basic premise of bid-rent theory is to analyse the way spatial arrangement is related to economic consequences. Sim and Way (1989) and Brown (1991) suggested that a bid-rent model could explain the location decision of stores within a planned shopping mall. The profit function of an individual tenant store is used here for bid-rent analysis. It is solved under the condition of profit maximization and perfect competition.

#### *VGA and Agent Based Simulation:*

Virtual environment has been used for analysing navigation (i.e., Reffat, 2008; Yan and Kalay, 2004) as it is a powerful tool for predicting human behaviour (e.g. Franz, *et al.*, 2005; Orellana and Al Sayed, 2013; Boustila, *et al.*, 2016). Four different typologies have been identified (e.g. Verdil, 2009) as predominant shopping mall layouts: Cartesian system, dumb-bell, branch or tree and the hybrid system. Virtual layouts of the first three typologies have been selected for analysis in this paper. Hybrid is excluded for repetition of characteristics present in other three typologies. These typologies were drawn in drawing exchange format (\*.dxf) with equal gross leasable area and equal circulation area (Figure 1). The Depth map software tool (Turner, 2007) has been used for analysis in this paper.

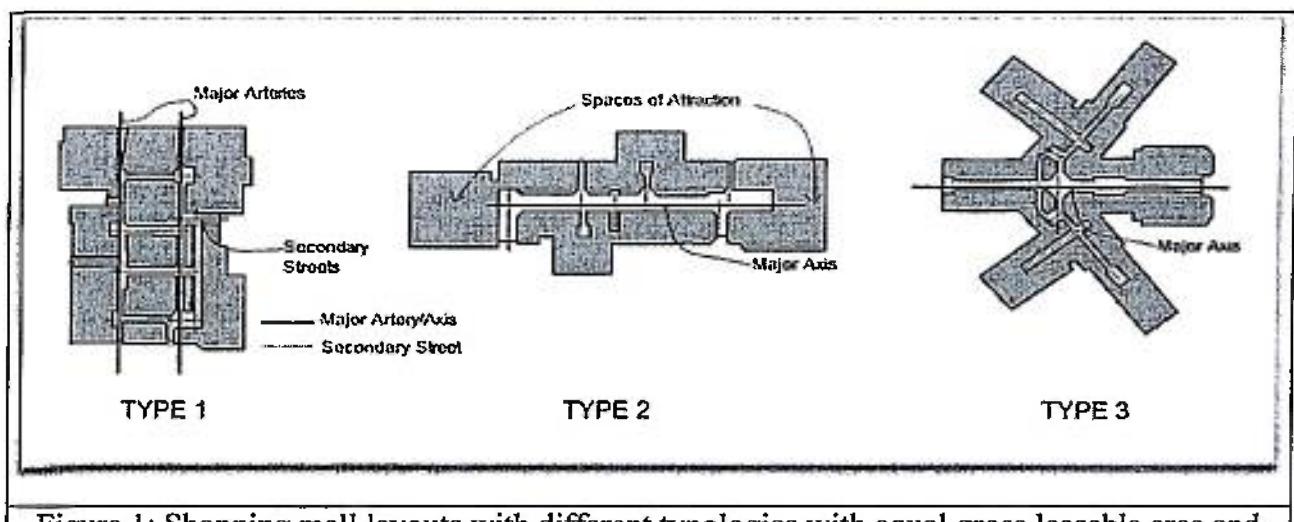


Figure 1: Shopping mall layouts with different typologies with equal gross leasable area and circulation area selected for analysis.

*From left, Type 1 (Cartesian), Type 2 (Dumbbell), and Type 3 (Tree)*

For pedestrian simulation the agents were released randomly within the layout. The field of view for each agent is set at 15 bins, which is approximately  $170^{\circ}$  field of vision. The step before turn values were set at 3, because, it result correlates well with natural movement patterns (Al\_Sayed and Turner, 2012). The trials for the three situations are recorded for 500 agents following a standard movement rule (Turner, 2007).

### Analysis

#### Bid-rent Analysis:

Shops within a shopping mall aspire for profit maximization just like "firms in (the) city" (Carter and Vandell, 2005) The theoretical framework of economic geography suggests that, the bid-rent curves for the individual firms (or shops in a shopping mall in our case) follow a profit maximizing objective function. The profit-function for a shop can be expressed as:

$$\pi = V - C - R \quad (1)$$

This function has to be re-written in terms of store variables (Carter and Vandell, 2005) mentioned below:

$p_i$  = Average price per unit of goods sold

$a_i$  = Quantity of goods sold per purchasing customer visit

$A_i$  = Area

$f_i(A_i)$  = Proportion of customer traffic per unit of store area, that actually leads to purchase

$g_i$  = Gate counts

$r_i$  = Rent per unit area

$C_{Fi}$  = Fixed cost that depend neither on the area of store nor on the quantity of goods sold

$C_{Oi}$  = Operating Cost or cost of goods sold, depends on the quantity of goods sold

$C_{Mi}$  = Maintenance cost (maintenance, utility, tenant finish-out)

$k_{H_i}$  = Conversion constant

$k_{2i}$  = Area elasticity of demand constant

$k_{3i}$  = Density elasticity of demand

Based on the above variables, the profit of the store  $i$  can be expressed as

$$\pi_i = p_i \cdot a_i \cdot f_i(A_i) \cdot A_i \cdot g_i^{k_1} - [C_{O_i} \cdot [a_i \cdot f_i(A_i) \cdot A_i \cdot g_i^{k_1}] + r_i \cdot A_i + C_F + C_M \cdot A_i] \quad (2)$$

Normally, the stores have an incentive to limit the size to a level where the relationship  $f_i(A_i) \cdot A_i$  has decreasing returns to scale:

$$\text{i.e., } \frac{\partial f_i(A_i)}{\partial A_i} > 0 \text{ but}$$

$$\frac{\partial^2 f_i(A_i)}{\partial A_i^2} < 0$$

By suppressing the subscripts for convenience, the profit function becomes:

$$\pi = p \cdot a \cdot f(A) \cdot A \cdot g^{k_1} - C_O \cdot a \cdot f(A) \cdot A \cdot g^{k_1} - r \cdot A - C_F - C_M \cdot A \quad (3)$$

As the purpose of the store is to maximize profit, the first derivative of the function with respect to  $A$  will be zero, or,

$$\frac{d\pi}{dA} = p \cdot a \cdot f(A) \cdot g^{k_1} [p - C_O] - C_M - r + A \cdot \{a \cdot g^{k_1} \cdot \frac{df}{dA} \cdot (p - C_O)\} = 0 \quad (4)$$

In a competitive market store owners want to locate in a place such that they can maximize their profit from operations. Excess profits are bid away by increases in rent, so that  $\pi=0$ . The profit function in Equation (3) becomes:

$$\pi = 0 = a \cdot f(A) \cdot A \cdot g^{k_1} (p - C_O) - C_F - C_M \cdot A - r \cdot A \quad (5)$$

Solving Equation (4) and Equation (5), we get optimal area of store ( $A^*$ ):

$$A^* = \left[ \frac{C_F}{a \cdot g^{k_1} \cdot (p - C_O) \cdot k_1 \cdot (1 - k_2)} \right]^{\frac{1}{k_1}} \quad (6)$$

$$\begin{aligned} \text{And optimal rent per unit area, } r^* &= C_F \cdot \frac{k_2}{1 - k_2} \cdot [a \cdot g^{k_1} \cdot (p - C_O) \cdot k_1 \cdot (1 - k_2) / C_F]^{\frac{1}{k_1}} - C_M \\ &= C_F [k_2 / (1 - k_2)] / A^* - C_M \end{aligned} \quad (7)$$

The total rent from a particular store  $i$  will be  $A_i \cdot r$ ; From Equation (6) and (7)

$$\begin{aligned} R &= A_i \cdot r = \left[ \frac{C_F}{a \cdot g^{k_1} \cdot (p - C_O) \cdot k_1 \cdot (1 - k_2)} \right]^{\frac{1}{k_1}} \left[ (a \cdot g^{k_1} \cdot (p - C_O) \cdot k_1 \cdot (\frac{1 - k_2}{C_F})^{\frac{1}{k_1}} - C_M) \right] \\ &= C_F \left( \frac{k_2}{1 - k_2} \right) - C_M \cdot \left( \frac{C_F}{a \cdot g^{k_1} \cdot (p - C_O) \cdot k_1 \cdot (1 - k_2)} \right)^{\frac{1}{k_1}} \end{aligned} \quad (8)$$

(8)

Total rent of a store therefore can be expressed as a function of gate counts when other factors remain constants.

#### *Analysis of Simulation Results:*

VGA generates values for TV (Through Vision) and MMSPA (Metric Mean Shortest Path Angle) for centre points of every grid overlaid on the concerned layouts and agent based simulation generates corresponding values of gate counts at those points. The values of gate counts are plotted along vertical axis and other two measures along horizontal axis to show the relationship between gate count and spatial measures (Figure 2).

The best fit relationship between Gate counts ( $d$ ) and TV/ MMSPA is achieved, where TV/MMSPA has a transpose of square root (Figure 3). The result of the regression

analysis suggests that Adjusted  $r^2$  value for the typologies (Type 1:  $r^2 = 0.613$ , Type 2:  $r^2 = 0.698$ , Type 3:  $r^2 = 0.541$ ) substantially or moderately describes the relationship (Chin, 1998; Hair, *et al.*, 2011).

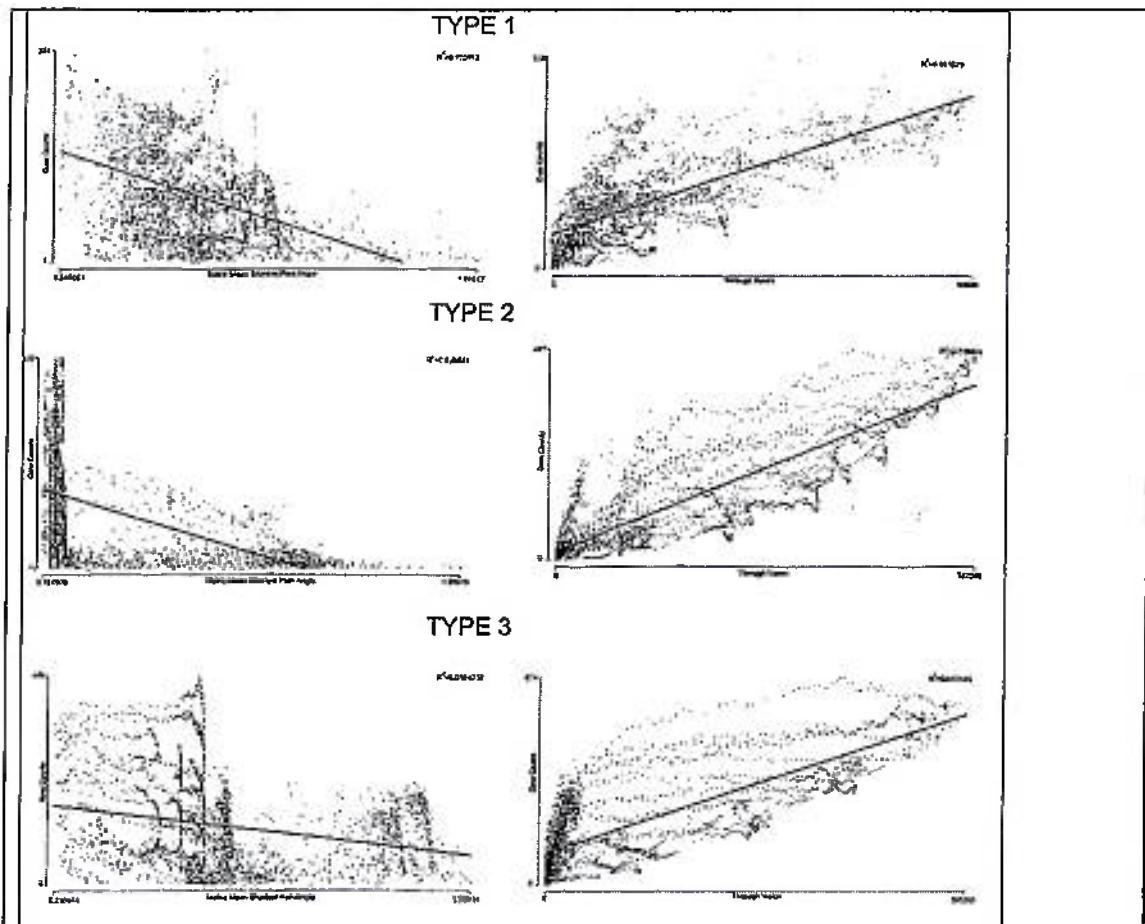


Figure 2: Relationship of through vision and metric mean shortest path Angle with gate Counts for the three typologies shown in Figure 1

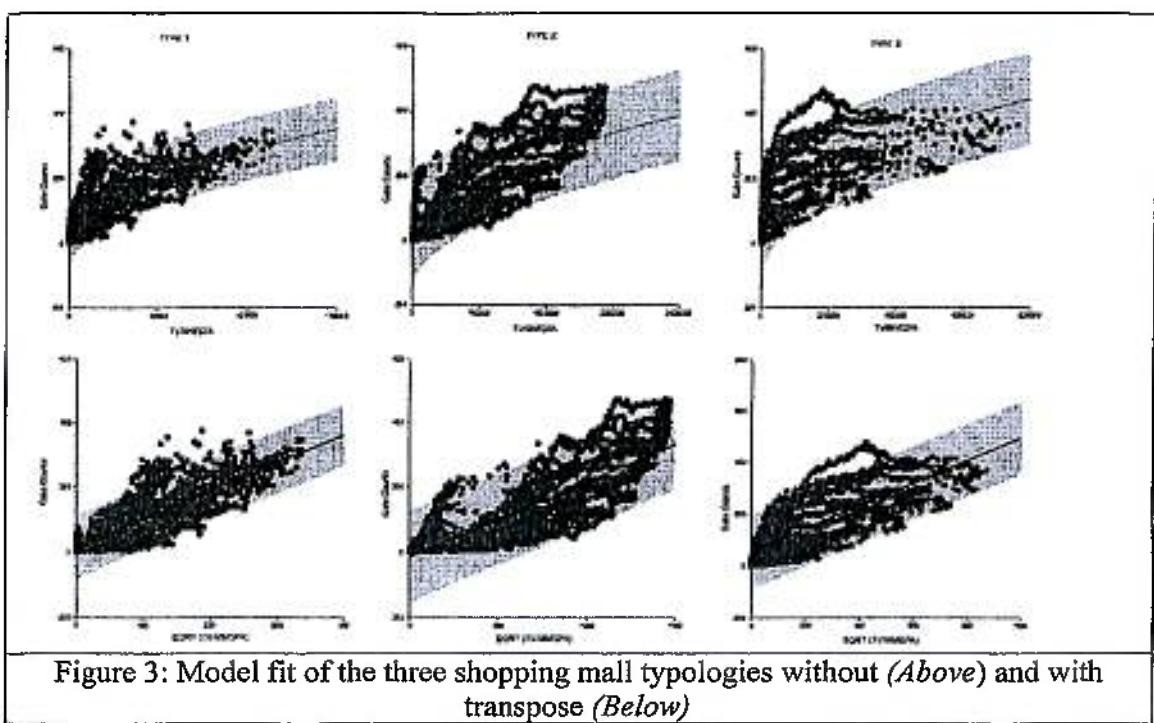


Figure 3: Model fit of the three shopping mall typologies without (Above) and with transpose (Below)

Table 1: Summary of t-test, Constant and Coefficients			
Typology		T	Sig. <sup>a</sup>
Type 1	Constant	16.063	.000
	Coefficient	.864	.000
Type 2	Constant	(-15.169)	.000
	Coefficient	.231	.000
Type 3	Constant	49.074	.000
	Coefficient	.442	.000

a:  $p < 0.001$

The *t-test* (Table 1) suggests that both the constant and intercept are highly significant ( $p < 0.001$ ).

The relationship between gate counts and spatial measures can be expressed as:

$$g = \text{sqrt}^*(\text{TV}/\text{MMSPA}) * \alpha + \beta \quad (9)$$

(Where  $\alpha$  is the coefficient and  $\beta$  is the constant)

The gate counts ( $g$ ) at a particular location can be expressed as a function of TV and MMSPA. So, the customer movement and eventually total rent from a store can be expressed in terms of spatial parameters.

## Results & Discussion

As shown in Equation 9, the total rent from a particular tenant store can be expressed as a function of gate counts when other things remain constants. From Equations 8 and 9 it can further be concluded that, total revenue from a store can be expressed as a function of MMSPA and TV when other things remain constants. So, Total rent of a tenant store can be expressed as function of spatial configurational variables.

It is very difficult to consider every grid point for tenanting decision making. For convenience, the total interior public space is divided into zones, the minimum possible number of mutually exclusive and collectively exhaustive polygonal spaces with co-visibility. The zones will contain different number of grid points. The average values of spatial parameters of those grids are considered as the representative values of spatial parameters of those nodes. A conceptual model can therefore be proposed for revenue maximization of individual tenant stores based on spatial parameters.

A system contains  $n_1$  Zones ( $Z_i$ ), corresponding values for TV and MMSPA will vary but  $\alpha$  and  $\beta$  will remain same for the configuration.

$$g_i = \alpha \cdot \sqrt{\frac{\text{TV}_i}{\text{MMSPA}_i}} + \beta \quad \text{for } i=1, 2, \dots, n_1$$

The maximum value ( $g_{max}$ ) has to be selected first for tenanting decision. The corresponding total rent ( $R$ ) function of stores at that location will be:

$$R = \left[ C_F \cdot \left( \frac{k_2}{1 - k_2} \right) - C_M \cdot \left\{ \frac{C_F}{a \cdot g_{max}^{k_2} \cdot (p - C_o) \cdot k_1 \cdot (1 - k_2)} \right\}^{\frac{1}{k_2}} \right]$$

Now, consider there are  $n_2$  numbers of different store types ( $S_j$ ) available for occupation. Every store type will have a unique combination of store type variables.

Best possible store type  $S_j$  can be selected for Zone  $Z_i$  under condition of maximizing total rent or *Max R* for ( $j \leq n_2; j++$ ). So, for every  $Z_i$ , the appropriate store type  $S_j$  can

be calculated. Then  $g_{max}$  is replaced by  $g_{max-1}$  and continue up-to  $g_{min}$  to find corresponding store types for every zones.

## Conclusion

This conceptual framework describes tenant-mix in terms of spatial configuration variables (*TV/MMSPA*). So, for a particular spatial arrangement, if the configurational values are calculated and available tenant stores are enumerated, best possible type of tenant store can be identified for a zone with maximum gate counts and the iteration will continue for all the zones till it covers the entire leasable area. Spatial planning has a bigger role to play in real estate decision making rather than a mere accommodator of functions. It helps taking tenantry decisions.

## References

1. Al\_Sayed, K., & Turner, A. (2012). Agent Analysis in Depthmap 10.14, Bartlett School of Graduate Studies, UCL, London
2. Benjamin, J. D., Boyle, G. W., & Sirmans, C. F. (1992), Price discrimination in shopping center leases. *Journal of Urban Economics*, 32(3):299-317
3. Brown, S. (1992). Tenant Mix, Tenant Placement and Shopper Behavior in a Planned Shopping Centre. *The Service Industries Journal*, 12:384-403
4. Brown, G. M. (1999). Design and Value: Spatial Form and the Economic Failure of a Mall. *Journal of Real Estate Research*, 17(2): 189–225
5. Brueckner, J. K. (1993). Inter-store externalities and space allocation in shopping centers. *The Journal of Real Estate Finance and Economics*, 7(1): 5-16
6. Carter, C. C., & Haloupek, W. J. (2000). Spatial autocorrelation in a retail context. *International Real Estate Review*, 3(1): 34-48
7. Carter, C.C., & Haloupek, W.J. (2002). Dispersion of stores of the same type in shopping malls: theory and preliminary evidence. *Journal of Property Research*, 19(4): 291-311
8. Carter, C. C., & Vandell, K. D. (2005). Store location in shopping centers: theory and estimates. *Journal of Real Estate Research*, 27(3): 237-266
9. Choi, J. H. (1999). A study on the visibility factors for seating packaging. *Journal of the Res. Inst. of Prod. Tech*, 2: 19-29
10. Dawson, J.A.(1983). Shopping Centre Development. Longman: London
11. Desyllas, J., & Duxbury, E. (2001). Axial maps and visibility analysis: a comparison of their methodology and use in models of urban pedestrian movement, In Proceedings 3rd International Space Syntax Symposium Atlanta, GA, <http://undertow.arch.gatech.edu/homepages/3sss>
12. Eckert, A., & West, D. S. (2008). Firm survival and chain growth in a privatized retail liquor store industry. *Review of Industrial Organization*, 32(1): 1-18
13. Eppli, M.J., & Shilling, J.D. (1995). Large-scale shopping center development opportunities. *Land Economics*, 71(1): 35-41
14. Finn, A. & Louviere, J.J. (1996). Shopping Center Image, Consideration, and Choice: Anchor Store Contribution. *Journal of Business Research*, 35: 241-251
15. Fisher, J. D., & Yezer, A. (1993). Spatial structure and rents in shopping centers. In American Real Estate and Urban Economics Association Annual Meetings, Anaheim: California
16. Franz, G., Von Der Heyde, M., & Bühlhoff, H.H. (2005). An empirical approach to the experience of architectural space in virtual reality—Exploring relations between features and affective appraisals of rectangular indoor spaces,. *Automation in Construction*, 14(2): 165-172
17. Garg, A. K., & Steyn, S. (2014). The Ideal Tenant Mix and Shopping Centre Size for the Proposed Thatchfield Convenience Centre. *International Journal of Business and Management*, 10(1): 243-257

18. Guy, C. (1994). The Retail Development Process: Location, Property and Planning. Routledge: London
19. Haq, S. (2003). Investigating the Syntax Line: Configurational Properties and Cognitive Correlates. *Environment & Planning B*, 30: 841–863
20. Haq, S., & Zimring, C. (2003). Just down the road a piece the development of topological knowledge of building layouts. *Environment and Behavior*, 35(1): 132-160
21. Hillier, B., Major, M.D., Desyllas, J., Karimi, K., Campos, B., & Stoner, T. (1996). Tate Gallery, Millbank: A Study of the Existing Layout and New Masterplan Proposal, Technical Report. Bartlett School of Graduate Studies, University College London: London
22. Hölscher, C., Brösamle, M., & Vrachliotis, G. (2012). Challenges in Multi-level Wayfinding: A Case-study with Space Syntax technique. *Environment and Planning B: Planning & Design*, 39: 63-82
23. Ingene,C.A., & Ghosh, A. (1990). Consumer and producer behaviour in a multipurpose shopping environment. *Geographical Analysis*,22(1): 70-93
24. McCollum, W. J. (1988). Basic research procedures. In Roca, R. A. (Ed.), Market research for shopping centres (3rd ed.).International Council of Shopping :New York
25. Pashigan, B. P., & Gould, E. D. (1998). Internalizing externalities: The pricing of space in shopping malls. *Journal of Law and Economics*, 41(1): 115-142
26. Roulac, S. (1996). Real estate market cycles, transformation forces and structural change. *Journal of Real Estate Portfolio Management*, 2(1), 1-17
27. Sim, L. L., & Way, C. R. (1989). Tenant placement in a Singapore shopping centre. *International Journal of Retailing*, 4(3): 4-16
28. Turner, A., Doxa, M., & O'Sullivan, D. (2001). From Isovists to Visibility Graphs: A Methodology for the Analysis of Architectural Space. *Environment and Planning B: Planning and Design*, 28: 103 – 121
29. Varoudis, T. (2012). DepthmapX – Multi-platform Spatial Network Analyses Software, <https://github.com/varoudis/depthmapX>
30. Verdil, A. (2009). Transformation of Space Behaviour Relation: A Case Study of Shopping Centres in Istanbul. In Proceedings of 7th International Space Syntax Symposium, KTH: Stockholm
31. Yuo, T. S. T., & Lizieri, C. (2013). Tenant placement strategies within multi-level large-scale shopping centers. *Journal of Real Estate Research*, 35(1): 25-51

COM/MARK/3

## **Green Marketing: A Key Approach towards the World of Sustainability**

**Mahananda Sen Gupta<sup>1</sup>, Sayani Sikdar<sup>2</sup>, Gourab Das<sup>3</sup>**

<sup>1</sup>Faculty of Commerce, Prafulla Chandra College, Kolkata;  
mahanandasg@gmail.com

<sup>2</sup>Faculty of Commerce, AJC Bose College, Kolkata;  
sayani1988arja@gmail.com

<sup>3</sup>Faculty of Commerce, AJC Bose College, Kolkata;  
2009gourabd@gmail.com

### **Abstract**

*In the recent times, uphill struggle and the constant urge to achieve sustainable development can be highly observed among the marketers and the consumers as a whole. The sustainable-oriented strategies and concerns can provide a way to revitalize the tormented environment whose resources are being continuously depleted due to the unlimited human demands. Green marketing is one such approach which aims to achieve sustainable development through the use of eco-friendly products without compromising the ability of the future generations to meet their own needs. It can be seen that the customers of today's generation are on the lookout for eco-friendly and high quality products for which they are even ready to pay more. Though the concept of green marketing is highly appreciated, the marketers need to adopt the strategies keeping in mind the various pros and cons of it. In this paper we are trying to focus on the mind-set of the consumers and the various approaches that are being adopted by the marketers for a greener world.*

**Keywords:** Eco- Friendly Products, Green Marketing, Sustainable Development

### **Introduction**

Over the years our environment has been tormented to a large extent owing to the scientific and technological innovations. The limitless and infinite human wants have led to the exhaustion of the natural resources of our mother earth. The dire consequences have compelled the people of the earth to change their perspectives for a better and sustainable life.

Nowadays, lots of studies have proved that the concerns of the people are growing regarding the usage of eco-friendly products. The changing behaviors of the customers have given the opportunity to the producers and the marketers to enter into the world of green marketing by adopting safe and environment friendly techniques of producing the products. The companies have started imbibing the spirit of green energy discarding every production procedures that hamper the beauty of nature.

According to the American Marketing Association, green marketing is the marketing of products which are assumed to be environmentally safe. Green marketing is a concept in which the production, packaging, advertising and marketing procedures are adopted in such an approach where the environment is not damaged.

The basic characteristics of green marketing can be summarized as follows:

- Protection of the environment
- Promotion of the eco-friendly products

- Usage of well-organized and proficient packaging
- Incorporating recycling chain to convert waste products into reusable products
- Adopting electronic marketing skipping the need for printed resources
- Conservation of energy and usage of organic foods rather than packaged and processed foods.
- Use of bio fertilizers made of agro wastes instead of harmful chemical fertilizers and pesticides

### Objectives of the Study

- To study the importance and benefits of green marketing.
- To understand the different types of the consumers and their approach towards green marketing.
- To find out the green marketing techniques adopted by the marketers both in India and outside India.
- To understand the challenges and limitations faced by the marketers while promoting green marketing.

### Review of Literature

Rachel Carson in her 1962 book entitled “Silent Spring” portrayed her feelings about the ill effects of pesticides like DDT on human beings and the environment. Ten years after the release of Carson’s book, DDT was no longer allowed to be used in the United States. Though this wasn’t the first time when the businesses were put under a strict set of laws but her work created a stir in the minds of the people which eventually conceptualized the idea of green marketing. Slowly and gradually the environment became the focus of many conferences and seminars. Loads of studies were conducted on green marketing all over the world to find out its effectiveness.

Peattie, K., Crane, A. (2005) discussed that the opportunities to make concrete progress towards sustainability have been dissipated owing to the inappropriate focus on “green marketing activity” by the firms. The firms have compartmentalized green marketing rather than adopting a holistic perspective.

Bhatia, M & Jain, A. (2013) conducted a survey where it was revealed that the level of awareness among the consumers about green products was high but at the same time they were unaware of the green initiatives undertaken by the different government and non - government agencies which demanded more efforts from the organizations in this regard.

*Benefits and importance of green marketing:* Whenever we get acquainted with the term “green” a sense of purity and freshness captures our minds. Going green has many advantages. In this world of competitiveness, many companies are considering this topic as a series issue. This change has surfaced not only due to the shift in the customer attitude but also owing to the strict laws and regulations imposed by the government in different civilized countries which have made the business corporations more vigilant about corporate social responsibilities. By adopting green strategies a company can enjoy the following benefits:

*Eco-friendly products:* Green marketing ensures production of eco-friendly products which do not bring any harm to the life of the people. In today's world a considerable portion of the people is conscious about their health.

*Enjoy a competitive advantage over the other companies:* Adoption of green strategies facilitate the companies to gain a competitive advantage over the other traditional companies which eventually endow them with the opportunities to become the leading business houses.

*Disposal of green products is easy and economical:* Discarding harmful products can be very costly and if proper methods are not adopted for the disposal of the chemical wastes, it can pose serious threats to the lives of the people. As green strategies ensure a reduction in the waste materials a company with green initiative can enjoy a substantial cost saving.

*Premium pricing:* The companies with green strategies charge a premium pricing as the green products are costly compared to the traditional products. This is an added advantage.

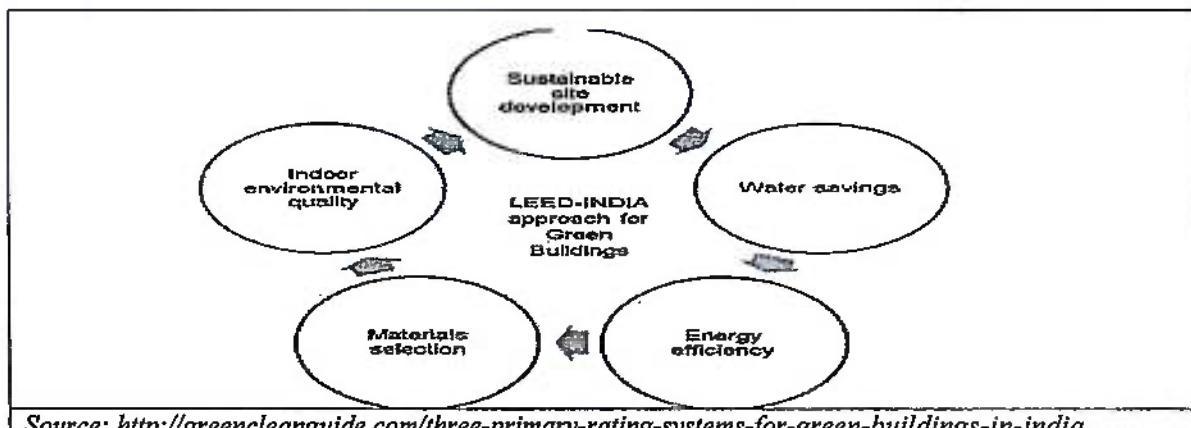
*A brief concept about Green Certifications which are the absolute necessity for setting the standards of green products:* Being a developing country India has made a lot of progress in the field of industrialization. Over the history, the country's assimilation with the global world has gifted her with a huge economic growth but how far the country has moved forward with the notion of sustainability should be looked into. In the year 2016, USGBC ( U.S. Green Building Council ) announced the Top 10 Countries for LEED, (Leadership in Energy and Environmental Design), that highlights the countries outside the United States that are taking noteworthy steps in creating healthy, highly efficient and cost-saving green buildings. As per the report, India has a 3<sup>rd</sup> rank. Thus India's performance globally with respect to sustainable building design, construction and market transformation is highly commendable.

Country Name	Rank	Gross Square Meters*	Number of Projects
China	1	34.62	931
Canada	2	34.39	2,586
India	3	15.90	644
Brazil	4	7.43	380
Republic of Korea	5	5.95	97
Taiwan	6	5.66	99
Germany	7	5.03	215
Turkey	8	4.78	191
Sweden	9	3.88	210
United Arab Emirates	10	3.64	180

Source: <https://www.usgbc.org/articles/usgbc-announces-international-ranking-top-10-countries-leed>

\*Gross square meters are reported in millions. Data reported as of December 2016

\*\*The United States, where LEED originated, is not included in this list, but remains the world's largest market for LEED.



Source: <http://greencleanguide.com/three-primary-rating-systems-for-green-buildings-in-india>

### *Green Strategies Adopted by Some Leading Companies Worldwide*

Starbucks Corporation is developing more and more eco-friendly greener cups which can be recycled with an aim to reduce carbon footprint. In 1995 Starbucks introduced, "Grounds for Your Garden" scheme which offers complimentary 5- pound bags of used coffee grounds to enrich the garden soil.

- General Electric launched 'ECOMAGINATION' in 2005 which was a revolutionary strategy the company used to build more efficient machines that produce cleaner energy, reduce green house gases emission, cuts the usage of water and make money while doing it.
- Ikea, uses 50% of its wood from sustainable foresters and 100% of its cotton from farm that meet the Better Cotton Standard System which commands reduced use of water, energy, chemical fertilizers and pesticides.
- BMW, included seven all electric or hybrid models and 58% of the electricity produced by BMW comes from renewable energy sources.
- Indian companies are also adopting a lot of green strategies to make India a better place to live in.
- Wipro Limited launched a wide range of eco-friendly desktops is Wipro under the Wipro Green Ware initiative, which aims to cut down e-waste in the environment. Wipro has 17 e-waste collection centres in India where products are recycled and 12 Wipro campuses in the country have been certified as green buildings
- At Tata Metaliks (TML) every day is Environment Day and working on Saturdays is discouraged. This instruction, united with the practice of keeping the lights switched off during the day depending solely on sunlight, helped lower the electricity bill by nearly 30 per cent. TML's 197-acre plot has a green cover of 33.46 percent which provides several benefits as the plants absorb carbon dioxide, give out oxygen, help suppress noise and reduce dust.
- Panasonic India has an Econavi range of air conditioners and LCD screens which is based on energy conservation. Econavi home appliances use sensor and control technologies to minimize energy consumption, based on a family's lifestyle. The corporation is aiming to become top green innovation company in the electronics industry by 2018 and is laying a lot of emphasis on Eco-Friendly Products.
- ACC Ltd has recently launched its eco-friendly brand, 'Concrete+' which uses fly ash (a hazardous industrial waste) to help conserve natural resources, thus making it an eco-friendly product.
- Fevicol, a leading brand of adhesive in India, has introduced environment-friendly synthetic resin adhesive. Claiming to be India's first eco-friendly

adhesive, Fevicol AC Duct King Eco Fresh, boasts of being an all-in-one adhesive.

- Grassroot, an eco-friendly line of clothing by Anita Dongre has now joined the line of eco-fashion with her brand which uses certified eco-friendly & organic fabrics and has partnered with a number of NGOs who are engaged into providing and promoting the work of local artisans.
- Indian Tobacco Company has introduced environmental-friendly papers and boards, which are free of elemental chlorine

#### *Challenges / Limitations faced by the marketers while promoting green marketing:*

- *Greenwashing:* Some marketers try to mislead the consumers by simply making false claims about their products and marketing them as a better choice for the environment when they're really not. For example when a company uses the colour "green" in their packaging, or the word green somewhere in their messaging when in reality there isn't anything particularly eco-friendly about their products Greenwashing is not only misleading, but it can cause damage to a company's reputation. Thus when the consumers want to buy a green product, they should verify official certifications listed on the product packaging.
- *High conversion costs:* Altering the marketing strategies and campaigning procedures takes time and the development of a new approach, lead to increased costs.  
*Obtaining green certifications can be a tedious task:* The environment certifications which are required to commercialize the products as "green" are costly and the process of obtaining the certificates are lengthy.
- *Costly products:* Green marketing leads to a hike in the price of the products. Thus it is not possible for everyone to afford these kinds of products.

#### **Conclusion**

"In 1992, 1700 scientists, including many Nobel Laureates, wrote an open letter entitled "The World Scientists' Warning to Humanity" which focused on the "irreversible damage on the environment and on critical resources". After 25 years 15,000 scientists from 184 countries again issued a second notice entitled "World Scientists' Warning to Humanity: A Second Notice" which stated that "Humanity has failed to make enough progress in generally solving these foreseen environmental challenges, and alarmingly, most of them are getting far worse. Soon it will be too late to shift course away from our failing trajectory." So it's high time we should discard everything which is harmful to our world and embrace the methods that will lead us towards the path of the sustainable world. Green marketing is such a concept which can help us reallocate from the current unsustainable and vulnerable situation to a green world with pure and fresh air.

To free our world from the shackles of the harmful pesticides, gases and chemicals strict rules and regulations must be imposed by the government of every nation. The Indian government has already taken many actions to purify our nation such as launching "Swachh Bharat Scheme", the abolition of petrol and diesel bound auto rickshaws and replacing them with CNG run autos. Apart from the strict rules, the consumers should also be educated regarding green marketing because they need to understand their own safety and security. Proper promotion techniques should be applied by the concerned marketers to enable the consumers to learn about the green products which will eventually help us to reside in a green earth.

## References

1. Bhatia, M., & Jain, A. (2013). Green Marketing: A Study of Consumer Perception and Preferences in India. *Electronic Green Journal*, 1(36). Retrieved from <https://escholarship.org/uc/item/5mc39217>
2. Carollo, A. *History of Green Marketing*. Retrieved from <https://study.com/academy/lesson/history-of-green-marketing.html>
3. Carson, R. (1962). Silent Spring. United States: Houghton Mifflin Harcourt
4. Choudhury, R. (2016). *Top 10 Green Companies Of India*. Retrieved from <https://fiinovationblogs.wordpress.com/2016/02/29/top-10-green-companies-of-india/> Duquesne University. Retrieved from <http://www.duq.edu/about/centers-and-institutes/center-for-green-industries/green-business-certificate-series>
5. Egan, M. (2015). *Ecomagination Ten Years Later: Proving that Efficiency and Economics Go Hand-in-Hand*. Retrieved from <https://www.ge.com/reports/ecomagination-ten-years-later-proving-efficiency-economics-go-hand-hand/>
6. Essays, UK. (2013). *Green Marketing In India*. Retrieved from <https://www.ukessays.com/essays/management/green-marketing-in-india-management-essay.php?vref=1>
7. Essays, UK. (2013). *Evolution of Green Marketing Essay*. Retrieved from <https://www.uniassignment.com/essay-samples/marketing/evolution-of-green-marketing-marketing-essay.php?cref=1>
8. Green Certifications. (2018). Retrieved from <http://www.greenafricadirectory.org/resources/green-certifications/>
9. Green Certification- Benchmarking your practices. (2016). Retrieved from [www.conserveconsultants.com/green-certification](http://www.conserveconsultants.com/green-certification)
10. Hanley, S. (2017) *15,000 Scientists: Climate Change Is Already Past The Point Of No Return*. Retrieved from <https://cleantechnica.com/2017/11/14/climate-change-already-past-point-no-return-warns-union-concerned-scientists/>
11. Here are some of India's leading 'green' companies. (2011). Retrieved from <http://www.rediff.com/business/slideshow/slideshow-1-world-environment-day-some-of-indias-leading-green-companies/20110603.htm#>
12. Jaideep, S. *Green Marketing: Meaning and Importance of Green Marketing*. Retrieved from <http://www.yourarticlerepository.com/marketing/green-marketing-meaning-and-importance-of-green-marketing/48587>
13. Joseph, C. *The Disadvantages of Going Green for a Corporation*. Retrieved from <http://smallbusiness.chron.com/disadvantages-going-green-corporation-3318.html>
14. Kravitz, R. (2014). *Green Marketing: The Evolution*. Retrieved from <http://alturasolutions.com/green-marketing/>
15. McCadden, L. (2016). *USGBC Announces International Ranking of Top 10 Countries for LEED*. Retrieved from <https://www.usgbc.org/articles/usgbc-announces-international-ranking-top-10-countries-leed>
16. Mohanty, V., & Nayak, S. (2017). Green Marketing- Its Application, Scope And Future In India. *Indian Journal of Scientific Research*, 15 (2). Retrieved from [https://www.ijsr.in/upload/414082048Chapter\\_19.pdf](https://www.ijsr.in/upload/414082048Chapter_19.pdf)
17. Narula, S., & Sabharwal, D. (2016). The Theoretical Study of Green Marketing in India: Its Importance and Need. *Journal of Mass Communication & Journalism*. S2:007. Retrieved from <https://www.omicsonline.org/open-access/the-oritical-study-of-green-marketing-in-india-its-importance-and-need-2165-7912-S2-007.php?aid=82668&view=mobile>
18. Organic India- Healthy Conscious Living. Retrieved from <https://www.organicindia.com>
19. Peattie, K., & Crane, A. (2005). Green marketing: legend, myth, farce or prophesy? *Qualitative Market Research: An International Journal*, 8(4), pp. 357 – 370. Retrieved from <https://www.emeraldinsight.com/doi/abs/10.1108/13522750510619733>

20. Peta India (2006). *Mc Donalds goes vegan.* Retrieved from <https://www.petaindia.com/blog/mcdonalds-goes-vegan>
21. Rana, A. (2017). *What are the disadvantages associated with green marketing?* Retrieved from <https://www.quora.com/What-are-the-disadvantages-associated-with-green-marketing>
22. Rodrigues, C. (2010). *Green strategies -Tata Metaliks has given a green slant to all of its business and plant operations in a bid to reduce its carbon footprint and mitigate its environmental impact.* Retrieved from <http://www.tata.com/article/inside/Green-strategies>
23. Shailesh. (2012). *Three primary rating systems for Green buildings in India.* Retrieved from [greencleanguide.com/three-primary-rating-systems-for-green-buildings-in-india/](http://greencleanguide.com/three-primary-rating-systems-for-green-buildings-in-india/)
24. Sao, A. (2014). Research Paper on Green Marketing. *IOSR Journal of Business and Management*, 16(5), pp. 52-57. Retrieved from [www.iosrjournals.org/iosr-jbm/papers/Vol16-issue5/Version-1/H016515257.pdf](http://www.iosrjournals.org/iosr-jbm/papers/Vol16-issue5/Version-1/H016515257.pdf)
25. Sharma, N. (2015) Industry Initiatives for Green Marketing in India. *Business and Economics Journal*. 7:192. Retrieved from <https://www.omicsonline.org/open-access/industry-initiatives-for-green-marketing-in-india-2151-6219-1000192.php?aid=64374>
26. Starbucks. (2016). *Environmental Stewardship.* Retrieved from <http://www.starbucks.in/responsibility/environment>.

COM/MARK/4

## A Study on Brand Loyalty for DTH Service Providers in the City of Kolkata

Sandeep Bhattacharjee

Assistant Professor, Amity University, Kolkata; sandeepbitmba@gmail.com

### Abstract

*India is the largest DTH market in the world by number of subscribers. As on 30 September 2017, there were 66.99 million active pay DTH subscribers in the country. This growing DTH market caters to millions of customers in India's market. Our present research work has been focused with objectives which includes investigating the relationship between service quality and customer satisfaction in Direct to Home (DTH) services in Kolkata metropolitan city of West Bengal. After conducting a pilot study, the final questionnaire has been developed and data was collected from 100 samples using non probability convenient sampling. The statistical analysis using SPSS version 16 revealed the competitive phenomenon of brand switching among the samples involved during the period of three months i.e. 1<sup>st</sup> December 2017 to 28<sup>th</sup> February 2018.*

**Keywords:** Customer Satisfaction, Direct to Home Services, Brand switching

### Introduction

The word DTH stands for “Direct- to- Home”. DTH is defined as the reception of satellite programmers with a personal dish located at the subscriber’s home.<sup>[13]</sup> DTH or Direct-to-Home is essentially a content delivery system. It allows the satellite transmission of the broadcaster’s content directly into small receiving dish antennas located at the subscriber’s home. The transmission is usually done in Ku-band (14/12 GHz) to receiving dishes that can be as small as 45 cm.

A DTH network consists of a broadcasting centre, satellites, encoders, multiplexers, modulators and DTH receivers. A DTH service provider has to lease Ku-band transponders from the satellite.<sup>[16]</sup> The encoder converts the audio, video and data signals into the digital format and the multiplexer mixes these signals. At the user end, there will be a small dish antenna and set-top boxes to decode and view numerous channels. On the user’s end, receiving dishes can be as small as 45 cm in diameter. DTH is an encrypted transmission that travels to the consumer directly through a satellite.<sup>[12]</sup>

DTH transmission is received directly by the consumer at his end through the small dish antenna. A set-top box, unlike the regular cable connection, decodes the encrypted transmission.

### *Overview of DTH Industry in India*

DTH services were first proposed in India in 1996<sup>[13]</sup>. But they did not get approval because there were many concerns over national safety and a fear of cultural invasion. In 1997, the government even forced a ban when Rupert Murdoch owned Indian Sky Broadcasting (ISkyB) was about to initiate its DTH services in India<sup>[1]</sup>. Finally it was started in the year 2000. The new policy made it necessary for all operators to set up earth stations in India within 12 months of getting a license. DTH licenses in India had a price tag of \$2.14 million and valid for 10 years. The companies providing

DTH service will have to be owned by Indian chief and contribution of foreign equity has been capped at 49 percent [8]. Today, broadcasters believe that the market is ripe for DTH and the prices of the dish and the set-top box have also come down significantly. Overall investments required in putting up a DTH infrastructure have dropped and customers are also reaping the benefits of more eye-catching tariffs [11]. The major thing that DTH operators are gambling on is that the service is coming at a time when the government is pushing for CAS (conditional access system), which will make cable television more expensive, narrowing the tariff gap between DTH and cable.

Some of the features of DTH service are as following [9].

- DTH offers better quality picture than Cable TV.
- DTH can reach remote areas where terrestrial transmission and cable TV have failed to penetrate.
- DTH has also allowed for interactive TV services such as movie-on-demand, Internet access, video conferencing and e-mail. India presently has 7 major DTH service providers and a total of over 62.53 million subscriber households.
- Brands such as Dish TV, Tata Sky, Airtel Digital TV, Reliance Digital TV, Sun Direct, Videocon D2H.
- DD Direct + Out of these Dish TV is the main market holder. Dish TV is India's first private Indian company to start Direct to Home (DTH) satellite broadcast operations in the country. Dish TV's DTH services was hard launched in May 2005. It provides multi-channel subscription television service and interactive services. Its state of the art broadcasting infrastructure is located at its facility in Noida, near Delhi, which is the nerve centre of DTH operations. Dish TV has robust operating infrastructure, strong content tie-up, established brand salience and backing of a strong group. ASC Enterprises Limited, now renamed Dish TV India Limited acquired the first private sector license to operate DTH services in India.
- In the year 2004, Tata Sky was incorporated but was finally launched only in 2006. Tata Sky is a joint venture between the TATA Group and STAR. Tata Sky satellite television service was launched on 8th August, 2006 [3]. It's the second DTH Company launched in India. In Tata sky, TATA holds 80% stake, STAR holds 20% stake. In 2008, Singapore-based Temasek Holdings has 10% stake in Tata Sky from the Tata Group. This has diluted Tata's stake in the venture to 70%. Tata sky uses the brand of British Sky Broadcasting Group. It currently offers close to 196 channels and some interactive ones; this count includes some numbers of HD channels offered by Tata Sky (as Tata Sky - HD) and interactive services also.
- Spotting the chance, Sun Direct launched its services in 2007 with a drastically low onetime cost involved for DTH subscriber. Followed by this Reliance Digital TV, Airtel Digital TV and Videocon D2H launched their services. The market became competitive. Every player came with innovative offerings, Dish TV offered Movie on Demand free worth the cost of set top box, Airtel and Reliance Digital TV offered free subscription for first few months etc. All these things were coupled with aggressive marketing campaigns.

#### *Categorization of DTH players in industry:*

- Public players: DD Direct + Dish TV.
- Private players: Sun Direct, Tata Sky, Reliance, Airtel, Videocon D2H.
- Today the market shares of various pay DTH players are as follows:

- Dish TV : 25%
- Sun Direct : 10%
- Tata Sky : 23%
- Reliance : 2%
- Airtel : 20%
- Videocon D2H : 20%

**Private players DTH Market Share Dec '16**

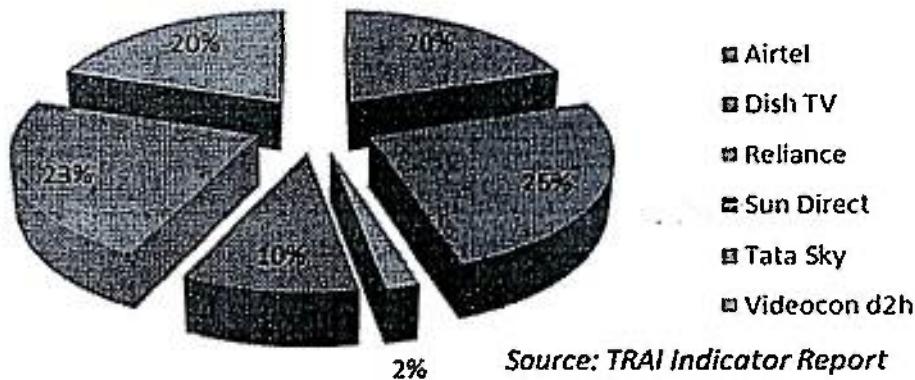


Figure 1: Market Share of DTH Operators

(Source: <http://www.indiatelevision.com/dth/dth-operator/dth-subscriber-growth-slows-down-even-further-170605>)<sup>14</sup>

As seen in Figure 1, A highly competitive market exists with players like Airtel (20%), DishTV (25%), Tata Sky (23%), Videocond2h (20%) posing threats to each other ( Oct-Dec '2016). With increase in subscriber base from 58.53 millions (2016-2017) to 63.61 millions (2017-2018), this level of competition is further expected to rise in future telecom market (Figure 2).

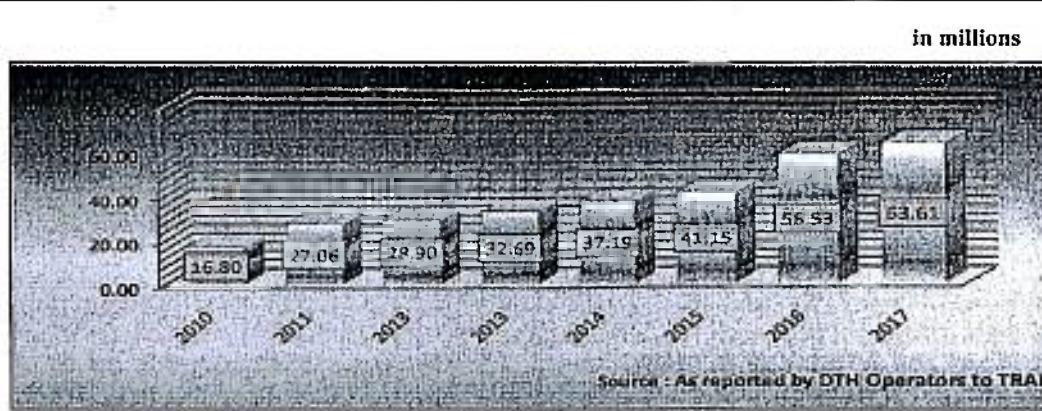


Figure 2: Annual Growth in Net Active Base of Pay DTH Sector

## Review of Literature

Since the DTH market in India is still growing and vastly untapped, its potential for future growth is immense <sup>[2]</sup>. Consider the numbers industry experts are bandying about: India's TV viewership is the second largest in the world - we are adding over 14 million new TV sets a year to the 130 million TV households; of these, 97 million are cable & satellite (C&S) homes, growing at 25-30% annually.

The DTH market now has 14-15 million subscribers, but by 2012, it swelled to 35-40million. The DTH market in India doubled in 2009-10; of the 1.75 Crore DTH subscribers in India, 70% are in rural areas and towns with populations below 10 Lakhs, which has 50% of 12.5 Crore cable TV Homes, are in India [10].

After its launch in 2003, the Indian DTH industry has come a long way, adding more players in this business and has been growing at a high rate. The industry has survived the global financial meltdown and has come out with high growth numbers in 2009 & 2010.A neat 20 per cent annual growth is being witnessed in the DTH sector in India with over 8.5 million households having digital pay TV [5]. According to Harsh Bijoor, a brand consultant, was of the opinion that Dish TV, the biggest market player on the Indian soil, that it has not scraped even five per cent of the pie, there is plenty left for other players to eat [7].

Interestingly, the rural rich were the first to positively respond to the advent of DTH industry and those in the remote areas with no or unreliable access to the cable services will be tapped in by the DTH players.

According to the Indian readership survey 2009, findings have shown that the Dish TV is the largest player with over 5.8million subscribers, followed by Tata Sky, Reliance BIG TV, Airtel Digital TV and Sun Direct, which has predominance in the southern zone [6]. The zone wise analysis puts the western zone with 4.24 million topping the subscriber base charts and the North, South and East following the lead A noted industry analyst Sivasundaram Umapathy published his literature “Industry analysis-DTH Industry in India” in 2007[4]. In this paper he analyzed the challenges and opportunities present for the DTH industry within the Indian context. It involved looking at the history of Indian broadcasting followed by observation of the current DTH market. An environment analysis was done using the Potter’s five forces model and also the various challenges faced by the industry in “ Indian entertainment and media outlook 2009 “as published in 2009 where they discussed about the importance of DTH in the entertainment industry.

RNCOS industry Research Solutions published new report “Indian DTH Market Forecast to 2012” in 2009 [4]. In their report they said that the DTH service market in India has emerged as one of the most lucrative markets which have successfully resisted the impacts of the current economic slowdown. The slowdown has certainly proved a boon for the Indian DTH industry as people have now started to cut on their entertainment expenditure and instead of viewing movies at theatres, they are preferring to stay at home with their television sets. The industry is anticipated to add nearly 5 lakhs subscribers per month during 2009and the numbers are forecasted to surge further at a CAGR of around 30% through 2012.

According to a Sr. analyst at RNCOS it has been predicted that more than 130 Million TV homes, India offers large room for growth in DTH services as the technology can be used to present DTH services in remote location, where setting up of cable networks seems impossible, or is highly expensive.

## Objectives of the Study

Objectives of the projected study and analysis are:

- To study the features of the various DTH services.
- To study the services provided by various DTH services providers.
- To investigate the relationship between service quality and customer satisfaction in Direct To Home (DTH) services in Kolkata
- To study the factors responsible for brand switching for various DTH service providers.

## Hypothesis/Assumption

Our hypothesis for the current research includes:

- Null Hypothesis (H0a): The brand loyalty for DTH services and quality of services provided by the brand are not dependent on each other.
- Alternate Hypothesis (H1a): The brand loyalty for DTH services and quality of services provided by the brand are dependent on each other.

## Methodology

We have also used some literature based surveys by visiting relevant websites available freely over the internet for collecting materials in support of research conducted. The research design used here for this project is a combination of preliminary investigation & in the know about the DTH companies. Data obtained from the personal interactions with the customers concerned are made to figure out the results. The research was conducted during the period of three months i.e. 1<sup>st</sup> December 2017 to 28<sup>th</sup> February 2018.

### *Data Collection:*

The data used for analysis was collected from different sources that included:

#### *Primary Sources:*

Primary data was collected through Survey Method which is very suitable to reach the appropriate information. Printed questionnaires and direct interviews were used to collect the required information. The questionnaire focused upon collecting information regarding customer satisfaction from various DTH service providers.

#### *Secondary Sources:*

Secondary data was collected from internet sites of different DTH service providers, internet publications, previous reports and other information brochures of DTH companies available over internet.

#### *Sampling Procedure:*

The sampling design for this research was based on non probability convenient sampling. The sampling units in the study belonged to the customers or users of DTH services. The sample size used in this project is 100 DTH users. The sampling area or region where the survey was conducted in Kolkata.

## Results & Discussion

The data analysis was carried out using sorting and assembling of data in MS- Excel 2017 , and analyzing such data using SPSS version 16 through which enabled cross tabulation, Classification trees (CHAID method) and reliability analysis (calculation

of Cronbach's Alpha) for the systematically sorted samples data. Major implicative analysis are discussed as under:

*Users with DTH Connection:*

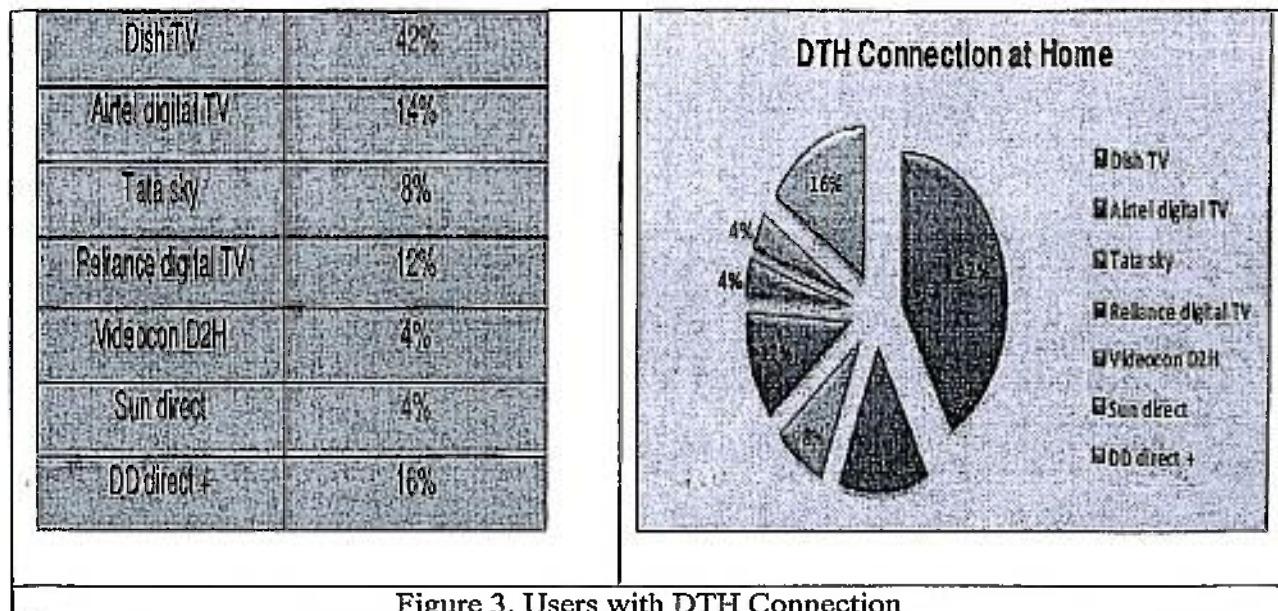


Figure 3. Users with DTH Connection

It was observed that out of 100 respondents, 40% have Dish TV, 14% have Airtel Digital TV, 8% have Tata sky, 12% have Reliance Digital TV, 4% have Videocon d2h, 4% have Sun Direct and 16% are using DD Direct+. 42% 14% 8% 12% 4% 4% 16% DTH Connection at Home Dish TV Airtel digital TV Tata sky Reliance digital TV Videocon D2H Sun direct DD direct + (as seen in figure 3).

*Gender Based Channel Selections:*

As seen in figure 4, we observed that 27 samples ( 7 females, 20 males) are using Airtel Dish TV and 28 samples (11 females, 17 males) use Tata Sky DTH connections. The rest 55 % of samples are using other DTH service providers.

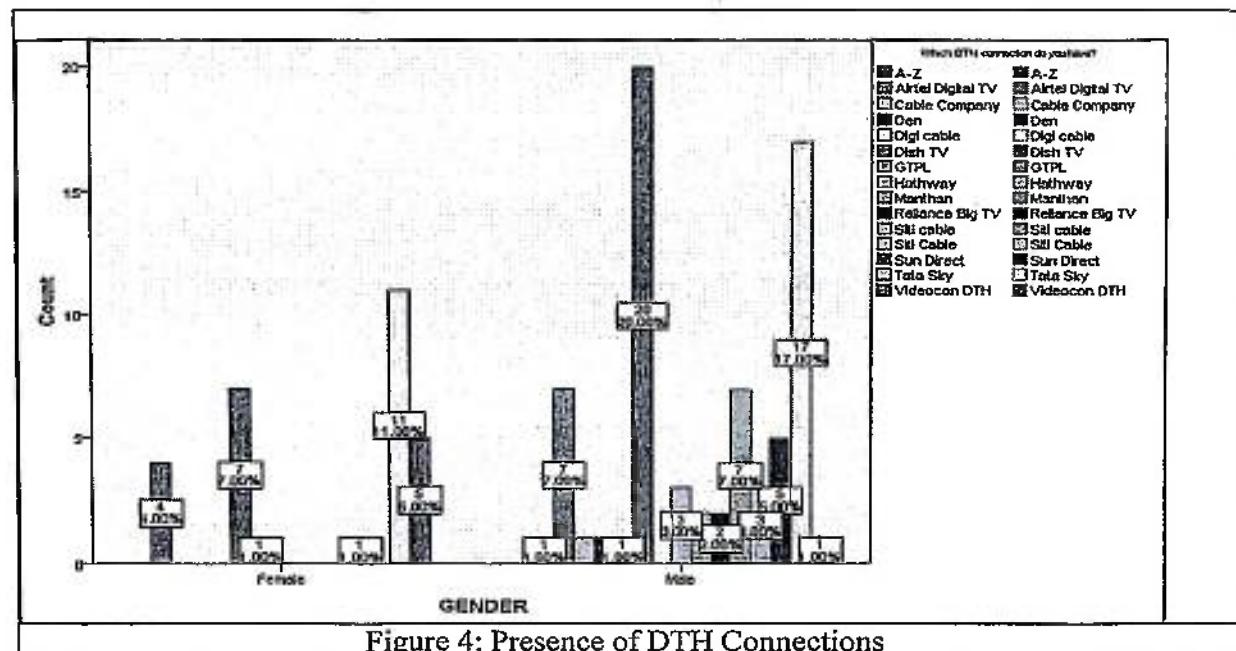


Figure 4: Presence of DTH Connections

*Reasons for Preference of DTH connection over cable TV:*

Figure 5 indicates that 18% respondents prefer DTH over cable because they think it is economical, 16% cited high clarity, another 29% attributed provision of better services, 2% stated interactive services, The rest included high variety(5%), online services (2%), easy to manage (4%) and 24% preferred DTH as a combination of all the above reasons as stated.

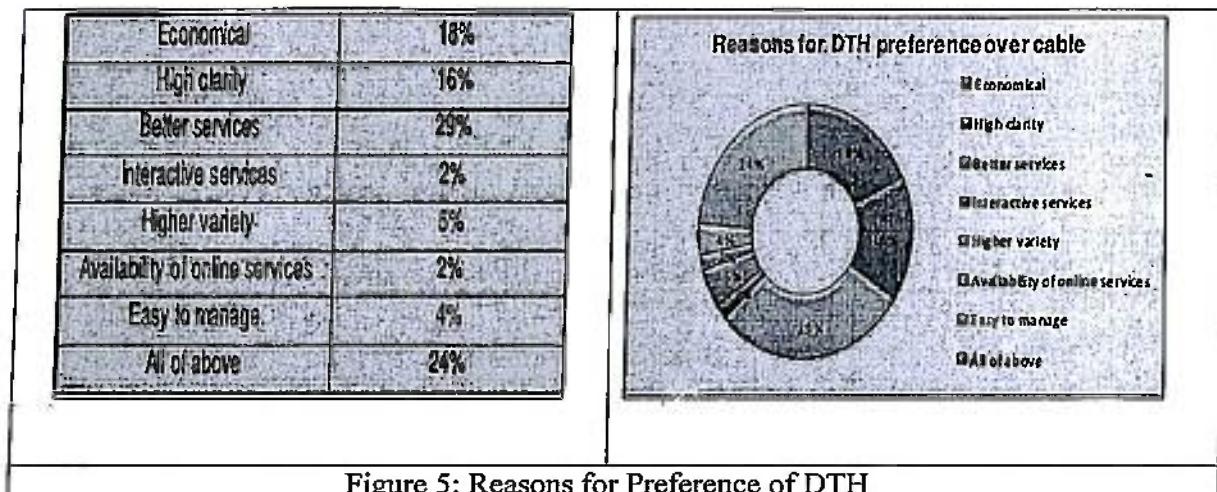


Figure 5: Reasons for Preference of DTH

*Gender-wise Preference of Channels through DTH Services:*

As seen in figure 6, Out of 100 respondents, 21 persons Or 21 % of the samples (8 females, 13 males) are preferring only entertainment channels. The rest of 89 % samples prefer other channels including entertainment channels. This shows interests of the audience are in multi- faceted programs i.e. more variety seeking samples exist.

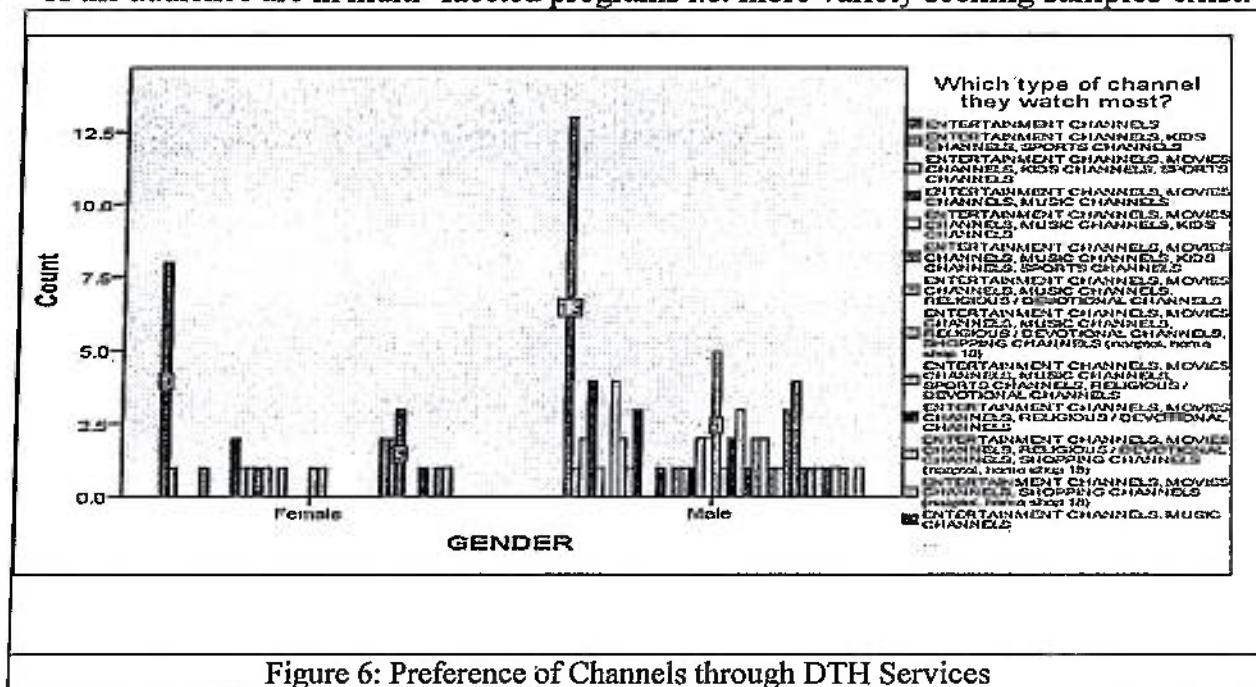


Figure 6: Preference of Channels through DTH Services

*Gender Based Value for Money:*

As seen in Figure 7, we can see that females prefer Rank 6 (value) whereas 24% males prefer Rank 6 (value) over other ranks. Also, lesser rank 5(value) has been given more preference by males(20%) as compared to females (9%).

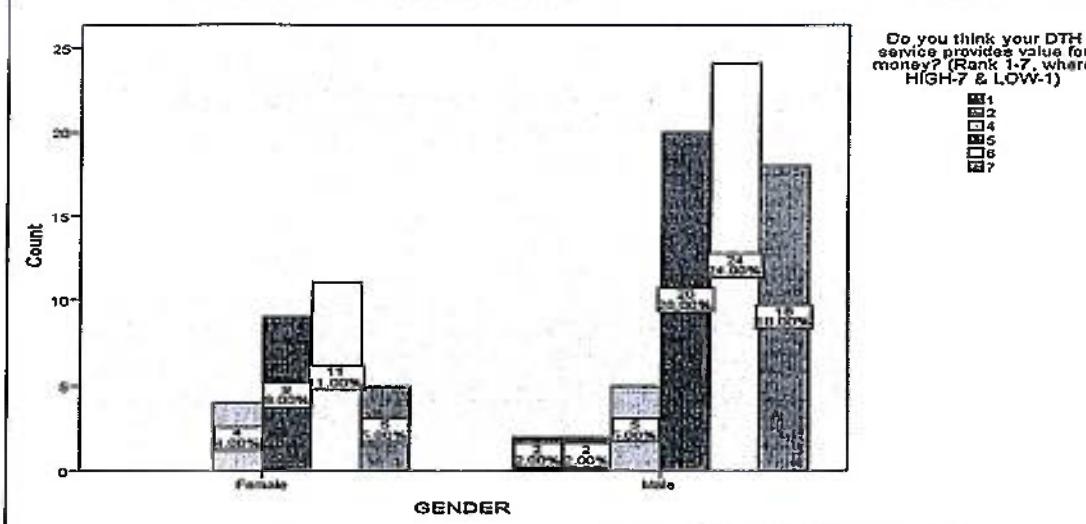


Figure 7: Gender Based Value for Money

#### *Brand Awareness:*

As seen in figure 8, it has been seen that television has been the most popular media of brand awareness with 66% of samples considering television as the source of brand awareness (22% females & 44% females). Also, 10% males agreed to Internet as the source of brand awareness.

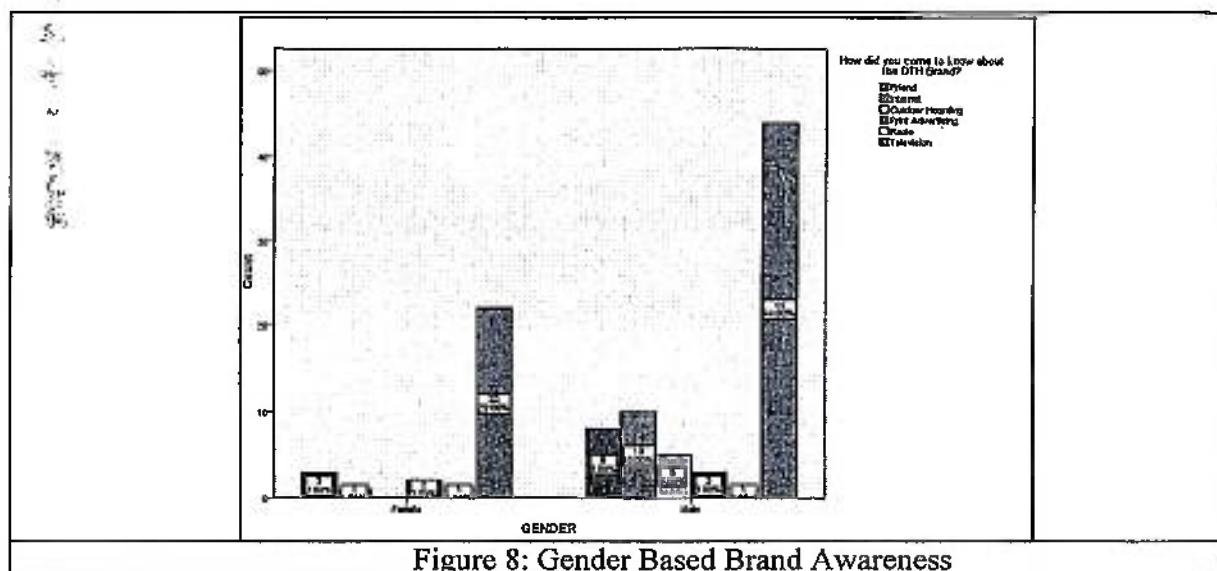


Figure 8: Gender Based Brand Awareness

#### *Brand Switching:*

As seen in Figure 9, out of 10 respondents, 34% are planning to change their existing DTH service provider and 66% respondents have no such plan.

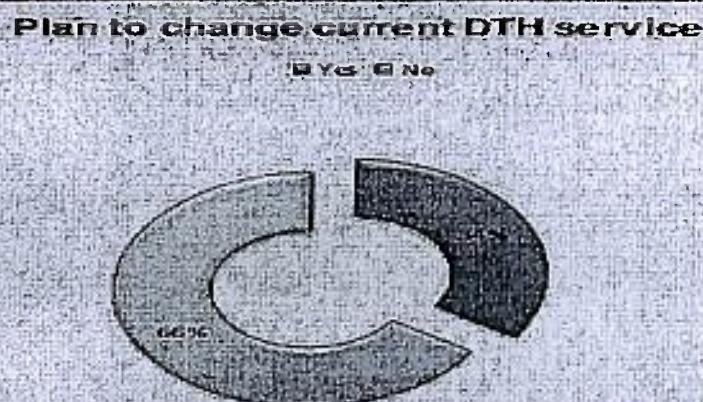


Figure 9: Brand Switching for DTH Services

#### *Benefits Expected By Consumers:*

In terms of benefits expected, one-third of the respondents are planning to change their current DTH service (as seen in Figure 9). Out of these 34% respondents, 6% want interactive services in their next DTH service, 11% are looking for quality, 44% want online services and 39% respondents desires to have all the above features (see Figure 10).

#### **What features are you looking in your next DTH service provider**



Figure 10: Benefits Expectations for DTH Services

#### *Preference of Brand Switching:*

As observed in figure 11, Out of 34% respondents who want to switch to other DTH service, majority of them preferred Airtel Digital TV (41%), Tata Sky(23%), reliance Digital TV (12%), Videocon D2H (12% ), followed by Sun Direct and Dish TV (both 6%) and no samples were thinking to switch to DD Direct plus.

Dish TV	6%
Airtel digital TV	41%
Tata sky	23%
Reliance digital TV	12%
Videocon D2H	12%
Sun direct	6%
DD direct +	0%

Discount	36%
Promotional offers	16%
Service package	28%
Brand image	20%

Figure 11. Brand Switching Preferences

*Marketing Scheme Preferences:*

As seen in figure 12, Out of 100 sample respondents, 36% respondents were found to be more attracted towards discounts, 16% towards promotional offers, 28% towards service package and 20% are attracted towards brand image.

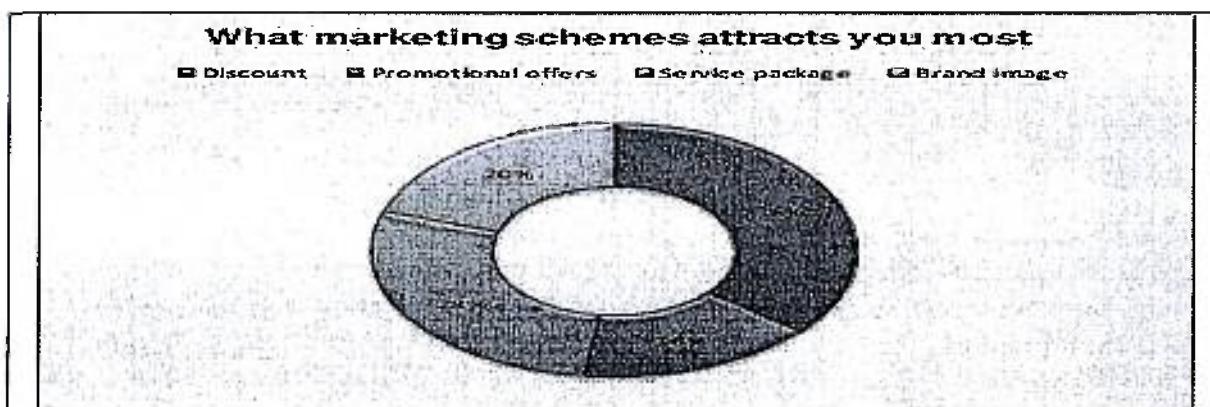


Figure 12: Marketing Schemes Preferences

*Classification Tree (Using Chaid & Crt)*

Sample	Observed	Predicted							Percent Correct
		1	2	4	5	6	7		
TRAINING	1	0	0	0	0	2	0	.0%	
	2	0	0	0	0	2	0	.0%	
	4	0	0	0	0	7	0	.0%	
	5	0	0	0	0	14	0	.0%	
	6	0	0	0	0	26	0	100%	
	7	0	0	0	0	14	0	.0%	
	Overall Percentage	0%	0%	0%	0%	100%	0%	40%	
TESTING	1	0	0	0	0	0	0	.	
	2	0	0	0	0	0	0	.	
	4	0	0	0	0	2	0	.0%	
	5	0	0	0	0	15	0	.	
	6	0	0	0	0	9	0	100%	
	7	0	0	0	0	9	0	.0%	
	Overall Percentage	0%	0%	0%	0%	100%	0%	25.7%	

Growing Method: CHAID  
Dependent Variable: Do you think your DTH service provides value for money? (Rank 1-7, where HIGH-7 & LOW-1)

Figure 13: Classification Tree Using Chaid Method

As seen in figure 13, we can see the training and testing results based on consumer perception for DTH services providing value for money. This shows most samples were more or less average satisfied (Rank 6 in rank between 1 to 7) with 100% correct prediction in training samples and testing samples and on overall percentage 40% in training and 25.7% in testing samples respectively. This result also verifies our previous finding of average satisfaction of people from DTH services (as seen in Figure 7).

### Reliability Analysis for DTH Related Factors:

Inter-Item Correlation Matrix							
	Rank your DTH to the following factor on scale (1-5) 1= Lowest... 5= Highest. How much the following Facilities and services you are getting well from your network provider. [PICTURE QUALITY]	Rank your DTH to the following factor on scale (1-5) 1= Lowest... 5= Highest. How much the following Facilities and services you are getting well from your network provider. [CHANNEL PACKAGING]	Rank your DTH to the following factor on scale (1-5) 1= Lowest... 5= Highest. How much the following Facilities and services you are getting well from your network provider. [NO. DISTURBANCES IN SERVICES]	Rank your DTH to the following factor on scale (1-5) 1= Lowest... 5= Highest. How much the following Facilities and services you are getting well from your network provider. [EXTRA SERVICE IN CHANNEL]	Rank your DTH to the following factor on scale (1-5) 1= Lowest... 5= Highest. How much the following Facilities and services you are getting well from your network provider. [QUICK SERVICE]	Rank your DTH to the following factor on scale (1-5) 1= Lowest... 5= Highest. How much the following Facilities and services you are getting well from your network provider. [ONLINE PAYMENT (payment system)]	Rank your DTH to the following factor on scale (1-5) 1= Lowest... 5= Highest. How much the following Facilities and services you are getting well from your network provider. [FACILITY (record pause (load))]
Rank your DTH to the following factor on scale (1-5) 1= Lowest... 5= Highest. How much the following Facilities and services you are getting well from your network provider. [PICTURE QUALITY]	1.000	.584	-.185	.481	-.530	.475	.450
Rank your DTH to the following factor on scale (1-5) 1= Lowest... 5= Highest. How much the following Facilities and services you are getting well from your network provider. [CHANNEL PACKAGING]	.584	1.000	-.126	.483	-.528	.388	.400
Rank your DTH to the following factor on scale (1-5) 1= Lowest... 5= Highest. How much the following Facilities and services you are getting well from your network provider. [NO. DISTURBANCES IN SERVICES]	-.186	-.126	1.000	-.000	-.054	-.215	-.370
Rank your DTH to the following factor on scale (1-5) 1= Lowest... 5= Highest. How much the following Facilities and services you are getting well from your network provider. [EXTRA SERVICE IN CHANNEL]	.481	.483	-.000	1.000	.591	.667	.845
Rank your DTH to the following factor on scale (1-5) 1= Lowest... 5= Highest. How much the following Facilities and services you are getting well from your network provider. [QUICK SERVICE]	-.530	-.528	-.054	.501	1.000	.499	.455
Rank your DTH to the following factor on scale (1-5) 1= Lowest... 5= Highest. How much the following Facilities and services you are getting well from your network provider. [ONLINE PAYMENT (payment system)]	.476	.388	-.216	.687	-.499	1.000	.748
Rank your DTH to the following factor on scale (1-5) 1= Lowest... 5= Highest. How much the following Facilities and services you are getting well from your network provider. [FACILITY (record pause (load))]	.458	.400	-.370	.645	.456	.749	1.000

Table 14. Reliability Analysis for DTH factors

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.772	.773	7

As seen in Figure 14, The DTH ratings factors such as picture quality, channel packaging, no disturbances in services, extra service in channel, quick servicing, payment systems and facility in hardware-software were tested for internal consistency using reliability analysis, Cronbach's alpha was calculated at 0.772 which proved that these factors are fairly internally consistent

#### Results & Discussions

From the current sample research, the following facts can be listed as:

- Most of the customers are satisfied with their DTH service provider.
- Most of the customers are using Dish TV and tata sky, combined 45 % (as seen in figure 3 & 4).
- Most of the customers prefer DTH over local cable connection providers as perceived being as economical and color clarity (as seen in figure 5).
- More variety seeking samples exists in market with more demand in type of channels depending on time and preferences (as seen in figure 6).

- Average satisfaction (44%) has been attained by samples (as seen in figure 7) and proved to be true using classification tree CHAID method (as seen in figure 13).
- Television has been the most popular media of brand awareness with 66% of samples considering it as the source of brand awareness (as seen in Figure 8).
- 34 % samples are opting for brand switching which shows their expected interest in better services (as seen in Figure 9) and there had been more inclination towards Airtel DTH i.e. around 41 % (as seen in Figure 10).
- Marketing schemes and service package are considered to be major criteria as promotional strategies (as seen in Figure 11).
- Online payment service (correlation coeff = 0.749), and more provision of channels (correlation coeff = 0.667) are major concerns shown by customers which should be taken care of by future DTH service providers (as seen in figure 13).

## Conclusion

Therefore, from the above findings, we can conclude that our Alternate Hypothesis (H1a) i.e. the brand loyalty for DTH services and quality of services provided by the brand and services provided by the brand are dependent on each other, holds true. DTH brands need to improve their services to match the growing requirements of consumers, or the possibility of brand switching is very high. Also, this rejects our null hypothesis (H01) which states no interdependency between the brand loyalty for DTH services and quality of services provided by the brand and brand usage which has been proven as false.

## Future Work

Our work is primarily dependent on secondary data available over internet. In our future research we shall try to assimilate more data on DTH services, and other information pertaining to DTH brands and their services shall provide more detailed facts about this industry.

## References

1. BBC News, Thursday, 2 November, 2000, Retrieved from [http://news.bbc.co.uk/2/hi/south\\_asia/1003627.stm](http://news.bbc.co.uk/2/hi/south_asia/1003627.stm)
2. Bhattacharya Manas (2000), "Telecom Sector in India: Vision 2020"
3. Dheeraj Gandla, (Sep-Oct 2013): Study Of Recent Developments In DTH (Direct-To-Home) Technology, Int. Journal of Engineering Research and Application Vol. 3, Issue 5, pp.628-635. Retrieved from <http://www.ijera.com/>
4. Dissertation Project on DTH services. (n.d.). Retrieved March 30, 2018, from <https://www.scribd.com/doc/56818559/Dissertation-Project-on-DTH-services>
5. DTH industry in India. (n.d.). Retrieved March 30, 2018, from <http://www.merinews.com/article/dth-industry-in-india/155841.shtml>
6. Dth Sip Final Big Tv. (n.d.). Retrieved March 30, 2018, from <https://www.scribd.com/document/54959144/Dth-Sip-Final-Big-Tv>
7. Internship @ Videocon, DTH Industry. (n.d.). Retrieved March 30, 2018, from <https://www.scribd.com/document/18239460/Internship-Videocon-DTH-Industry>
8. Mukherjee, Arpita (2003) : Audio-visual policies and international trade: The case of India, HWWA-Report, No. 227, Retrieved from <https://www.econstor.eu/bitstream/10419/32925/1/363230653.pdf>

9. Pagani, M. 2003. *Multimedia and Interactive Digital TV: Managing the Opportunities Created by Digital Convergence*, Hershey, PA: Idea Publishing Group, Inc.
10. Saini, B. (2015). Addressing The Challenges In Marketing The Services In Rural India. *Rural Market in India: An Unexplored Terrain*. doi:10.16962/elkapj/si.rmi-2015.5
11. (April-June 2007), Policy Watch, Page 15, Retrieved from <http://www.cuts-international.org/pdf/pw2-2007.pdf>
12. <http://www.iasscore.in/upsc-prelims/direct-to-home-dth-technology>
13. [www.ijera.com/papers/Vol3\\_issue5/DM35628635.pdf](http://www.ijera.com/papers/Vol3_issue5/DM35628635.pdf)
14. <http://www.indiatelevision.com/dth/dth-operator/dth-subscriber-growth-slows-down-even-further-170605>
15. <https://www.thehindubusinessline.com/info-tech/as-transponders-lie-vacant-dth-industry-pitches-for-price-cuts/article8516644.ece>
16. <http://www.trai.gov.in/sites/default/files/AnnualReportEng16032018.pdf>

COM/MARK/5

## A Study on Inpatient Satisfaction who Admitted in General Ward in I Q City Narayana Multispeciality Hospital and Medical College in Durgapur

Subhadip Chowdhury<sup>1</sup>, Madhurima Kundu<sup>2</sup> & Ms. Koyel Mondal<sup>3</sup>

<sup>1</sup>Assistant Professor, DSMS College of Health Care Management, Kolkata;  
subhal69@gmail.com

<sup>2</sup> Student, DSMS College of Health Care Management, Kolkata;  
kundumadhurima2014@gmail.com

<sup>3</sup>Student, DSMS College of Health Care Management, Kolkata;  
koyel.mondal32@gmail.com

### Abstract

*IQ City Narayana Multispeciality Hospital is the first private medical college and hospital in Durgapur, associated with Narayana Health and promoted by SPS Group, Synergy Group and Mani Group with 386 beds and all modern facility. The objective of study is, to tracking the service gap to inpatients in different wards and find out the possible solutions for smooth management. It also help to develop service planning in Eastern India Hospitals. The methodology used here are: 1. Collecting Primary Data, 2. Secondary data like hospital feedback report, 3. Time study on different compulsory procedures in ward and 4. Based on the Likert Scale reference and closed ended questionnaire and open ended feedback, authors identifying the service gap and concluded possible solutions.*

**Keywords:** Patient Satisfaction, Service Gap, Time Study, Ward Management.

### Introduction

IQ City Narayana Multispeciality Hospital is situated in Sovapur, Birja Road just beside the township of Durgapur, Pin- 713206. The hospital has ICU, PICU, dialysis unit, speciality baby care unit, mother & child care unit and NICU equipped with a central monitoring system, also other specialization in Family Medicine, General Surgery, Orthopaedics, OBG, Paediatrics, Ophthalmology, Psychiatry, ENT, TB & Chest disease, Dermatology and psychiatry. Entire hospital is Centrally Air Conditioned. Other than the OPD facilities, the hospital provided with separate male and female examination room. It has 24 hours Ambulance facility and Emergency Services. The study is based on general and surgical wards of the hospital, and the hospital is equipped with full amenities that required for a medical college and multispecialty hospital with secondary and tertiary care.

### Objectives of the Study

- To identify the patient satisfaction factors based on Inpatient services
- Identify the service gap
- Identify the service related problems
- Suggest solution

## Methodology

- Based on Primary data collected by authors.
- Hospital's own feedback as Secondary data.
- General observation of the ward during training periods

For questionnaire, we use Likert scale to identify the satisfaction rate of services and SWOT analysis of related hospitals in Durgapur region.

## Results & Discussion

The study based on Inpatient services in wards. Wards may be classified as: general ward and surgical ward, High Dependency Unit and Intensive Care Unit. Basis of accommodation, the wards may be classified as: General, Semi-Private, Private and Suit.

The basic facilities that provide in the inpatient services, especially in wards are more or less same in all wards, just in higher accommodation level the patient provided privacy or the patient relatives or attendants can stay with patient. Here we classified the facilities under tertiary care are:

1. Treatment facilities,
2. Doctors facilities,
3. Nursing services,
4. Attendant Services,
5. Basic amenities,
6. Time-Motion study of certain services.

The study shows that

### *Total sample size:*

154 patients, timing: February 1<sup>st</sup> 2017 to March 31<sup>st</sup> 2017, 2 months.

Total male patients: 87

Total Female Patients: 67

Percentage: Male- 56.5% (approx),

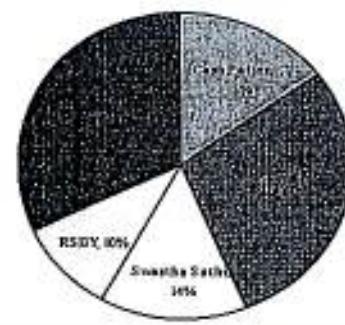
Female- 43.5%

General Patient: 124, Emergency: 30

### *Types of patient:*

Table No. 1: Type of Patient

Cash Patient	ESI	Swastha Sathi	RSBY	TPA
23	44	21	16	50



*Age category of Patients:*

We divided the age category as per advised by the hospital patient directory.

Table No. 2: Age category of Patients

0-1 Year	1-18 Years	18+ to 25	26 to 40 years	40+ to 60 Years	60+ to 75 Years	75 above
2	17	7	33	57	21	17

Thus the maximum no. of patients is from 40+ to 60 years of age category. As this is not included infant and paediatrics ward, thus the number of patients from first two age category is less. 3<sup>rd</sup> category patients are 100% Emergency case.

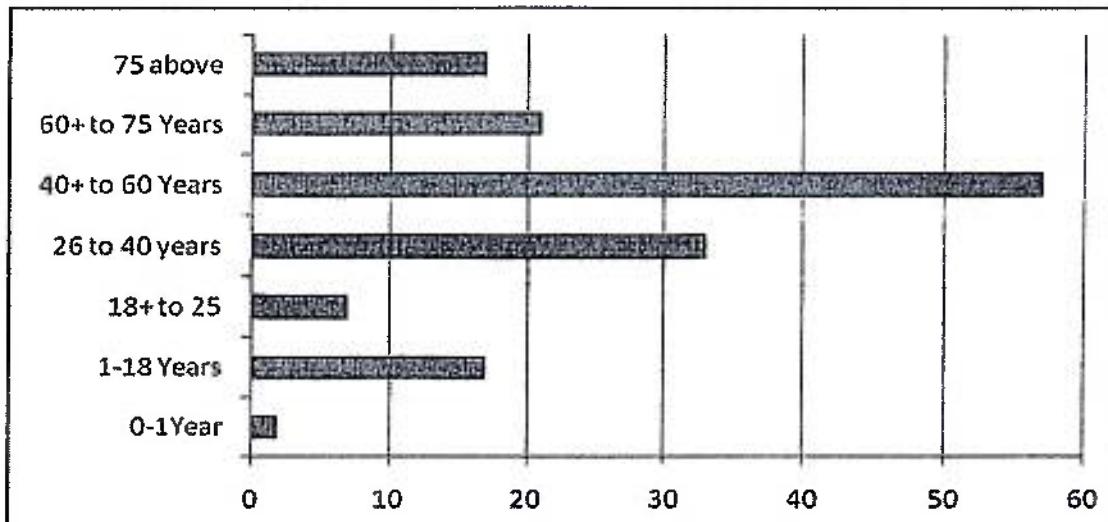


Figure 2: Age Category of Patients

*In treatment Facility Part:*

Total questions on satisfaction are from A to J.

From A

1	2	3	4	5
12	23	66	21	32

Mean is 3.24 and Mode is 3, so as per central tendency, the marking on A category is 3 and slight above. Satisfaction rate is average.

From B

1	2	3	4	5
7	3	44	51	49

Mean is 3.85 (approx) and Mode is 4. The satisfaction rate is Satisfactory.

From C

1	2	3	4	5
3	5	18	101	27

Mean is 3.93 and Mode is 4, the Satisfaction rate is Satisfactory.

From D

1	2	3	4	5
23	40	37	28	26

Mean is 2.96 and Mode is 2, the Satisfaction rate is tend to average but dissatisfaction rate is high.

*From E*

1	2	3	4	5
0	2	92	46	14

Mean is 3.46 and Mode is 3, the satisfaction rate is average and above average but not tend to Satisfactory.

*From F*

1	2	3	4	5
0	3	124	18	9

Mean is 3.21 and Mode is 3, the satisfaction is average.

*From G*

1	2	3	4	5
0	0	62	74	18

Mean is 3.71 and Mode is 4, the Satisfaction of patients are Satisfactory and tend towards satisfactory. Dissatisfaction rate is 0.

*From H*

1	2	3	4	5
0	7	8	126	13

Mean is 3.94 and Mode is 4, so the satisfaction is Satisfactory.

*From I*

1	2	3	4	5
0	0	18	12	0

Mean is 3.4 and Mode is 3, so the satisfaction rate is Average.

*From J*

1	2	3	4	5
2	11	7	8	2

Mean is 2.9 and Mode is 2, the rate is satisfactory but dissatisfied patients are maximum.

Overall mean is 3.46 that is Average in nature.

*Doctors Facility:*

*From A*

1	2	3	4	5
0	0	13	132	9

Mean is 3.97 and Mode is 4, so the satisfaction rate is High and satisfactory.

*From B*

1	2	3	4	5
2	7	23	77	45

Mean is 4.01 and Mode is 4, the Satisfaction rate is High and Satisfactory.

*From C*

1	2	3	4	5
0	2	55	67	30

Mean is 3.81 and mode is 4, the satisfaction rate is satisfactory.

*From D*

1	2	3	4	5
12	23	35	65	19

Mean is 3.36 and Mode is 4. So, the satisfaction rate is on average but maximum are satisfied about the concern. This indicates discontinuity of services.

*From E*

1	2	3	4	5
2	16	45	71	20

Mean is 3.59 and Mode is 4, overall satisfactory with limited complain.

*From F*

1	2	3	4	5
0	12	32	89	21

Mean is 3.77 and Mode is 4, the overall rate is Satisfactory.

*From G*

1	2	3	4	5
2	22	4	107	19

Mean is 3.77 and Mode 107, Overall satisfactory but 14.28% (approx) Patients are dissatisfied.

*From H*

1	2	3	4	5
0	0	22	115	17

Mean is 3.96 and Mode is 4, overall is Satisfactory.

*From I*

1	2	3	4	5
0	0	16	23	45

Only 84 out of 154 is able to answer this question, so the calculation is based on responses.

Mean is 4.34 and Mode is 5, so the satisfaction rate is Very satisfactory.

*From J*

1	2	3	4	5
0	0	22	97	35

Mean is 4.08 and Mode is 4, so the rate is Satisfactory with 22.73 (approx) very satisfactory rates.

Average Mean is 3.87 (approx) that is Tend to Satisfactory.

#### *Nursing Facility:*

*From A*

1	2	3	4	5
41	23	53	21	16

Mean is 2.66 and Mode is 3, that is average is a huge number of below average response.

*From B*

1	2	3	4	5
0	1	34	61	58

Mean is 4.14 and Mode is 4, That is very satisfactory.

*From C*

1	2	3	4	5
0	0	12	135	7

Mean is 3.97 (approx) and Mode is 4, over all Satisfactory with a huge response in satisfactory.

*From D*

1	2	3	4	5
0	0	22	99	33

Mean is 4.07 and Mode is 4, this is Satisfactory with high very satisfactory response.

*From E*

1	2	3	4	5
11	20	33	84	6

Mean is 3.35 and Mode is 4, that indicating some dissatisfaction (20.12%).

*From F*

1	2	3	4	5
0	0	17	122	15

Mean 3.99 with Mode 4 is Satisfactory. No dissatisfaction indicated.

Average mean is 3.7 (approx) and Satisfactory.

*Attendant Service:**From A*

1	2	3	4	5
24	122	6	2	0

Mean is 1.90 and Mode is 2, so the satisfaction rate is lower than below average, Dissatisfaction is there.

*From B*

1	2	3	4	5
10	17	115	8	4

Mean is 2.86 and Mode is 3, so in spite of some complain, this is average.

*From C*

1	2	3	4	5
0	21	118	8	7

Mean is 3 and Mode is 3, so overall Average.

*From D*

1	2	3	4	5
12	54	71	14	3

Mean is 2.62 and Mode is 3, the satisfaction rate lies between dissatisfaction and average.

Average Mean is 2.56 and this is Dissatisfactory.

*Basic Amenities:**From A*

1	2	3	4	5
121	16	13	4	0

Mean is 1.35 and Mode is 1, that shows extreme dissatisfaction.

*From B*

1	2	3	4	5
23	21	44	27	39

Mean is 3.24 and Mode is 3, this is Average with 42.85% Satisfaction. That shows discontinuity in services.

*From C*

1	2	3	4	5
0	2	56	65	31

Mean is 3.81 and Mode is 4, this is overall Satisfactory.

*From D*

1	2	3	4	5
22	16	44	56	16

Mean is 3.18 and Mode is 4, so the satisfaction rate is lie between average and Satisfactory.

*From E*

1	2	3	4	5
24	15	101	9	5

Mean is 2.71 and Mode is 3, so the overall grade is Average.

From F

1	2	3	4	5
0	26	76	23	29

Mean is 3.35 and Mode 3, that shows the Grade is lies between Satisfactory and Average.

From G

1	2	3	4	5
12	33	47	29	33

Mean is 3.25 (approx) and Mode is 3. So again the rate lies between Satisfactory and Average.

From H

1	2	3	4	5
0	45	47	42	20

Mean is 3.24 and Mode is 3, this also lies between Satisfactory and Average but Dissatisfied patients are 29.22%.

From I

1	2	3	4	5
0	2	7	139	6

Mean is 3.97 (approx) and Mode is 4, so this is Satisfactory.

From J

1	2	3	4	5
0	2	18	114	20

Mean is 3.99 (approx) and Mode is 4, so this is Satisfactory.

From K

1	2	3	4	5
0	0	23	126	5

Mean is 3.88 and Mode is 4, so this is Satisfactory.

From L

1	2	3	4	5
0	0	34	106	14

Mean is 3.87 and Mode is 4, this is Satisfactory.

From M

1	2	3	4	5
12	21	73	41	7

Mean is 3.06 and Mode is 3, so this is Average.

From N

1	2	3	4	5
0	1	56	58	39

Mean is 3.88 (approx) and Mode is 4, this is Satisfactory.

From O

1	2	3	4	5
0	0	22	89	43

Mean is 4.14 (approx) and Mode is 4, so this is Satisfactory tend to Very Satisfactory.

From P

1	2	3	4	5
17	41	52	28	16

Mean is 2.90 and Mode is 3, so this is lie between Average and Dissatisfaction.

From Q

1	2	3	4	5
0	7	38	71	38

Mean is 3.90 and Mode is 4, this is Satisfactory.

*From R*

1	2	3	4	5
0	14	27	112	1

Mean is 3.65 (approx) and Mode is 4, this is lies between Satisfaction and Average.

*From S*

1	2	3	4	5
0	0	2	145	7

Mean is 4.03 and Mode is 4, this is Satisfactory.

*From T*

1	2	3	4	5
21	37	46	28	22

Mean is 2.95 and Mode is 3, so this is Average with Discontinuity in services.

*From U*

1	2	3	4	5
0	0	23	117	14

Mean is 3.94 and Mode is 4, so this is Satisfactory.

Average Mean is 3.44 that are overall lies between Satisfactory and Average.

*Discharge Feedback:*

From	Yes	No
A	154	0
B	152	- (No response 2)
C	154	0
D	102	52
E	111	43

*From F*

1	2	3	4	5
0	0	21	124	9

Mean is 3.92 and Mode is 4, so this is Satisfactory

*From G*

1	2	3	4	5
7	8	88	27	24

Mean is 3.34 and Mode is 3, so this is lie between Satisfactory and Average.

### Findings

1. 61.69% are over 40 years of age patient. So care for aged people is important in a ward.
2. Time taken for inpatient diagnosis procedure is quite high and problematic for bed ridden patients.
3. Due to stabilizing the patient's condition, emergency to ward transfer take few time. Patient counselling is required here.
4. Patients are satisfied average point in treatment facilities category.
5. Doctors availability in the ward is some extend questionable, cause treating doctor is available only 1 or 2 times a day, round basis. On call doctor response is good.
6. This is general observation as well a patient's response is that, number of Nurses per ward is lesser than required. Night duty nurses are fewer than normal. But the response time and quality of care is Satisfactory to patients.
7. Nurses counselling is problematic cause language problem. Some nurses are from Kerala and maximum patients are Bengali and some Hindi dialects.

8. Number and service quality of attendants are below average and cause of dissatisfaction to the patients.
9. Waiting time in reception is higher than expectation and queue management is poor. Frequent IT related problems are prevails in reception and cash counter area.
10. Cost of the facilities is same as other multispecialty hospital in Durgapur area and West Bengal, so the competitiveness about cost-effective service is not present.
11. Time from admission to get into the ward is average and need to be improved.
12. Visiting time is good but due to queue in front of the Elevator and 2 relatives at a time restrictions cause some dissatisfaction. But this restriction is good for the health of the patient because it lower the cross-infection in the hospital. Hospital does not allow flower bouquet or outside food to patients.
13. Different doctors visit the relatives' different time that may cause a dissatisfaction and confusion.
14. Medicine indent from inpatient pharmacy is a time taking procedure and queue is long.
15. In house Housekeeping services are failed to manage the dissatisfaction rate. Housekeeping in Front Office and Reception area is excellent.
16. Discharge timing is high and it takes more or less 6 hours from discharge announcement to the patient relatives.
17. 33.76% are think that medical bill is high in this hospital, and that is a disadvantage.,
18. 27.92% patient dissatisfied about the after discharge counselling.

### **SWOT Analysis**

<b>Strength of the Hospital</b> <ul style="list-style-type: none"> <li>1. Proximity to township and Bus services.</li> <li>2. Same price scale with other multispecialty hospital.</li> <li>3. Medical College tagline.</li> <li>4. Management hierarchy as per medical college with the blend of Narayana Health brand.</li> <li>5. State of the art building and facility.</li> <li>6. Decentralised OPD concept.</li> <li>7. All treatment facility under one roof.</li> <li>8. Stunning website with 360 degree view.</li> <li>9. Online booking and online payment system.</li> <li>10. Strong relationship with all TPA.</li> <li>11. Provided ESI, RSBY, Swastha Sathi facility that unique in this region with a multispecialty hospital.</li> <li>12. Strong brand and financial opportunity.</li> </ul>	<b>Weakness of the Hospital</b> <ul style="list-style-type: none"> <li>1. Failing to provide care in cost-effective price.</li> <li>2. Manpower shortage especially in GDA staff and Nursing care.</li> <li>3. Costly diagnosis and medical bill.</li> <li>4. Distance from National Highway.</li> <li>5. Slow Affiliation process for Medical College.</li> <li>6. Waiting time and queue management in reception.</li> <li>7. IT related problem.</li> <li>8. Admission department queue.</li> <li>9. Emergency department is not competent.</li> <li>10. Language problem with supporting staffs and nurses.</li> </ul>
<b>Opportunity</b> <ul style="list-style-type: none"> <li>1. Medical college and hospital.</li> <li>2. Can attach some super specialty under one roof.</li> <li>3. Future expansion.</li> <li>4. Good opportunity of emergency care.</li> <li>5. OPD patient number.</li> <li>6. Total land area and construction.</li> </ul>	<b>Threat</b> <ul style="list-style-type: none"> <li>1. Competitive hospitals with proximity to National Highway.</li> <li>2. Same marketing area.</li> <li>3. Sharing same employees and same patients periodically.</li> <li>4. Long queue and mismanagement.</li> <li>5. Human Resource optimization.</li> <li>6. NABH accredited competitors.</li> </ul>

## Recommendations

- More employee engagement.
- Optimizing human resource to fill the human resource demand and supply gap.
- Take NABH or JCI accreditation.
- Use some extend of vernacular language in hospital premises and Nursing care.
- Take care about ward attendant and housekeeping staffs skills and duty roaster.
- Common doctors meet for inpatient.
- Bridge the gap between employees and stakeholders.
- More patient empowerment.
- Queue management to implement ticket system.
- Take care about the agility of IT department and software optimization.
- Inter-departmental coordination.
- Separate admission department for TPA, general and other patients to separate the queue pressure.
- Optimize the discharge procedure to make it in Hospital Information System so that doctors and transcript can interchange the view online.
- Well patient counselling after discharge.
- More inpatient pharmacy window and separate elevator should use for inpatient services like patient mobility for diagnosis, inpatient pharmacy item, diet etc.
- Patient friendly environment should implement which is in best practise all over the world.

## Limitations of the Study

- The study is only based on inpatient ward. Out-patient department is the window of the hospital. More work can be done in OPD and Front office alone.
- During Internship, students are not allowed for documentation internal data. They separately engage with the study and questionnaire.
- More open scope is there in questionnaire.
- More detail statistical study like Average Length of Stay, Hospital Occupancy Rate may be calculated through this study.
- Audit can be done in more structured manner.
- All questionnaires are subject to availability and willingness of the patient or patient relatives.
- All the data are based on discharged patient.

## References

1. General information retrieve from <https://www.narayanahealth.org/hospitals/durgapur/iq-city-narayana-multispeciality-hospital>
2. General information retrieves from <https://www.narayanahealth.org/>
3. Hospital information retrieves from <http://healthworldhospitals.com/>
4. Hospital information retrieves from <http://themissionhospital.com/>
5. Joshi DC, Joshi Mamta (2009). Hospital Administration, Jaypee Brothers Medical Publishers (P) Ltd.

COM/MARK/6

## **Study of Consumer Buying Influencing Attributes based on Mobile Phone Purchasing**

**Parantap Chatterjee**

Assistant Professor, NSHM College of Management and Technology, Kolkata;  
[chatterjee.parantap@gmail.com](mailto:chatterjee.parantap@gmail.com)

### **Abstract**

*In less than 10 years, the mobile phone has become an essential part of our daily lives. It is no longer a luxury item and has become one of the most commonly used daily consumer goods throughout the world. For the growing significance, there is enormous research work in many countries in this field but as compare to India, Specifically Kolkata there is still some lacuna of this emerging field of research work. This study aims to make an approximation of the consumer buying decision and identify how the proposed research attributes influenced consumer buying behavior. The methodology used to achieve these objectives is based on primary data collection and the analytical part of this study is based on Statistical analysis whose platform is SPSS. Analysis of the results obtained from a representative sample of 157 mobile phone users shows that the consumer buying decision can be predicted according to proposed research attributes where consumer buying of either store shopping or internet shopping channels.*

**Keywords:** Consumer Buying Behavior, Internet Shopping, Store Shopping

### **Introduction**

The development of mobile phones and technological innovation with advancements cropped up due to dynamic changes in consumers' needs and preferences. Mobile phone devices have had one of the fastest household adoption rates of any technology in the world's modern history (Comer and Wikle, 2008). Nowadays, mobile handsets have become an integral part of human daily life and personal communication across the globe. Mobile phone shopping has reached some remarkable new milestones. Mobile shopping-related searches increased 120% in the last year, a review of Google data shows. With this growth, retailers are finding that mobile plays a critical role in driving shopper's in-store. Shoppers now reach for their mobile phones in every kind of micro-moment, from I-want-to-know to I-want-to-buy (and crucially, I-want-to-buy-again) moments. In this highly competitive mobile phone market, manufacturers constantly fight to find additional competitive edge and differentiating elements to persuade consumers to select their brand instead of a competitor's. There are various research conducted to identify reasons that make companies better than their competitors in influencing the consumer buying decision. The mobile phone consumers found throughout the globe greatly influenced by those different reasons affecting mobile phones purchase decision. These reasons may be related to the characteristics of the consumer and the features associated with the mobile phones. This leads mobile phone companies to come up with a variety of handsets with different brands and features. To identify reasons affecting consumer's preference of buying specific mobile phones several research studies have been conducted. These studies indicated a range of items as a determinant attributes influencing purchase

decision. These attributes include looks, camera quality, audio quality, memory card, display screen, price, brand image, function, advertisement, appearance, after sales service and so on. There are millions mobile phone subscribers owning various brands of mobile phones. During the mobile phone buying decision process, these subscribers' takes into consideration numerous underlying attributes. This study seeks to know the attributes that underlying a consumer decision in choosing mobile phones to use.

### Review of Literature

Consumers are individuals and households that buy the firms product for personal consumption (Kotler, 2004). It often used to describe two different kinds of consuming entities: the personal consumers and the organizational consumers (Krishna, 2010). When a consumer obtaining, consuming, and disposing of products and a service is known as consumer behavior. It involves studying how people buy, what they buy, when they buy and why they buy. When a consumer wanted to make the purchase decision, they will pass through the process through recognition, search information, evaluation, purchase, feedback (Blackwell, Miniard, and Engel, 2006). Finally a product or brand will chose by the consumers from various choices in the market. However, due to diverse environmental and individual determinants consumers buying decision varies. Consumer buying behavior is influenced by two major factors namely individual and environmental. The major categories of individual factors affecting consumer behavior are demographics, consumer knowledge, perception, learning, motivation, personality, beliefs, attitudes and life styles. The second category of factors is environmental factors that affect individual consumer's decision making process which include culture, social class, and reference group, family and household. The above mentioned factors are the major determinants behind the decision of consumers to opt a given good or service (Blackwell, Miniard, and Engel, 2006). India is a developing country and has witnessed moderate economic growth and developments in mobile telecommunication penetration in recent years. Due to these reasons, there is a dynamic increase in the number of mobile phone device users. This attracted large number of international firms to enter into mobile industry and offer various brands of mobile phones. In this context, it is important to study the various factors which shape the consumers mind during the purchase of mobile phone devices.

According to Karjaluoto et al. (2005), price, brand, interface, and properties tends to have the most influential factors affecting the actual choice amongst mobile phone brands. Ling, Hwang and Salvendy (2007) surveyed college students to identify their preference of their current mobile phone. The results of their survey indicated that the physical appearance, size and menu organization of the mobile phones are the most determinant factors affecting the choice of mobile phones. Mack and Sharples (2009) showed that usability in the most important determinant of mobile choice; other attributes particularly features, aesthetics and cost are other factors that have implication on the choice of mobile phone brand. In other study conducted by Kumar (2012), price, quality and style functions as the most influential factors affecting the choice of mobile phones. Moreover, Saif et al, 2012 selected four important factors i.e. likewise; Das (2012) conducted an empirical research based on survey method on

factors influencing buying behavior of youth consumers towards mobile handsets in coastal districts of Odisha located in India. According to the study, a handset of reputed brand, smart appearance, and with advanced value added features, pleasurable and usability; is the choice of young consumers; females in gender-group, post-graduates in level of education-group, students in occupational group, urban residents in geographical area group plays most prominent role in buying decision of a mobile handset. The results indicated that while price and properties were the most influential factors affecting the purchase of a new mobile phone, price, audibility and friends' operator were regarded as the most important in the choice of the mobile phone operator. The results indicated that consumer's value new technology features as the most important variable amongst all and it also acts as a motivational force that influences them to go for a new handset purchase decision.

Subramanyam and Venkateswarlu (2012) conducted a study on factors influencing buyer behavior of mobile phone buyers in Kadapa district in India. The researchers studied the various types of marketing strategies adopted by market to acquire the attention and cognition of both existing and potential customers, and to study what role these marketing strategies play in consumer buying process. According to the results, income, advertising and level of education in a family are the determining factors of owning a mobile phone set. Various aspects of product and brand attributes were considered such as color themes, visible name labels, and mobile phone with variety of models, packaging for safety, degree of awareness on safety issues, look and design of the phone. Based on previous research studies and literature reviewed the following conceptual framework and research hypothesis were developed for this research project. Accordingly, 7 independent attributes (i.e. Features, Looks, vfm-Value for money, Ads, After sales, Brand Value and Intension to buy) and their positive correlation with each other thought to influence the decision to buy are identified based on Correlation Analysis Model.

### **Methodology**

This research was conducted in Kolkata City (South Region). Hence the study population constitutes of all mobile phone users in South Kolkata City. In order to select the sample respondents, judgmental sampling method was conducted. Once a sampling technique has been chosen the next step is to calculate the appropriate size of the sample. For this survey 157 respondents feedback was collected. In this study, both quantitative and qualitative data were used. The qualitative data was obtained from the primary sources of data. The primary data was collected through administrating questionnaire. The structured questionnaire itself was designed so as to make it easy to answer and to cover most of the common research questions. Furthermore, the questionnaire was designed so as to elicit information on both demographic and product use aspects of the respondents. Inferential statistics like correlation was used to elicit meaningful information. The data entry and analysis was performed by using Microsoft Excel and SPSS.

## Results & Discussion

During the survey, 200 questionnaires were distributed to purposively selected mobile phones shops in Kolkata City (South Region). Unfortunately 43 questionnaires were not responded appropriately. So the analysis was made based on 157 responded feedbacks.

Table 1: Feedback of Respondents

		Features	Looks	VFM	Ads	After Sales	Brand Value	Intention to buy
Features	Pearson Correlation	1	.760	.513	.387	.322	.809	.887
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000
	N	157	157	157	157	157	157	157
Looks	Pearson Correlation	.760	1	.442	.470	.277	.763	.807
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000
	N	157	157	157	157	157	157	157
Vfm	Pearson Correlation	.513	.442	1	.161	.156	.384	.582
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000
	N	157	157	157	157	157	157	157
Ads	Pearson Correlation	.387	.470	.161	1	.340	.445	.401
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000
	N	157	157	157	157	157	157	157
After Sales	Pearson Correlation	.322	.277	.156	.340	1	.339	.327
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000
	N	157	157	157	157	157	157	157
Brand Value	Pearson Correlation	.809	.763	.384	.445	.339	1	.833
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000
	N	157	157	157	157	157	157	157
Intention to buy rating	Pearson Correlation	.887	.807	.582	.401	.327	.833	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000
	N	157	157	157	157	157	157	157

Table 1, shows the correlation between 7 attributes i.e. Features, Looks, vfm (Value for money), Advertisement (ads), after sales, Brand Value and Intension to buy rating with the decision to purchase a mobile phone device. From the above mentioned table all attributes show positive correlations with "Intension to buy" and all of them statistically significant. From this statistical analysis it can be observed that the highest positive correlations of "Intension to buy" with 'Product features' ( $r=+0.887$ ), 'Brand' ( $r=+0.833$ ) and 'Looks of the mobile phone' ( $r=+0.807$ ). Accordingly, the Features of a product are an important attribute that cannot be overlooked in a study of consumer behavior. Majority of the respondents indicated Features as main consideration when they decide to buy their mobile phone. Mobile phone features include internet connection, Bluetooth, video, color, FM, media player, design, touch screen, store, size, available accessories, speaker and weight. All these attributes

considered to have relationship with the decision to buy the mobile phones. The other two attributes equally correlated and have moderate relationships with the decision to buy are brand value and looks of mobile phones with Pearson correlation coefficient of 0.833 and 0.807 respectively. Both attributes are highly associated with the quality of a given product.

### **Conclusion**

According to the Pearson correlation results, Features is the dominant attribute affecting the decision to buy mobile phone. Secondly, the Brand Value incorporated in a mobile hand set is the most important attribute which is considered by the consumers while purchasing the mobile phone. However, all proposed attributes of mobile phone purchasing are not equally important. The other attributes equally correlated and have moderate relationships with the decision to buy are Looks and Value for money (vfm) of mobile phones. Both the attributes are highly associated with the quality of mobile phone devices. The least correlated attributes are Ads (Advertisement), after sales service. This study used correlation analysis to test the effects of 7 independent attributes on the decision to buy a mobile phone device. All the 7 independent attributes combined significantly influence the consumers buying decision of mobile phone devices.

### **Limitations & Scope of Future Research**

Even though this research revealed meaningful findings for the learner related attributes affecting their intention to buy mobile phones, several possible limitations should be mentioned: First, the purposive technique to select the research sample from only a small sector of respondents from South Kolkata. Second, the vivid analysis of statistics like Factor analysis or Regression analysis is out of the scope of this research due to time constraint and lack of resources. For further research it is suggested to carry out the current research using a larger sample, with maximum geographic coverage. Additional research to study the Factor analysis mostly to identify the consumer behavioral intention to buy the mobile phones.

### **References**

1. Factors Affecting Consumer Choice of Mobile Phones: Two Studies from Finland, Journal of Euro marketing Vol. 14 (3), 2005, 59-82, [http://www.tandfonline.com/doi/abs/10.1300/J037v14n03\\_04](http://www.tandfonline.com/doi/abs/10.1300/J037v14n03_04), retrieved on 20/03/2018.
2. Innovative mobile marketing via smart phones: Are consumers ready? Marketing Intelligence & Planning, Vol. 30 (4), 418-443, <http://www.emeraldinsight.com/doi/abs/10.1108/02634501211231883>, retrieved on 10/03/2018.
3. The impact of switching costs on the customer satisfaction-loyalty link: mobile phone service in France, Journal of Services Marketing, Vol 15 (1): 1, 35–48, <http://www.emeraldinsight.com/doi/abs/10.1108/08876040110381463>, retrieved on 8/03/2018.
4. Factors Affecting Consumer Buying Behavior of Mobile Phone Devices, Mediterranean Journal of Social Sciences, MCSER Publishing, Rome-Italy, Vol 4 No 12, 110,<http://www.mcsen.org/journal/index.php/mjss/article/view/1787/1791>, retrieved on 1/03/2018.

COM/MARK/7

## Impact of Sensory Marketing on Consumer Behaviour in Restaurants of Kolkata

Priyanka Kothary<sup>1</sup>& Namrata Maheshwari<sup>2</sup>

<sup>1</sup>Student, M.Com, J.D Birla Institute, Kolkata

<sup>2</sup>Asst.Professor, J.D Birla Institute, Kolkata;  
namaratamaheshwari23@gmail.com

### Abstract

*As marketing is the field of subject concerning about finding and understanding the demand and need of the customer, the more reach in customer demand, the better chances to be successful in marketing activities. The process of perceptions is the way that customer acknowledge about the product, it can be functioned through five ways of the senses – sight, touch, smell, taste, and hearing. These five ways can be called as "The Sensory Organs or Sensory Receptors". The Sensory Receptors are also consisted of three parts that are stimulant, senses and experiences. Sensory marketing is a somewhat new term in the marketing world. As we know, the 5 senses are sight, hearing, taste, touch and smell. Sensory Marketing is simply the process of winning a customer's trust and attention by appealing to each of these five senses. Sensory marketing is used prevalently in the restaurant industry in Kolkata. I found that many entrepreneurs haven't realized the impact of sensory activities and cannot use it in effective way. The purpose of this paper has two-folds: (1) To understand the general awareness level and perception of consumers regarding sensory marketing in a restaurant and (2) To study the current characteristic of the strategy used by restaurants and the usage patterns for sensory marketing nowadays. This would lead us to find the interrelationship with the general awareness and general thought of those actors for a specific promotional tool (sensory marketing). The study is conceptual in nature and would lead us to find the interrelationship with the general awareness and general thought of those actors specified for a specific promotional tool (sensory marketing). The research findings will be helpful in understanding the awareness among the consumers about sensory marketing and also of the strategies used by restaurants.*

**Keywords:** Service, Restaurant, Sensory Marketing, Perception, Taste, Sound, Smell, Vision.

### Introduction

Sensory Marketing is the marketing activities that focus on understanding behaviour of the consumer, the process starts from the stimuli that affect senses of the consumer to how the customer interpret, understand and respond those stimuli. These activities are used to create the marketing plan in order to design product and brand the communication's way with the customers. These could be the essential factors that create awareness and influence the customer behaviours as well due to the reason that if the marketer use sensory stimuli in appropriate way, it is able to influence decision-making and hence the propensity to spend. In the past few years, more and more marketing executives were becoming conscious of the fact that customers, while making their purchase decisions, are influenced by something more than the product or the service itself. The human senses have long been ignored in marketing, despite the awareness of their great significance. Today sensory marketing was distinguished from mass and relationship marketing by having its origin in the five human senses. According to Lindstrom, it is the sensory branding that is the future of marketing as it

offers the potential to create the most binding form of engagement between brand and consumer seen to date. Following this author, those new brands will possess almost religious identity, expressed in its every message, shape, symbol, ritual, and tradition therefore, through the multi-sensory experience as "The Sensory Organs or Sensory Receptors". The Sensory Receptors are also consisted of three parts that are stimulant, senses and experiences. Sensory marketing is a somewhat new term in the marketing world. As we know, the 5 senses are sight, hearing, taste, touch and smell. Sensory Marketing is simply the process of winning a customer's trust and attention by appealing to each of these five senses. To no surprise, it has become popular among a variety of industries and businesses across the world. There is an example as to how sensory marketing being used by different brands:

**Table 1: Use of Sensory Marketing in Service Organisations**

<b>Brands</b>	<b>Technique of Sensory Marketing application</b>
Machaan Restaurant	Interiors as a forest, Animal sounds, Jungle style cutlery sets, felling of a forest dinner or lunch etc attracts customers to enjoy the services at Machaan.
M&M Retail Store	M & M retail store attracts customers in displaying the goods according to colours- blue for boys and pink for girls etc.
Vistaara Airlines	Same dress colour as brand logo, cosiness, hospitality, taste and display of food, comforts in journey attracts customers to choose Vistaara Airlines.
Starbucks Cafe	Smell of Coffee, taste of coffee, visual display of beans and colour code of dresses and brand attracts customers to take coffee at Starbucks.
ITC Hotels	ITC employees dresses, food, interiors, soft music and hospitality attracts customers to take branded service art ITC hotels.
Lakme Salon	Light Music, Attractive colours, smell of freshner and visual display of products attract customers to use the service brand.
Kid Zee Schools	Colour, logo and interiors of the school, physical evidence, rhymes music, facilities attract parents to send their kids in Kid Zee School.

Today, taking advantage of sensory marketing is one of the smartest ways for brands to trigger emotion and maintain engagement. What's more, it's available to brands in all industries and specialties. So regardless of whether you sell clothing or tech products, this is a tactic you can use to grow your brand.

### **Review of Literature**

Asbury L. (2008) et.al proposed that <sup>[3]</sup> milk chocolate can be presented in a plain slab or as a Hershey's Kiss—the two are identical in formula but have very different personalities. The Kiss is unfolded using its "flag" similar to a present, it feels like a teardrop melting on the tongue, the individual wrapping of small pieces allows one to have several treats without guilt, the name makes one feel like one is being kissed—all in all, a very indulgent experience; the slab is simple—basic chocolate made by a reputable company <sup>[3]</sup>.

Houston M. (1987) et.al proposed that <sup>[4]</sup> in the past two decades, some consumer behaviour researchers have incorporated elements of vision, touch, audition, smell and taste in their research. Some of this research has explicitly focused on the antecedents and consequences of sensory perception, for example, the effect of verbal

and visual ads on ad processing or the effect of spoken versus written ads on ad recall<sup>[4]</sup>.

Keller K. (2006) et.al <sup>[5]</sup> took several examples of sensory activities such as, Swarovski use lasers directed beams of light on the crystals, Harrods (a luxury department store located in London) ran exhibitions of the sense by using six lifts that have different sense in each lift, and Apple with the idea “come and play”. Brenda Soars also use the psychology to monitor the shoppers’ mind-set and get the result that shoppers will be more likely to spend if they feel good about themselves in their interaction with that environment and they will want to revisit<sup>[5]</sup>.

Lindstrom M. (2005) proposed that <sup>[6]</sup> if the consumer’s senses are more involved, it more strongly connect with the brand which means that it can increased willingness to pay more. Consequently, it also creates the difference from the competitor and finally brings the loyalty of customer to the firm in the end. Brenda (Soars, 2009) also forecast the possible developments in sensory marketing activities to the next decade that people under 25 will increasingly become more capable of dealing with higher levels of sensory input and technology would play an essential role to control sensory dimensions<sup>[6]</sup>.

### **Objectives of the Study**

The overall aim of the study was to collect valid and reliable information about perception of consumer regarding sensory marketing, their general awareness towards sensory marketing. Within this broad theme the research had two specific objectives:

- The principal objective of this study is to understand the general awareness level and perception of consumers regarding sensory marketing in a restaurant.
- To study the current characteristic of the strategy used by restaurants and the usage patterns for sensory marketing nowadays.

### **Methodology**

The research methodology for the present study was based on descriptive research design. Convenience sampling method was used, which involves the sample being drawn from that part of the population that is close in hand. In this study, the target populations were men women and transgender of fewer than 20 to above 50 years old and the size was 150 respondents. But the response was collected from 113 respondents. A structured questionnaire has been developed based on the extensive review of literature. A pilot study was conducted for testing the questionnaire and further after certain amendments based on the feedback of the respondents the questionnaire was revised and finalized before collection of data.

Primary data has been collected in order to explore the intrinsic value of the sensory marketing on consumer behaviour. Scientific articles, books, journals, and previous researches that were mostly gathered via internet and also relevant to the topic and purpose of the paper, are collected and critiqued as secondary data to support the primary data to accomplish in analysis process. Software used as Ms Excel and Ms Word. Statistical tools used are pictorial representation- pie charts, and bar graphs. Hypothesis testing is done where regression test has been applied.

## Results & Discussion

The empirical finding of this paper was designed by consisting of three main parts in order to answer the research question and strategic question effectively. In each part, we used different method by concerning the appropriation as priority. The empirical finding part can be explained as following:

According to the questionnaires, the information could be divided in four parts. First, the demographic of respondents can described that the main target group of this research have age between 21 to 25 years, which are more males (51.32%) than females (48.67%). Furthermore, most of the respondents are students, business owners & employed people, which showed in 41.59%, 22.12%, and 23% respectively. This related to their income of its respondents that most of them are in the range of 5,000 or less (38.05%).

Table 2: Descriptive Analysis

Demographics	Frequency	Percentage	Demographic	Frequency	Percentage
<b>AGE</b>			<b>GENDER</b>		
Less than 21	36	31.85	Male	58	51.32
21-25	43	38.05	Female	55	48.67
25-30	16	14.15	TOTAL	113	100
31-50	11	9.73			
More than 50	7	6.19			
<b>TOTAL</b>	<b>113</b>	<b>100</b>			
<b>OCCUPATION</b>			<b>INCOME</b>		
Business Owner	25	22.12	Below 5,000	43	38.05
Student	47	41.59	5,001 - 15,000	24	21.23
Professional Degree	26	23	15,001 - 30,000	20	17.69
Govt Services	9	7.96	30,001 - 60,000	16	14.15
Other	6	5.30	More than 60,000	10	8.84
<b>TOTAL</b>	<b>113</b>	<b>100</b>	<b>TOTAL</b>	<b>113</b>	<b>100</b>

In Figure 1, the result showed that the main actor who is the decision maker for having dinner at restaurant are by their own desire, with parents, and friends which showed in the percentage of 41.59 per cent, 20.35 per cent, and 30.09 per cent.

And the result is showed that the motivation of having a meal at the restaurant is often originate from own desire of respondents.

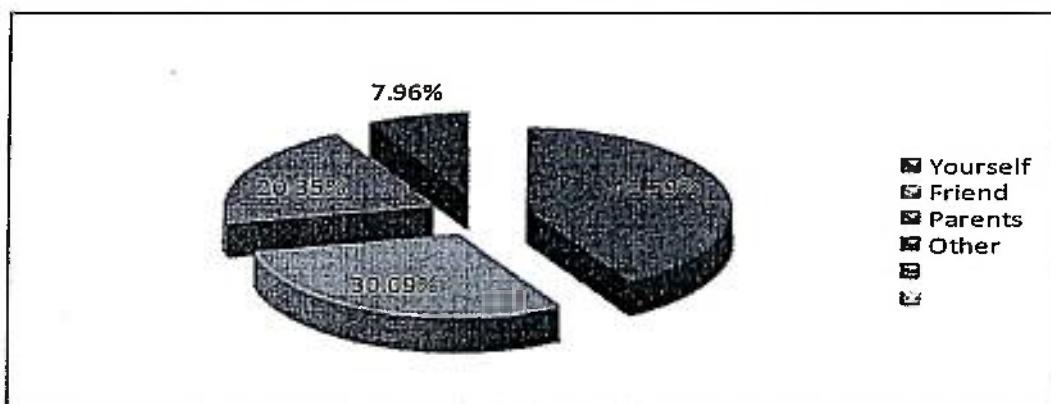


Figure 1: Decision Maker on Choosing Restaurant

The result showed that the main actor who is the decision maker for having dinner at restaurant are by their own desire, with parents, and friends which showed in the percentage of 41.59 per cent, 20.35 per cent, and 30.09 per cent, respectively as shown in Figure 2.

And the result is showed that the motivation of having a meal at the restaurant is often originate from own desire of respondents.

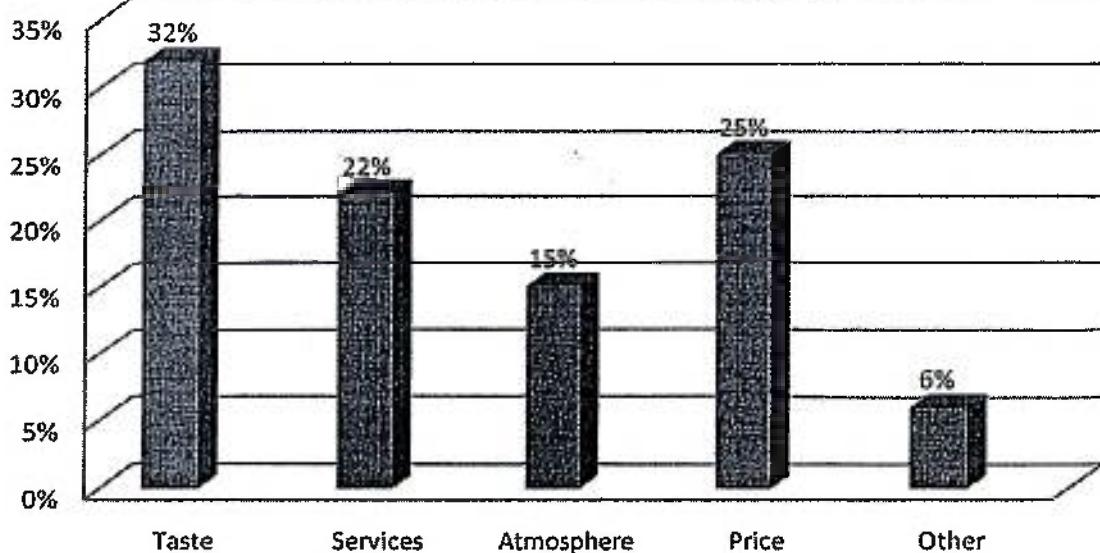


Figure 2: Attributes that Influence Customers at the Time of Choosing Restaurant

According to the questionnaire survey, the data showed that each factor has an impact on customers' decision.

The result showed the factors that could have an impact on choosing restaurant decision. This result showed that the most important factor is the taste on the dish of restaurant which has showed in the most important rate, while the rest of factors are showed that atmospherics, services, prices, and location of the restaurant are take an important role on decision making as well, but have less impact respectively. Moreover, there has only one factor that could be categorized as the most important

factor for choosing decision that is “taste”, while the rest factors could be described as less important ones.’

*Testing of Hypotheses*

H0: Components not having significant impact on consumer's visiting decision of any restaurant.

H1: Components having significant impact on consumer's visiting decision of any restaurant.

Regression Statistics						
Multiple R	0.172682					
R Square	0.029819					
Adjusted R	0.021079					
Standard E	1.160113					
Observatio	113					

ANOVA						
	df	SS	MS	F	Significance F	
Regressor	1	4.591631	4.591631	3.411665	0.0674	
Residual	111	149.3907	1.345862			
Total	112	153.9823				

	Coefficients	standard Err	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.813912	0.361941	5.011629	2.06E-06	1.096703	2.531122	1.096703	2.531122
taste	0.180975	0.097979	1.847069	0.0674	-0.01318	0.375127	-0.01318	0.375127

Figure 3: Regression Analysis for Taste Component

In figure 3,  $R^2$  value is positive (0.029819) but has not too much impact. P-Value is 0.0674 which is less than 0.5 so the null hypothesis (H0) will be rejected. This means taste is having significant impact.

Regression Statistics						
Multiple R	0.155837					
R Square	0.024285					
Adjusted R	0.015495					
Standard E	1.163417					
Observatio	113					

ANOVA						
	df	SS	MS	F	Significance F	
Regressor	1	3.739473	3.739473	2.762737	0.099305	
Residual	111	150.2428	1.353539			
Total	112	153.9823				

	Coefficients	standard Err	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.901446	0.348459	5.456728	2.98E-07	1.210951	2.591941	1.210951	2.591941
ambience	0.158917	0.095609	1.662148	0.099305	-0.03054	0.348373	-0.03054	0.348373

Figure 4: Regression Analysis for Ambience Component

In figure 4,  $R^2$  value is positive (0.024285) but doesn't have much impact.

P-Value is 0.099305 which is less than 0.5 so the null hypothesis (H0) will not be accepted. This means ambience is having significant impact.

Regression Statistics

Multiple R 0.16521

R Square 0.027294

Adjusted R 0.018531

Standard E 1.161621

Observatic 113

**ANOVA**

	df	SS	MS	F	ignificance F
Regressor	1	4.202855	4.202855	3.114692	0.08034
Residual	111	149.7794	1.349364		
Total	112	153.9823			

	Coefficients	standard Err	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.830928	0.368124	4.973671	2.41E-06	1.101466	2.560391	1.101466	2.560391
scent	0.175702	0.099556	1.764849	0.08034	-0.02158	0.37298	-0.02158	0.37298

Figure 5: Regression Analysis for Scent (Food) Component

R<sup>2</sup> value should be near to 1. Though it is positive (0.027294) but not too much impact. P-Value is 0.08034 which is less than 0.5 so the null hypothesis (H0) will not be accepted. This means scent (food) is having significant impact

Regression Statistics

Multiple R 0.037847

R Square 0.001432

Adjusted R -0.00756

Standard E 1.176963

Observatic 113

**ANOVA**

	df	SS	MS	F	ignificance F
Regressor	1	0.220564	0.220564	0.159224	0.690638
Residual	111	153.7617	1.385241		
Total	112	153.9823			

	Coefficients	standard Err	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	2.339888	0.300423	7.788641	3.88E-12	1.744579	2.935196	1.744579	2.935196
Music	0.037367	0.093645	0.399029	0.690638	-0.1482	0.22293	-0.1482	0.22293

Figure 6: Regression Analysis for Music Component

R<sup>2</sup> value should be near to 1. Though it is positive (0.001432) but not too much impact. P-Value is 0.690638 which is more than 0.5 so the null hypothesis (H0) will be accepted. This means music is not having significant impact.

Regression Statistics

Multiple R 0.188503

R Square 0.035533

Adjusted R 0.026845

Standard E 1.156691

Observation 113

ANOVA

	df	SS	MS	F	Significance F
Regressor	1	5.471513	5.471513	4.089521	0.045554
Residual	111	148.5108	1.337935		
Total	112	153.9823			

Coefficients	standard Err	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
Intercept	2.987515	0.286603	10.42389	3.77E-18	2.419593	3.555438	2.419593	3.555438
colour	-0.19358	0.095723	-2.02226	0.045554	-0.38326	-0.00389	-0.38326	-0.00389

Figure 7: Regression Analysis for Colour Component

$R^2$  value is positive (0.035533) but not too much impact. P-Value is 0.045554 which is less than 0.5 so the null hypothesis ( $H_0$ ) will not be accepted. This means colour is having significant impact.

Table 3: P-Values of all the Components

Components	P-Value
Taste	0.0674
Ambience	0.099305
Scent of the Food	0.08034
Music	0.690638
Colour	0.045554

Sensory Marketing attributes (Taste, Ambience, scent, Colour and Music) were tested with the consideration to know the significance impact of these attributes in visiting any restaurant. Regression analysis was applied to the variables, we found that the significance values of taste, ambience, scent and colour is less than 0.5, thus the null hypothesis ( $H_0$ ) is rejected and alternative hypothesis ( $H_1$ ) is selected, which shows that these attributes are having significant impact on visiting any restaurant. But the significant value of Music attribute is more than 0.5 so the null hypothesis is accepted and alternative is rejected which means that this attribute is not having significant impact. Out of all the attributes which are having significant impact taste is having more impact than other attributes. This shows that people will consider taste as the most important attribute while visiting any restaurant followed by colour, scent of the food and ambience.

### Conclusion

From the study, we can illustrate the overall scope of our result of our study that how sensory marketing applied in restaurant in Kolkata and how these activities influence customer behaviour in decision making process

First of all, we found that the restaurant industry in Kolkata use several promotional tool and activities in regard to sensory marketing. Taste, colour, scent, music and ambience are used prevalently in order to motivate their customer to purchase more and create loyalty with their target group. Taste plays an important role also Scent of

food significant role in order to persuade customer to come in the restaurant that encourage the entrepreneurs to improve the performance effectively. Moreover, music also creates a soothing environment for the customer in the restaurant to feel happy. Therefore, the results assure that sensory marketing has been applied in restaurant industry for long time with the goal to create favourable atmosphere especially relaxing atmosphere. As the result of our study, Kolkata's customers seem to have positive attitude toward using sensory marketing activities in restaurant. Thai customers believe that these activities are able to motivate their behaviour and could bring the favourable attitude to their business as well. Moreover, the other variables such as past experience of customer, demographic and photographic also has an impact on attitude and emotion of customer although using the same stimuli, so the marketer should take it into consideration in order to create favourable attitude to their customer effectively.

### **Limitations of the Study**

The limitations are as follows:

- Collection of primary data is based on 113 respondents though the target was 150, which lead to a very small sample. Thus, the data provided may be inadequate.
- Secondary data collected was based on the findings of other researchers. Even though proper referencing has been made, its relevance cannot be justified.

### **References**

1. Agapito, D., Valle, P., & Mendes, J. (2012). Sensory marketing and tourist experiences. *Spatial and Organizational Dynamics Discussions Papers*, 7-19.
2. Creswell, J. (2003). *Research Design: Qualitative, Quantitative & Mixed Methods Approaches*. SAGE Publications.
3. Gardener, M. (1985). Mood states and consumer behavior: A critical review. *The Journal of Consumer Research*, 281-300.
4. Heitzler, C., Asbury, L., & Kusner , S. (2008). Bringing "Play" to life: The use of experiential. *American Journal of Preventive Medicine*, 188-193.
5. Houston, M., Childers, T., & Heckler, S. (1987). Picture-word consistency and elaborative processing of advertisements. *Journal of Marketing Research*, 359-369.
6. Keller, K. L., & Lehmann, D. R. (2006). Brands and Branding: Research Findings and Future Priorities. *Marketing Science*, 740-759.
7. Krishna, A. (July 2012). An integrative review of sensory marketing: Engaging the senses to affect perception, judgment and behavior. *Journal of Consumer Psychology*, 332-351.
8. Lindstrom, M. (2005). *Brand Sense: How to Build Powerful Brands Through Touch, Taste, Smell, Sight & Sound*. Kogan Page Publishers.
9. Milliman, R. E. (1982). Using Background Music to Affect the Behaviour of Supermarket. *Journal of Marketing*, 86-91.
10. Minor, M., & Mowen, J. C. (2000). *Consumer Behaviour: A Framework*. Prentice Hall.

COM/FIN/1

## A Study on Financial Futures

Tanzina Nasrin<sup>1</sup> & Mr. Monojit Dutta<sup>2</sup>

<sup>1</sup> M.Com Student, J. D. Birla Institute, Kolkata;  
tanzinanasarin02@gmail.com

<sup>2</sup> Assistant Professor, Department of Commerce, J. D. Birla Institute, Kolkata;  
monojitdutta68@gmail.com

### Abstract

*The emergence of the market for derivatives products, most notably forwards, futures and options, can be traced back to the willingness of risk-averse economic agents to guard themselves against uncertainties arising out of fluctuations in asset prices. Derivatives are risk management instruments, which derive their value from an underlying asset. The following are three broad categories of participants in the derivatives market Hedgers, Speculators and Arbitragers. Prices in an organized derivatives market reflect the perception of market participants about the future and lead the price of underlying to the perceived future level. In recent times the Derivative markets have gained importance in terms of their vital role in the economy. The increasing investments in stocks (domestic as well as overseas) have attracted my interest in this area. Numerous studies on the effects of futures listing on the underlying cash market volatility have been done in the developed markets. The derivative market is newly started in India and it is not known by every investor, so SEBI has to take steps to create awareness among the investors about the derivative segment. In cash market the profit/loss of the investor depends on the market price of the underlying asset. The investor may incur huge profit or he may incur huge loss. But in derivatives segment the investor enjoys huge profits with limited downside. Derivatives are mostly used for hedging purpose. In order to increase the derivatives market in India, SEBI should revise some of their regulations like contract size, participation of FII in the derivatives market. In a nutshell the study throws a light on the derivatives market.*

**Keywords:** Market Volatility, Risk, Futures

### Introduction

The objective of an investment decision is to get required rate of return with minimum risk. To achieve this objective, various instruments, practices and strategies have been devised and developed in the recent past. With the opening of boundaries for international trade and business, the world trade gained momentum in the last decade, the world has entered into a new phase of global integration and liberalization. The integration of capital markets world-wide has given rise to increased financial risk with the frequent changes in the interest rates, currency exchange rate and stock prices. To overcome the risk arising out of these fluctuating variables and increased dependence of capital markets of one set of countries to the others, risk management practices have also been reshaped by inventing such instruments as can mitigate the risk element. These new popular instruments are known as financial derivatives which, not only reduce financial risk but also open us new opportunity for high risk takers.

Literal meaning of derivative is that something which is derived. The term 'derivative' indicates that it has no independent value, i.e., its value is entirely derived

from the value of the underlying asset. The underlying asset can be securities, commodities, bullion, currency, livestock or anything else. The Securities Contracts (Regulation) Act 1956 defines 'derivative' as under: 'Derivative' includes—Security derived from a debt instrument, share, loan whether secured or unsecured, risk instrument or contract for differences or any other form of security. It is a contract which derives its value from the prices, or index of prices of underlying securities. There are two types of derivatives—Commodity derivatives and financial derivatives. Firstly derivatives originated as a tool for managing risk in commodities markets. In commodity derivatives, the underlying asset is a commodity. It can be agricultural commodity like wheat, soybeans, rapeseed, cotton etc. or precious metals like gold, silver etc. The term financial derivative denotes a variety of financial instruments including stocks, bonds, treasury bills, interest rate, foreign currencies and other hybrid securities. Financial derivatives include futures, forwards, options, swaps, etc. Futures contracts are the most important form of derivatives, which are in existence long before the term 'derivative' was coined. Financial derivatives can also be derived from a combination of cash market instruments or other financial derivative instruments. In fact, most of the financial derivatives are not new instruments rather they are merely combinations of older generation derivatives and/or standard cash market instruments.

#### *Why are futures contract important?*

On the surface, futures contracts are an instrument of price speculators who want to hedge a price risk or profit from coming changes. In the jargon of the futures market, these participants might be called "hedgers" and "speculators," respectively. However, there are other, more significant social and economic functions that futures contracts play. These intangible financial instruments help to foster a greater specialization that benefits all consumers by allocating resources more efficiently and providing an insurance policy for businesses.

Futures contracts have drawn plenty of critics ever since their inception. These critics often claim forward contracts might serve an important purpose, but standardized and traded futures contracts are inherently speculative and therefore add unnecessary risk to the financial markets. These concerns make sense in a vacuum but are poorly represented among dynamic and fluctuating futures contract prices.

#### *Not a Zero-Sum Game*

The nature of both futures and forward contracts is that one party goes "long" and the other "short." When changes in relevant future prices occur, one party directly benefits and the other is penalized. This makes speculation seem like sanctioned financial gambling. However, the losing party in a futures contract does not necessarily regret its decision. This is because one party is entering the contract to hedge away risk, while the other is accepting future risk for potential gain. The negative or positive market value offsets the losses or gains from other sources, ostensibly.

Take, for example, an airline company. Its profitability is very closely tied to the spot price of oil, which is required to fuel air travel. When oil prices surge, operating costs shoot up and the airline's solvency is put at risk. However, oil prices are not controlled by airliners; the risk of rising oil is consistent regardless of management decisions. So the oil companies may make the rational decision to purchase large quantities of futures contracts in oil. This way, if prices rise, the costs are offset by the growing value of the futures. The price of oil might plummet instead. The airliner benefits from lower fuel prices even though the futures are, in this context, a losing proposition. Either way the airline "wins".

### *Coordinating Across Time*

In an economic sense, there is no real distinction between interregional price differences or the price of wheat in Ukraine versus its price in Japan, and inter-temporal price differences, or the price of wheat one day versus its price a month later.

Consider an arbitrager who notices wheat can be purchased cheaply in Ukraine and sold for a large profit in Japan. This helps transfer resources from those who value it less highly, such as the wheat-saturated consumers in Ukraine, to those who value it more highly. This process continues until all arbitrage profits are eliminated.

It is in this manner that futures contracts send signals about value and help coordinate production. Consider a world where most investors expect the world supply of wheat to plummet the next day. There is an incentive to go long on wheat, expecting the price to rise. In other words, high future value is communicated. Wheat producers, or potential producers, could look at the high value of wheat in a month and increase their future production, which helps offset the future shortage.

### **Review of Literature**

H. S., Shalini et al (2014) say that financial derivatives have earned a well deserved extremely significant place among all the financial instruments (products), due to innovation and revolutionized the landscape. Derivatives are tool for managing risk. Derivatives provide an opportunity to transfer risk from one to another. Launch of equity derivatives in Indian market has been extremely encouraging and successful. The growth of derivatives in the recent years has surpassed the growth of its counterpart globally.

Sreenu, Nenavath (2011) concludes that derivatives are risk management tools that help in effective management of risk by various stakeholders. Derivatives provide an opportunity to transfer risk, from the one who wish to avoid it; to one, who wish to accept it. India's experience with the launch of equity derivatives market has been extremely encouraging and successful. The derivatives turnover on the National Stock Exchange (NSE) has surpassed the equity market turnover.

Vashishtha, Ashutosh and Kumar, Satish (2010) conclude that innovation of derivatives have redefined and revolutionised the landscape of financial industry across the world and derivatives have earned a well deserved and extremely significant place among all the financial products. Derivatives are risk management tool that help in effective management of risk by various stakeholders. Derivatives provide an opportunity to transfer risk, from the one who wish to avoid it; to one, who wish to accept it. India's experience with the launch of equity derivatives market has been extremely encouraging and successful. The derivatives turnover on the NSE has surpassed the equity market turnover. Significantly, its growth in the recent years has surpassed the growth of its counterpart globally.

Sajjad, Faiza et al (2013) concludes that financial stability is a public good that can inform corporate investment and financing decisions and thus any new regulatory initiative should be very carefully designed to give the different instruments within an asset class, in this case, derivatives, the appropriate regulatory oversight. In terms of growth of derivatives market and the variety of derivative users, the Pakistan equity derivative market has shown subdued performance as compared to India. Derivatives

provide an opportunity to transfer risk from the one who wish to avoid it, to one who wish to accept it.

Lazovy, Juraj and Sipko, Juraj (2014) deduce that financial derivatives have recorded fundamental growth in the period 1986-2007 and currently represent the largest segment of the financial markets. Its size exceeds several times the global GDP. After 2007, financial derivatives have stagnated and the exchange traded derivatives even come to a significant fall. Exchange traded and OTC derivatives increases unemployment and decreases inflation. Growth of the OTC derivatives market also reduces economic growth. Market activity at the exchange traded derivatives, measured by the contracts turnover, increases inflation. Growth of OTC derivatives measured by market value (gross market values) reduces unemployment and increases inflation.

Gahkar, Kamlesh and Meetu (2013) come to the conclusion that the Indian derivative market has achieved tremendous growth over the years, and also have a long history of trading in various derivatives products. The derivatives market has seen ups and downs. The new and innovative derivative products have emerged over the time to meet the various needs of the different types of investors. Though, the derivative market is burgeoning with its divergent products, yet there are many issues. Among the issues that need to be immediately addressed are those related to, lack of economies of scale, tax and legal bottlenecks, increased off-balance sheet exposure of Indian banks, need for an independent regulator etc. Solution of these issues will definitely lead to boost the investors' confidence in the Indian derivative market and bring an overall development in all the segments of this market.

Mallikarjunappa, T. and Afsal, E. M.(2008) conclude that the separate estimates for pre-derivatives and post derivatives reveals that the sensitivity of the nifty return to the nifty junior index and the day-of-the-week effect disappears after the introduction of derivatives contracts. The price sensitivity to old news is higher during pre-futures than post futures period and with the introduction of futures, market volatility is determined by recent innovations. The returns will predominantly depend on past innovations and volatility is time varying. The introduction of derivatives has not brought the desired outcome of decline in volatility.

### **Objectives of the study**

- To know the operational concepts of financial derivatives.
- To study the operations of futures.
- To find the trends of the futures prices using historical prices.

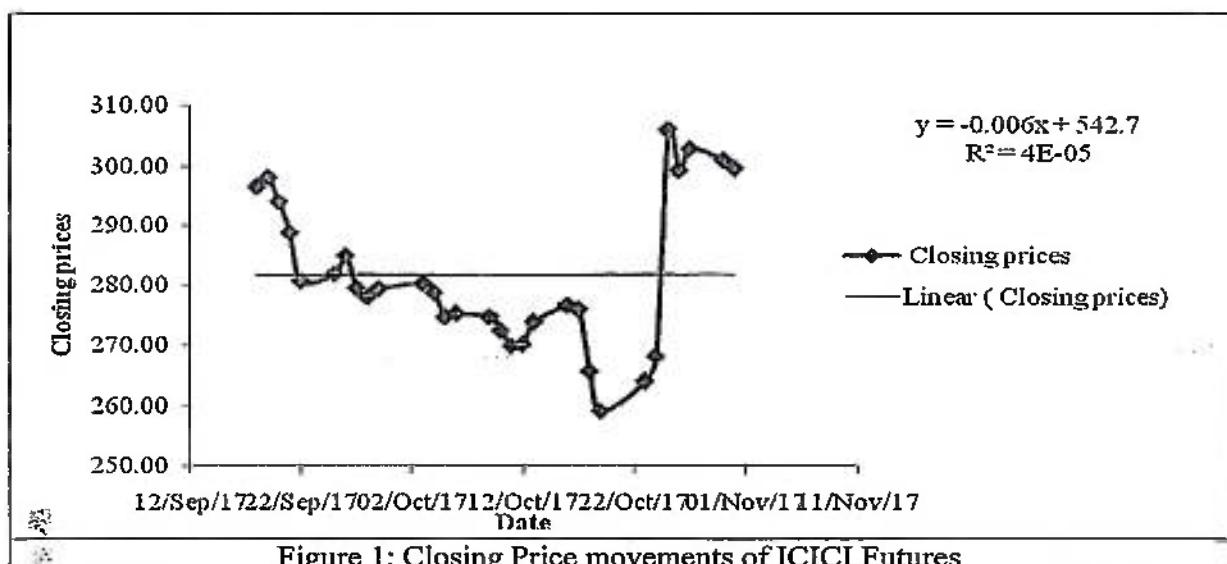
### **Methodology**

The research design of the study is analytical research design based on secondary data. In analytical study, one has to use facts or information already available and analyze these to make critical evaluation of the material, so different methods like regression, Anova and trend analysis has been done. Data has been collected from the website of National Stock Exchange (NSE).

## Results & Discussion

### *ICICI Bank Futures:*

The objective of this analysis is to find the trend of the stock prices of based on the closing prices and to forecast the future prices using regression. The analysis is based on a sample data taken of ICICI Bank scrip. The time period of the analysis considered is from 15<sup>th</sup> September to 30<sup>th</sup> October, 2017.



In Figure 1, x (i.e. date) which is the independent variable is taken along the x-axis and y (i.e closing prices) which is the dependent variable is taken along the y-axis.

### *Summary Output*

Table 1: Regression Tables for ICICI futures

#### Regression Statistics

Multiple R	0.006365
R Square	4.05E-05
Adjusted R Square	-0.03567
Standard Error	12.95942
Observations	30

#### ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.190509	0.190509	0.001134	0.973371
Residual	28	4702.504	167.9466		
Total	29	4702.695			
	Coefficients	Standard Error	t Stat	P-value	
Intercept	542.7601	7754.054	0.069997	0.944694	
Date	-0.00607	0.180256	-0.03368	0.973371	

In Table 1 ANOVA shows the goodness of fit of the regression equation. In the summary output, it is found that the f-statistic is 0.0011 having a probability value of 0.973 which is more than 0.05 stands for insignificance of the regression equation. At the same time, it is noteworthy to mention that the co-efficient of independent variable (i.e. date) is -0.006 having a t-statistics -0.0336 which is less than 2 and a

probability value of 0.973 more than 0.05 stands for the insignificance of the independent variable.

Table 2: Comparison between the forecasted prices and the actual prices after calculating using the regression equation.

Date	Closing Prices	Forecasted Prices	Error
01-Nov-17	312.40	284.46	27.94
02-Nov-17	315.45	284.45	30.996
03-Nov-17	315.50	284.45	31.052
06-Nov-17	315.40	284.43	30.97
07-Nov-17	312.50	284.42	28.076
08-Nov-17	306.85	284.42	22.432
09-Nov-17	312.30	284.41	27.888
10-Nov-17	318.20	284.41	33.794
13-Nov-17	315.40	284.39	31.012
14-Nov-17	315.30	284.38	30.918
		Mean Error	29.5078

#### *Analysis of Axis Bank Futures:*

The objective of this analysis is to find the trend of the stock prices of based on the closing prices and to forecast the future prices using regression. The analysis is based on a sample data taken of Axis Bank scrip. The time period of the analysis considered is from 15<sup>th</sup> September to 30<sup>th</sup> October, 2017.

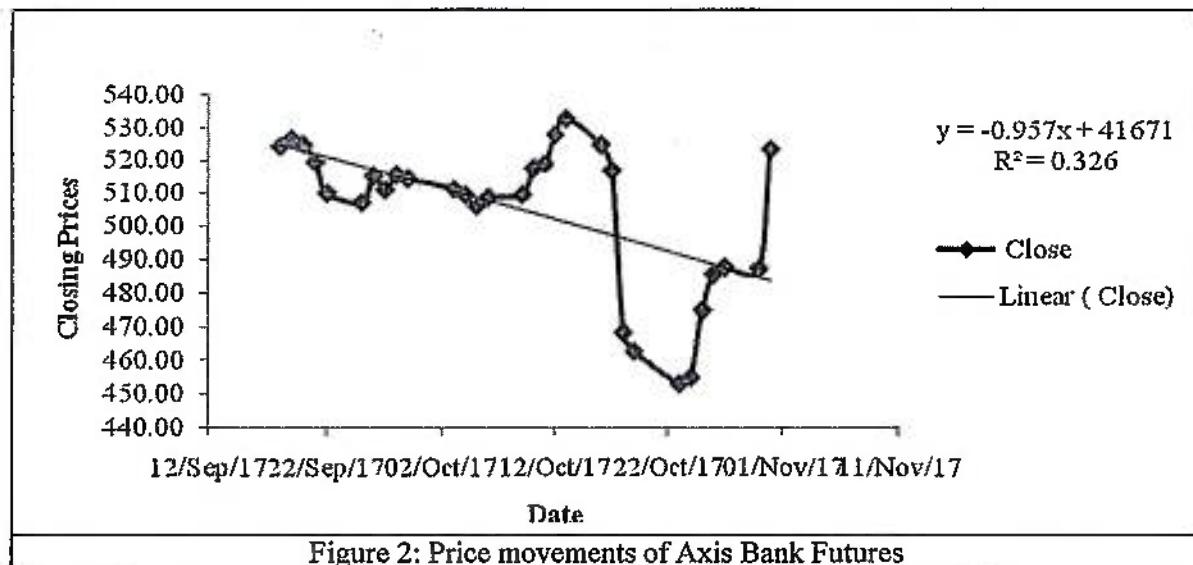


Figure 2: Price movements of Axis Bank Futures

In Figure 2, x (i.e. date) which is the independent variable is taken along the x-axis and y (i.e closing prices) which is the dependent variable is taken along the y-axis.

### Summary Output

Table 3: Regression Tables for Axis Bank Futures

#### Regression Statistics

Multiple R	0.571574
R Square	0.326697
Adjusted R Square	0.30265
Standard Error	18.66606
Observations	30

#### ANOVA

	df	SS	MS	F	Significance F
Regression	1	4733.665	4733.665	13.58601	0.000969
Residual	28	9755.814	348.4219		
Total	29	14489.48			
		Coefficients	Standard Error	t Stat	P-value
Intercept		41671.34	11168.53	3.731139	0.00086
Date		-0.95698	0.259632	-3.68592	0.000969

In Table 3 ANOVA shows the goodness of fit of the regression equation. In the summary output, it is found that the f-statistic is 13.58 having a probability value of 0.00 which is less than 0.05 stands for significance of the regression equation. At the same time, it is noteworthy to mention that the co-efficient of independent variable (i.e. date) is -0.95 having a t-statistics -3.68 which is more than 2 and a probability value of 0.00 less than 0.05 stands for the significance of the independent variable.

#### Analysis of Kotak Mahindra Futures:

The objective of this analysis is to find the trend of the stock prices of based on the closing prices and to forecast the future prices using regression. The analysis is based on a sample data taken of Kotak Mahindra Bank scrip. The time period of the analysis considered is from 15<sup>th</sup> September to 30<sup>th</sup> October, 2017.

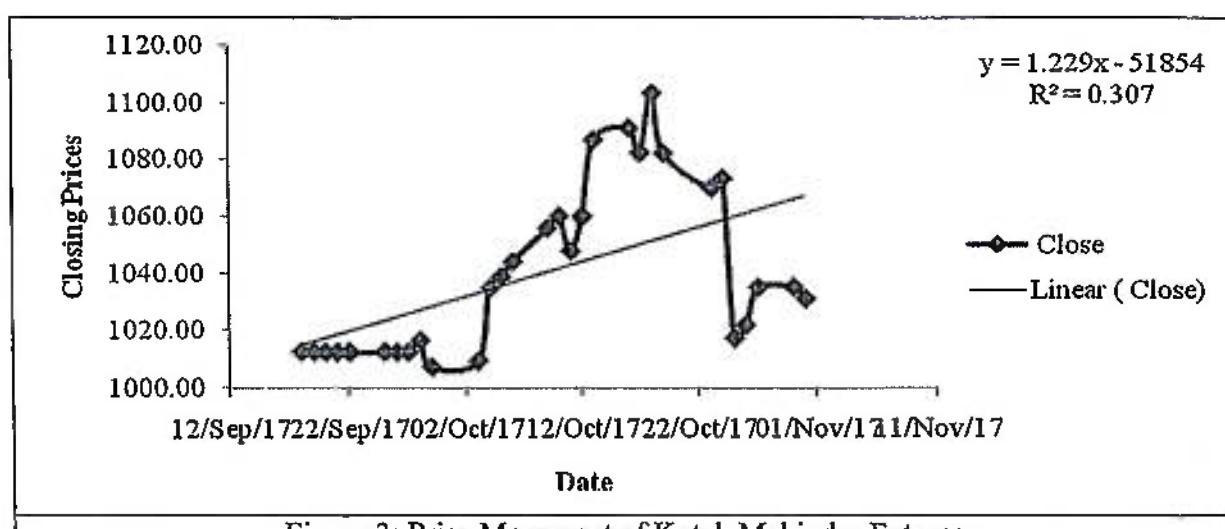


Figure 3: Price Movement of Kotak Mahindra Futures

In Figure 3, x (i.e. date) which is the independent variable is taken along the x-axis and y (i.e closing prices) which is the dependent variable is taken along the y-axis.

### *Summary Output*

Table 4: Regression tables for Kotak Mahindra Futures

Regression Statistics					
Multiple R					0.554840314
R Square					0.307847774
Adjusted R Square					0.283128052
Standard Error					25.05084102
Observations					30
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	7815.145196	7815.145	12.45353	0.001461998
Residual	28	17571.2498	627.5446		
Total	29	25386.395			
		Coefficients	Standard Error	t Stat	P-value
Intercept		-51854.20171	14988.75522	-3.45954	0.001751
Date		1.229627767	0.348439552	3.528956	0.001462

In Table 4 ANOVA shows the goodness of fit of the regression equation. In the summary output, it is found that the f-statistic is 12.45 having a probability value of 0.001 which is less than 0.05 stands for significance of the regression equation. At the same time, it is noteworthy to mention that the co-efficient of independent variable (i.e. date) is 1.22 having a t-statistics 3.52 which is more than 2 and a probability value of 0.001 less than 0.05 stands for the significance of the independent variable.

### **Conclusion**

Derivative securities markets play an important role by allowing investors who do not want the risks associated with holding an asset to transfer it to those who do. However, because they are markets for risk as opposed to physical assets, derivatives markets can be very dangerous places for unsophisticated investors. People who reduce their risk by entering a derivative market are called hedgers, and those who increase their risk are called speculators.

Having an idea about the prices of futures is very important while investing in the futures market. This is because the futures market is depended on uncertainty and involves great risk. It may also lead to losses for the speculators.

The study makes an attempt to predict the future prices using date i.e. time as a variable through regression analysis. It is found that the prices of futures are depended on time as a factor and are affected by it. A speculator can make some prediction about the future prices of the derivative instruments and go for a buy-sell action after taking in consideration the scope for some error.

The study is limited to using only time as a variable and it takes the historical prices of futures for a three month period only. It also reveals that fluctuations in the future prices happen due to the recent developments in the market as well. It also moves

with the current movements of the economy as a whole. There is a scope for including these external factors in studying the price movements in any further study.

### References

1. Lazový, J., & Sipko, J. (2014). Impact of Financial Derivatives on the Real Economy, International Journal of Management Excellence, 4(1), 494-502.
2. Mallikarjunappa, T., & Afsal, E. M. (2008). The Impact of Derivatives on Stock Market Volatility: A Study of the Nifty Index, Asian Academy of Management Journal of Accounting & Finance, 4(2)
3. Sarathkumar, K., & Dhandhayuthapani, S. P. (2016). Analytical Study on Indian Derivatives Market With Reference to Investors Attitude, International Journal, 2, 680-682
4. Shalini, H. S. & Duraipandian, R. (2014). Commodity derivative markets in India: Issues and concerns, International Journal of Management, IT and Engineering, 4(2), 87
5. Sreenu, N. (2017). Correlations among the corporate finance decision, governance and financial performance in emerging market value: The study in Indian context, Journal of Commerce and Management Thought, 8(3); 616
6. Vashishta, A., & Kumar, S. (2010). Development of financial derivatives market in India-A Case Study, International Research Journal of Finance and Economics, 37(37), 15-29

COM/FIN/2

## **Financial Literacy and Financial Planning: An Empirical Study Based on Educational Sector of Kolkata**

Priyanka Banik<sup>1</sup> & Rajendra Nath Datta<sup>2</sup>

<sup>1</sup>Guest Lecturer of Sivanath Sastri College, Kolkata;

priyankabanik13@gmail.com

<sup>2</sup>Lecturer, The Bhawanipur Education Society College, Kolkata;

rajendraeco@gmail.com

### **Abstract**

*In the recent era financial literacy has become a much discussed phenomena. It is attracting the attention of not only the financial institutions but also the common man trying to meet his financial needs on a daily basis and planning for a safe future. This paper summarizes the level of literacy in different financial literacy related variables. An attempt has been made to understand the meaning of financial literacy, its awareness and it's relation with financial planning.*

**Keywords:** Financial literacy, financial awareness, financial planning, financial literacy related variables

### **Introduction**

Over past two decades India has implemented a wide range of reforms, opening up the economy and narrowing the gap of the living standard of its people. Yet, a huge chunk of the country's Population is socially and economically excluded from the main stream of the society. It becomes imperative that social inclusion is made possible better with Financial Inclusion.

Financial literacy is nothing but knowledge about personal management of finances .It gives twin benefit of protecting from financial frauds as well as planning for financially secure future. Financial literacy gives consumers necessary knowledge and skill required to assess the various financial products and investments available in the financial market. Financial literacy has become very importance in the recent years, as financial markets have become complicated and as there is information gap between markets and the common person, leading to difficulties in making correct financial choices. India is among one of the world's most efficient and regulated financial markets. It has one of the highest savings rate in the world .While people in India prefer to save, the savings are not invested in a wise manner. A majority of Indian population do not use modern financial products. Unless the common people become informed and literate about the changes in the financial markets and products and protect him from financial distress, wealth creation for the common man and the economy will remain a distant dream. We need to convert a nation of savers into a country of financially literate and wise investors to make Indian economy financially prosperous and stable. Three pillars of financial stability are Financial Inclusion, Financial Literacy and Consumer Protection.

### **Review of Literature**

Declan French, Donal McKillop, (2016) in their publication "Financial Literacy and Over-Indebtness in low income Household", they focused a positive correlation

between poor financial literacy and debt problem. They found that those with superior money-management skills have reduce debt to income level, prefer less borrowing from high cost vendors such as Money Lender, High-street loan shop, and are likely to have used fewer lenders in last three years.

Selim Aren , Asiye Nur Zengin, (2016) focused upon the influence of Financial Literacy and risk perception on selection of Investments. This study investigated whether the level of financial literacy, personality characteristics and risk perception are effective on individuals' investment preferences consisting of deposits, foreign exchange, equities and portfolio. There is no relationship between personality traits with the choice of investment.

Lusardi & de Bassa Scheresberg, (2013) they told Financial literacy also plays a role in explaining why so many individuals make use of high-cost borrowing methods. Numeracy and knowledge of basic financial concepts are negatively correlated with high cost borrowing, even after accounting for age, income, education, and many other variables that can proxy for financial vulnerability and being hit by shocks.

Hastings & Mitchell (2011); Lusardi & Mitchell (2007); Van Rooij, (2012). A body of research has also found financial literacy to be correlated with saving and investment decisions. Financial literacy is positively correlated with planning for retirement, savings and wealth accumulation.

Christelis, Jappelli & Padula (2010); Lusardi & Mitchell, (2007), (2011b) have highlighted that those without a college education are unlikely to understand investment concepts such as portfolio diversification. Additionally Disney & Gathergood (2012) finds that those with superior financial literacy have higher household incomes and savings.

Jason West (2012) show that the actions of individuals who are financially literate do not necessarily mean they will demonstrate good financial behavior. In order to improve the financial behavior of consumers, two critical areas need to be addressed. Mark Taylor 2010 Identify the key determinants of Financial Literacy. Using panel data models, He fined the key determinants to financial literacy are age, health, household size and structure, housing tenure, and the employment status of the individual and other household members.

It has been shown that stress is the resultant feature of financial illiteracy. Research study suggest that it is very common in low income families Worthington, (2006), however there is no evidence to suggest that these low-income families are financially illiterate. This financial stress could be related to many social issues such as unemployment, large families, poor economic situation etc.

Sweta Kumari , Priya Viz they summarized the growing effort in the field of Financial Literacy in Indian context. In their study an attempt has been made to understand the meaning of financial literacy, to identify the major players in the field of financial literacy and summarized their growing effort in this field. This study helps the investor in better financial decision making and creating awareness about the importance of financial education.

### Objectives of the Study

- To examine the impact of various demographic factor on financial Literacy.
- To assess the literacy level of the people among Savings and Borrowing, Banking, Postal savings, Insurance, Investments, Stock Market, Taxation, Digital financial literacy related variables.

### Methodology

The present study is empirical and exploratory in nature. Data has been collected from Education sector of Kolkata. The study is based mainly on the information available through a structured questionnaire put across the educational institutions and after several rounds of pilot survey, the final draft of the questionnaire was finalized. Most of the respondents were either contacted personally in their work places after making prior appointments or collected by sending mailed questionnaire to respondents in faraway places. A total of 220 questionnaires were distributed to the Educational Institutions, out of which 150 completed questionnaires were selected finally for the purpose of this study. Stratified sampling technique is adopted with each sector (basis of stream of education) being treated as a stratum. Further quota sampling is applied in each stratum for data collection through structured questionnaire.

### Results and Discussion

Cronbach's alpha coefficient confirms the internal consistency of the set of items of a given scale. The present data set for the study shows Cronbach's alpha for General Financial Literacy scale equal to 0.869 and Savings and Borrowing related literacy scale is 0.789. Similarly reliability of the set of items for Banking, Post Office, Insurance, Investment, Stock Market, Taxation, Digital literacy is tested and the values are respectively 0.820, 0.729, 0.704, 0.566, 0.944, 0.522 and 0.890. In general, any value greater than 0.50 is desirable under the Cronbach's alpha. Cronbach's alpha for the coping checklist under these heads are > 0.50.

Table 1: Descriptive Statistics of the Personality Attribute (Stream of Education) of the Respondents			
	Science	Commerce	Arts
No. of Respondents	61	41	48
	Mean		
General Financial Literacy (GFL)	3.7529	3.4477	2.9509
Savings-Borrowing Related Literacy (SBRL)	3.5009	3.3198	2.6551
Banking Related Literacy (BRL)	3.6544	3.7602	3.1858
Postal-saving Related Literacy (PORL)	3.4026	3.6612	2.9005
Insurance Related Literacy (INRL)	3.5541	3.4878	3.4104
Investment Related Literacy (IVRL)	3.1361	2.9585	2.9125
Stock Market Related Literacy (SMRL)	2.4426	3.1301	2.0833
Taxation Related Literacy (TRL)	3.1759	3.4945	3.1193
Digital Literacy (DL)	4.0149	4.1508	3.9773

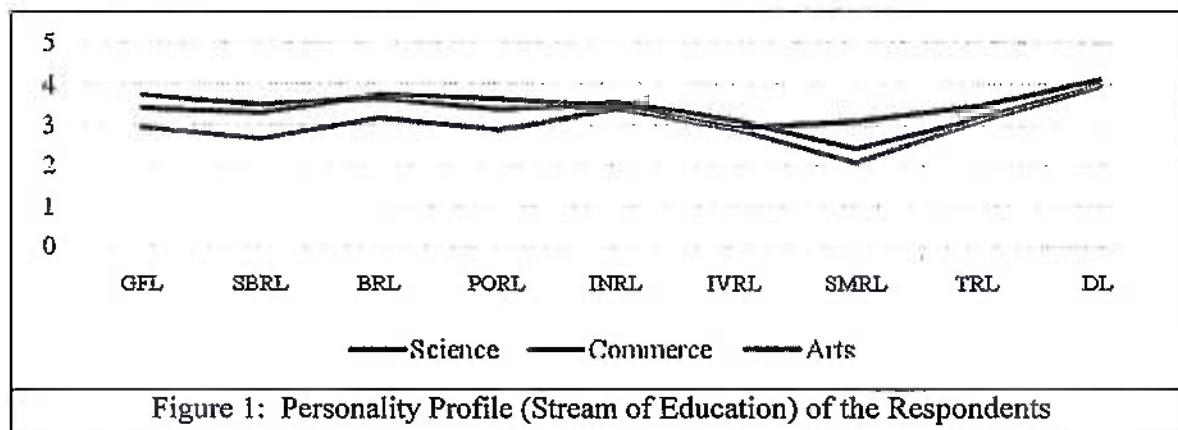


Figure 1: Personality Profile (Stream of Education) of the Respondents

Stream of Education has a significant impact upon Financial Literacy and it leads to better Financial Planning. From this study it has been clear that respondents from Commerce background possess relatively high Financial Literacy Level followed by Science and Arts backgrounder respondents. In Banking, Post Office, Investment and Taxation segment they possess significantly high level of Financial Literacy as a result they enjoy better Financial Planning which leads a financially secure future. Especially in case of investment in stock market where other two categories of respondents have poor Literacy level commerce people enjoy significantly high level of financial literacy.

Table 2: Descriptive Statistics of the Personality Attribute (Monthly Income) of the Respondents

	Up to Rs.10,000	Rs.10,000- 25,000	Rs.25,000- 50,000	Rs.50,000- 75,000	Rs.75,000- Rs.1,00,000
No. of Respondents	34	54	37	16	09
<b>Mean</b>					
GFL	3.3130	3.3955	3.3707	3.5759	3.7778
SBRL	3.0425	3.2510	3.1081	3.3194	3.3333
BRL	3.3431	3.5679	3.5563	3.6979	3.6574
PORL	3.1111	3.3663	3.3153	3.4236	3.5432
INRL	3.4353	3.5019	3.4676	3.5750	3.5667
IVRL	2.9882	2.9870	3.0676	3.0563	3.0111
SMRL	2.2941	2.5864	2.4279	2.8333	2.7222
TRL	3.1604	3.2912	3.2457	3.3068	3.1717
DL	3.9947	4.0875	4.0319	4.0170	4.0000

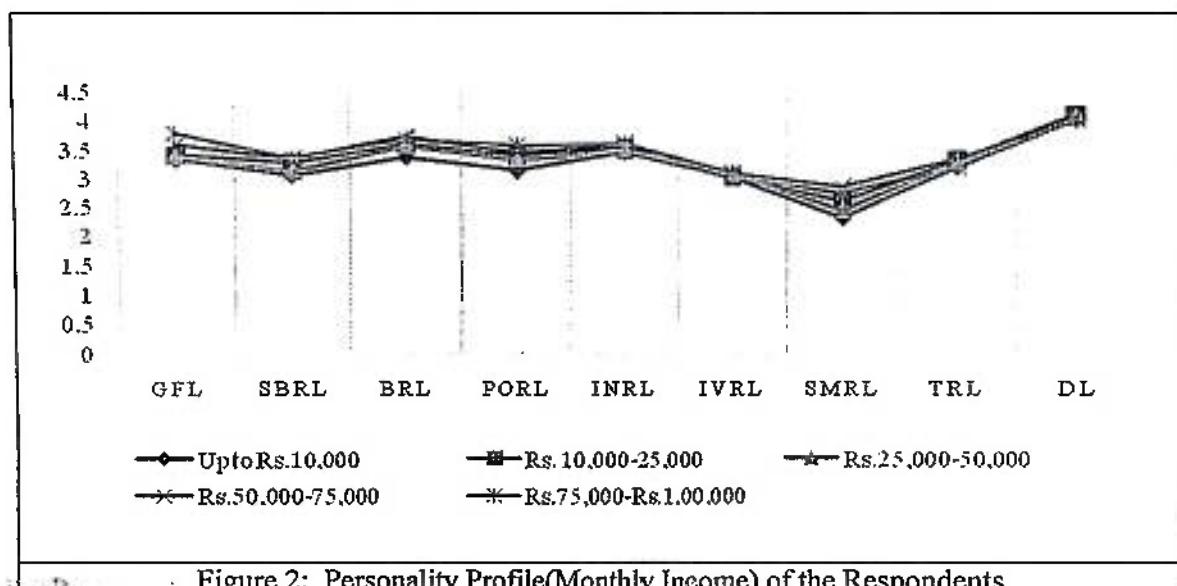


Figure 2: Personality Profile(Monthly Income) of the Respondents

From the study it has been cleared that people who belong in high income group such as Rs.50,000 – Rs.75,000 and in Rs.75,000 – Rs.1,00,000 have relatively high level of Financial Literacy and the possess sound financial planning capability investment in stock market. It has been cleared from the study that individual Income level, Financial Literacy and Financial Planning are closely related.

Table 3: Descriptive Statistics of the Personality Attribute(Age) of the Respondents

	21-25	26-30	31-35	36-40
No. of Respondents	30	47	33	40
<b>Mean</b>				
GFL	3.4167	3.3024	3.4545	3.5054
SBRL	3.0963	3.1206	3.3906	3.1417
BRL	3.4556	3.5355	3.5480	3.5771
PORL	3.2667	3.2600	3.3030	3.4167
INRL	3.4967	3.4340	3.5091	3.5350
IVRL	3.0167	3.0234	2.9970	3.0225
SMRL	2.3444	2.6596	2.5960	2.4083
TRL	3.1697	3.3327	3.1653	3.2636
DL	4.0515	4.0696	4.0165	4.0159

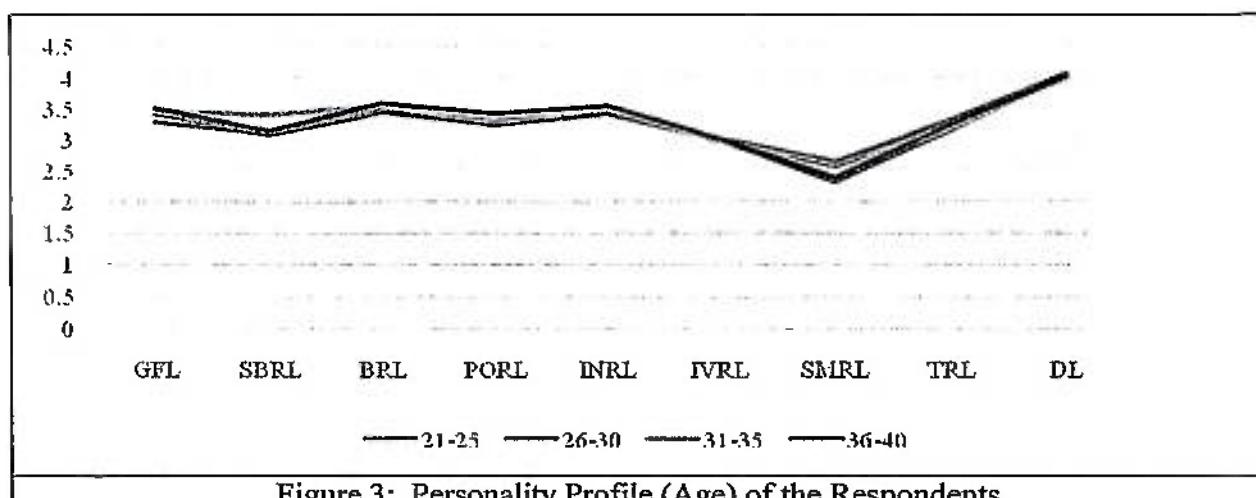


Figure 3: Personality Profile (Age) of the Respondents

It has been cleared from the study that the respondents who belongs 31-35 age category possess significantly high financial literacy level in saving and borrowing and banking related literacy segment. On the other hand respondents who belongs 36-40 age category have more postal savings related literacy and relatively low literacy level in stock market segment. Whereas young aged people who are in 26-30 category are more interest about Stock market, other investments as well as in Digital literacy segment. People who are in 21-25 age category possess relatively low financial literacy in all the segment. So it can be said that age and financial literacy are positively co-related and this has bearing impact upon financial planning.

Table 4: Descriptive Statistics of all Financial Literacy related attributes

Financial Literacy Attributes	Level of financial literacy							
	Low		Moderate		High		Very High	
	f	%	f	%	f	%	f	%
General Financial Literacy	35	23.3	104	69.3	11	7.3	0	0
Saving and Borrowing related Literacy	56	37.3	91	60.7	03	2.0	0	0
Banking related Literacy	16	10.7	133	88.7	01	0.7	0	0
Postal Savings related Literacy	40	26.7	107	71.3	03	2.0	0	0
Insurance related Literacy	01	0.7	149	99.3	00	0	0	0
Investment related Literacy	85	56.7	65	43.3	00	0	0	0
Stock Market related Literacy	128	85.4	17	11.3	05	3.3	0	0
Taxation related Literacy	32	21.3	118	78.7	00	0	0	0
Digital Literacy	01	0.7	116	77.3	33	22.0	0	0

It has been clear from above table among 150 responded who have highly expertise knowledge in general finance are very few only 7.3%, on the other hand 23.3% do not possess the poor personal financial knowledge, which affects the personal money management decisions.37.3% responded have poor saving and borrowing literate literacy, while 60.7% possess moderate level of literacy in that particular segment and only 2% have highly expertise skill in this segment. It can be said that the people who have comprehensive knowledge in saving and borrowing from organized and unorganized sector are very poor. Very few of them read the offer document or compare the bank rate while taking the loans, moreover maximum of them don't have basic idea about simple and compound interest rate, future return, time value of money. It is clear that 88.7% have moderate idea about banking, 10.7% have poor idea about it and .7% has comprehensive literacy level. It can be said that maximum

respondents aware about the saving and borrowing facilities of the banks but they don't aware about other services of the banks such as PPF benefits, collection and payment of credit instrument, various insurance and pension scheme etc. Post office is the oldest as well as simplest tool of Financial Literacy, but 71.3% of total respondent have moderate idea about it. They have moderate idea about various services of post office such as POMIS, KVS, E-PAYMENT, ATM facilities etc. only 2% have comprehensive idea about the services of post office and 26.7% responded possess poor literacy in this segment. The picture of insurance related literacy is very different. Though we are in twenty first century but still a large section of our society is not taking the benefit of insurance sector. The scenario of Investment related literacy is very hopeless. 56.7% respondents have very poor investment literacy skill; they prefer to keep their money in banks. They don't aware about FDI or FPI, Mutual Fund. They don't follow credit rating score while investing their money, as a result they misguided. They are basically risk adverse investors. They prefer to buy gold not gold bonds. They don't aware about Prime Minister various investment schemes. 85.3% respondents have poorly literate about stock market. They don't prefer to invest their money in stock market; in fact if somebody invests their money, they don't go through the financial position of the company. 78.7% have semi-skilled literacy in Taxation. They don't check their bills to ascertain whether proper amount of tax is collected from them or not. They have no tax planning at all. Very few respondents know about tax planning and tax evasion. They possess some knowledge regarding VAT, service tax, professional tax and entertainment tax and GST. 22% respondents are highly skilled in digitalization, they know the use of mobile phone, internet, website, digital wallet, mail id etc., on the other hand 77.3% of the respondents are moderately literate in digitalization procedure.

### Conclusion

From the data analysis it can be said that Financial Literacy and Financial Planning are closely related. Financial Literacy is the pre-requisite of Financial Planning. Introduction of Financial Literacy related education from school level that may help to enhance the awareness of Financial Literacy among the members of the society. Financial Institution may take the initiative to boost the Literacy level of the people through advertisement, seminars, workshop, programs etc. moreover emphasis on female education may increase family's financial planning, savings and investing behavior.

### References

1. Aren, S. and Asiye Nur Zengin (2016). Influence of Financial Literacy and Risk Perception on Choice of Investment, 12th International Strategic Management Conference, ISMC 2016, 28-30 October 2016, Antalya, Turkey
2. Alan L. Gustman, Thomas L. Steinmeier and Nahid Tabatabai (2012). Financial Knowledge and Financial Literacy at the Household Level, The American Economic Review, 102,(3), 309-313
3. Annamaria Lusardi and Olivia S. Mitchell (2008). Planning and Financial Literacy: How Do Women Fare, The American Economic Review, 98 (2), 413-417
4. Bruce Ian Carlin and David T. Robinson. (2012). Financial Education and Timely Decision Support: Lessons from Junior Achievement, The American Economic Review, 102, (3), 305-308.
5. Das, J. K. and Bhattacharya, Sharad Nath ( 2013b). Investor's perception about expected risk and return: A study in Indian context, Time's Journey, 41-56.

6. Declan French and Donal McKillop (2016). Financial literacy and over-indebtedness in low-income households, International Review of Financial Analysis 48 (2016), 1–11.
7. Gathergood, J. (2012). Self-control, financial literacy and consumer over-indebtedness, Journal of Economic Psychology, 33(3), 590–602.
8. Guiso, L. and Japelli, T. (2009). Financial Literacy and Portfolio Diversification, CSEF Working Papers Series, 212, 03.02.2016.
9. Hastings, J. and Mitchell, O. S. (2011). How financial literacy and impatience shape retirement wealth and investment behaviours, NBER Working Paper 16740.
10. Hathaway, I. and Khatiwada, S. (2008). Do financial education programs work? Federal Reserve Bank of Cleveland Working Paper.
11. Hung, A., Parker, A., and Yoong, J. (2009). Defining and measuring financial literacy. RAND Labor and Population Working Paper Series, WR-708.
12. Kumari, S. and Priya Viz. Financial Literacy – An overview of growing efforts, Journal of Economics and Finance , 79-85.
13. Karlan, D., and Zinman, J. (2008). Lying about borrowing, Journal of the European Economic Association, 6(2–3), 510–521.
14. Lusardi, A. and Mitchell, O. S. (2009). How ordinary consumers make complex economic decisions: Financial literacy and retirement readiness, NBER Working Paper 15350.
15. Lusardi, A. and Mitchell, O. S. (2011b). Financial literacy around the world: An overview, Journal of Pension Economics and Finance, 10(4), 497–508.
16. Marriott, D.N. and Mellett, H.J. (1996). Health care managers' financial skills: measurement, analysis and implications, Accounting Education, an international journal, 5 (1).
17. Samy, Martin; Tawfik, H.; Huang, R.; Nagar, A. K. (2008). Financial literacy of youth: A sensitivity analysis of the determinants, International Journal of Economic Sciences and Applied Research, 1, 55-70.
18. Taylor, M (2010). Measuring Financial Capability and Its Determinants Using Survey Springer Science+Business Media B.V. 2010.
19. Tullio, J. (2009) Financial Litreacy Discussion Paper 09/2010-06.
20. West, J. (2012). Financial Literacy Education And Behavior Unhinged: Combating Bias And Poor Product Design, International Weekly Of Consumer Studies 36.
21. Worthington, A.C. (2006). Debt as a source of financial stress in Australian households, International Journal of Consumer Studies, 2-15.

COM/FIN/3

## Post - GST Impact on Different Industrial Sectors

Sandip Basak<sup>1</sup>, Gourab Das<sup>2</sup> & Sayani Sikdar<sup>3</sup>

<sup>1</sup>Faculty Member, Heramba Chandra College, Kolkata;  
sandipb84@yahoo.com

<sup>2</sup>Lecturer, Acharya Jagadish Chandra Bose College, Kolkata;  
2009gourabd@gmail.com

<sup>3</sup>Faculty Member, Prafulla Chandra College, Kolkata;  
sayani1988arja@gmail.com

### Abstract

*Indirect tax is the main source of revenue from the view point of Indian Government. There are different kinds of indirect taxes which have been prevailing in the economy since independence. The shortcomings of current indirect taxation scenario cannot be measured in terms of assesses' point of view but it should be judged from the viewpoint of economy. The entire nation has been suffering from the burden of multiplicity of taxes, uneven rates of taxes, cascading effects etc. year after years. So the nation demanded some kinds of simplicity and uniformity in the existing indirect tax structure which fuelled the slogan for "One Tax, One Nation", and it paved the way for GST. It is considered as the "Paradigm Shift". It is nothing but the most significant reform in the history of Indian indirect tax structure since independence. GST is nothing but a comprehensive tax leviable on manufacture, sale and consumption of goods and services at a national level. Moreover, GST requires a strong development of Information Technology. Otherwise the motive behind implementation of GST would go into vain. Our study emphasizes on the key terminologies that are used in the new tax model and its association with information technology. This study analyses the scenario of Post - GST impact on different industrial sectors of our country.*

**Keywords:** Cascading effects, Comprehensive tax, Industrial sectors, Uniformity

### Introduction

It was a long pending issue to introduce a "single taxation" system in India – the largest democracy in the world. The existing indirect tax structure is really full of complexities. Goods and Services Tax (GST) is such type of indirect tax merging most of the existing indirect taxes into single system of taxation. Around 10 years ago, first Indian govt. moved one step forward about implementation towards GST. Excerpts from the speech delivered by Honourable Finance Minister P. Chidambaram at the time of presentation of budget in 2006 – "...that the country should move towards a national level Goods and Service Tax (GST) that should be shared between the Centre and States. I propose that we set April 1, 2010 as the date for introducing GST..."

But, 6 years later, at the time of delivering speech in the budget session (2012), our honourable the then Finance Minister P. Mukherjee said, "Service tax law is complex and sometimes avoidably different from Central Excise. We need to bring the two as close as possible in the light of our eventual goal of transition to GST."

Finally, at last, GST came into force with effect from 1<sup>st</sup> July, 2017. Probably it is the biggest reform in the indirect tax structure since independence.

## Review of Literature

Girish Garg (2014), studied and found that GST is the most important steps towards the comprehensive indirect tax reform in India.

Thowseaf, M.Ayisha Millath (2016), studied “A study on GST implementation and its Impact on Indian Industrial Sectors” that GST will make sure uniformity of taxes in different states in India. GST environment lead to an improved disclosure of tax structure which have a positive impact on Indian tax regime.

Vasanthagopal (2011), studied in “GST in India: A Big leap in the indirect taxation system” and found different conflicting interests of various stakeholders with the implication of the constitutional amendment.

## Objectives of the Study

Our objectives of the study are:

- To throw a light on the concept of GST
- To give a brief idea of the features of GST
- To analyse the impact of GST on the different industrial sectors, i.e., the impact of GST from the macro-economic aspects

## Limitations of the Study

- The period of study is insufficient.
- All the data which are relevant for our study are not available .
- Information are not readily available.
- Due to time bound and words bound and insufficiency of data, it is not possible for us to accommodate all the sectors and hence we are focussing on three big sectors (Logistics Sector and Construction/Real Estate Sector and Automobile Sector , Agriculture Sector).

## Methodology

The research paper is based on explanatory research based on different journals, annual reports, newspapers and magazines covering wide collection of academic literature on Goods and Service Tax. Available secondary data are extensively used for the study. The research design was adopted for the details analysis and greater analysis for the purpose of study. The conceptual frame work of the study is as follows:

### *Concept of GST:*

In the segment of indirect taxation, GST is a single tax on the supply of goods and services, right from the manufacturer to the ultimate consumer. Credit of input tax which is paid at each stage, is to be available in the subsequent stage of value addition. That is why GST is considered as a tax only on value addition at each stage. More than 140 countries have been under the regime of GST. But our nation is following dual GST system like Canada and Brazil.

*Salient Features of Dual GST which our Nation follows*

- One portion of GST is levied by the Centre i.e. CGST while other portion is levied by State i.e. SGST.
- Both Centre and the State have concurrent powers in the administration of GST.
- Uniform CGST and SGST rates.
- Single invoice is required for both CGST and SGST.
- In case of inward or outward supplies from another state i.e. inter-state supplies, tax is to be levied under IGST.
- Mandatory separate registration in each States.
- Online dealings.
- Under GST, “Origin based taxation” has been transformed to “Destination based taxation” system.

*Taxes To Be Subsumed To CGST*

- Excise Duty
- Service Tax
- Additional Excise Duty on Medicinal preparations
- Countervailing Duty (CVD)
- Cesses
- Surcharges
- Special Additional Duty (SAD)
- Petroleum products shall be outside the GST ambit.

*Taxes To Be Subsumed To SGST*

- VAT/Sales Tax
- Luxury Tax
- Entertainment Tax
- State Cesses & Surcharges
- Purchase Tax
- Entry Tax/Octroi
- Taxes on lottery, betting, gambling

However, tax on liquor, electricity and stamp duty would remain outside the GST ambit.

Table 1: Difference Between Current Indirect Taxes And GST

Previous Indirect Tax Structure	Current GST Regime
Previously, there were separate laws for separate levy.	Since GST subsumes various taxes, therefore only one law i.e. GST law will survive.
Here, emphasize was given on ‘Manufacture’ or ‘Sale’ of a good or service accordingly.	But here emphasize is given on the ‘Supply’ of goods and services.
Since the main focus was on ‘Sale’, therefore stock transfer and branch transfer were not considered as sale and hence they did not attract tax liability.	But here the focus is on ‘Supply’ and hence stock transfer and branch transfer are covered under the purview of GST.
Formerly, tax was levied at two stages i.e. (a) when product was removed from the factory and (b) when product was sold from retail outlet.	GST is to be levied only at final destination of consumption and not at several points. It can make the system more transparent.

Credit between Excise Duty and Service Tax was available but there was no set-off against VAT on Excise Duty.	Here under GST regime, credit is available on the full amount of taxes up to the retailer.
Formerly, set-off of Excise Duty and Service tax was permissible.	There is no cross set-off between CGST and SGST.
Here registration was on decentralised basis.	But, here uniform E-Registration process based on PAN of entity is applicable.

## Results & Discussion

Our study analyses how GST has significantly influenced the different industrial sectors of our nation. And in order to do so, we have taken into consideration different industries as much as possible. Moreover we have considered those industries regarding which relevant information are available. Those are discussed in the following manner,

### *Impact on Logistics Sector:*

Basically, Indian economy is too much dependent on the performance of the logistics sector. Around 45 million people earn their livelihood through this sector and according to the World Bank's Logistics Performance Index, India was placed to 35<sup>th</sup> rank in 2016. The logistic sector can be classified into three categories, namely,

1. Road Transport Sector.
2. Storage and Warehousing Sector.
3. Third Party Logistics

On the basis of the data provided by the Centre for Monitoring Indian Economy (CMIE)'s Industrial database, it is very clear that the performance of the firms rendering logistics services had been volatile since 2010. It happened because of existence of multiple taxes which made this service a costly item. Besides that, logistics firms used to follow a practice of establishing hubs and transit points in many states in order to avoid state vat (Goods which were directly supplied to dealers, used to come under the purview of state vat). Again they took the advantage of escaping taxes by showing that most of the transfers occurred from warehouses (since branch transfer was exempt). This was a leading stage of tax evasion. Here in the following, we are showing the impact of GST on this valuable sector:

*Comment:* It is quite clear from Table 2 that GST helps to make the logistic sector profitable as well as transparent to a large extent.

### *Impact on Construction and Real Estate Sector:*

Real estate is undoubtedly an important part of the economy and it backs the advancement of the nation's infrastructure stand. The real estate sector is estimated to contribute around 5% of India's GDP and is considered the second largest contributor in the country as per the report of "Earnst and Young". Naturally this sector should be of prime importance by the Government. The impact of GST on this sector is discussed in the following:

1. Under previous condition, works contract in relation to civil construction was covered by both service tax and VAT act. Therefore registration under both act was compulsory. Besides that the person having business in more than one state had to take registration for different states. But now, every supplier shall be liable to be registered under this act in the state from where he makes a taxable supply of goods and/or services provided his aggregate turnover in a financial year exceeds Rs. 20 lakhs. It may again follow multiple registration procedures same as in the previous law.

2. Another new provision is “Casual Taxable Person” referring to a person who occasionally undertakes transactions involving supply of goods and/or services in the course or furtherance of business whether as principal, agent or in any other capacity in a taxable territory where he has no fixed place of business.
3. Under GST, sale of under construction real estate properties can be classified as supply of services and is liable for payment of GST. Moreover, GST regime does not subsume Stamp Duty and Registration charges.
4. On 7<sup>th</sup> February, 2018, The Government ordered builders not to charge any GST from home buyers, as the effective GST rate on almost all affordable housing projects is 8% against which Input Tax Credit (ITC) is available. Moreover, builders can levy GST on buyers of affordable housing projects, only if they reduce the apartment prices after factoring in the credit claimed on inputs.

Table 2: Impact of GST on this valuable sector

<b>Particulars</b>	<b>Previous Indirect Tax Regime</b>	<b>Current GST System</b>
<b>Registration</b>	Centralized Registration in case of Service Tax with respect to PAN India contracts. (No requirement for obtaining State wise registration)	Decentralized Registration – all the delivery hubs or pick up centres must be registered. (Separate registration is necessary in each state for each legal entity)
<b>Presence of Entry Tax</b>	Yes	No
<b>Rate of taxes</b>	All the services were subject to service tax @ 15%.	Services are subject to CGST, SGST or IGST (18%) depending on the location of the contractual recipient.
<b>CENVAT credit in case of capital goods</b>	A service provider was not eligible to avail credit of CST paid on procurement of capital goods.	Credit is available against the taxes paid and thereby it helps reducing the overall cost burden of the client.
<b>CENVAT credit against ‘Rent a cab’ service</b>	Not Available	Available
<b>Invoicing</b>	No requirement of state wise issuance of invoice + details of invoice.	State wise issuance of invoice for each supply + details of invoice like registration no., tax amount, tax rate, HSN codes for goods, SAC code for services, place of supply, client’s address etc. are required
<b>Record Keeping</b>	No requirement for maintaining separate state wise records.	Separate accounts for each state or business verticals having separate GSTIN are required.
<b>Audit</b>	No requirements for the assessee to get his accounts audited.	Here audit is compulsory for the assessee and separate audit is needed for each registration.

Table 3: GST Rate For Real Estate Input Materials

HSN	Description of Materials	Rate
Chapter 72	Steel	18%
2523	Cement	28%
6802	Marble and Granite	28%
2515	Blocks of Marble and Granite	12%
Chapter 68	Sand lime bricks and fly ash bricks	12%
2505 and 2517	Natural sand, pebbles, gravel	5%
8428	Lifts and Elevators	28%

*Comment:* On the basis of above data as depicted in Table 3, maximum inputs are lying within the tax bracket of 18% to 28%. Steel products bears 18% and Cement and Prefabricated Structural Components for building and civil engineering carry 28% tax burden. But, since ITC is available on products utilised for construction, the overall tax incidence should remain neutralised. Little change in GST regime does not have much impact on Construction and Real Estate sector.

*Impact on Automobile Sector:*

The Indian automobile industry is considered as one of the largest industry in the world. This industry contributes 7.1% of the country's total GDP. Before GST, this sector had been suffering from the burden of high tax rates while Central Excise Duty ranging between 12.5% to 30% coupled with multiple cesses. To remove this burden, the Government should have necessarily taken some steps and thereby GST was introduced. Impact are as follows:

1. It is customary that advance is to be taken by the dealer at the time of booking the vehicles. Earlier, VAT was not charged on such advance as the same was payable at the time of sale of such vehicle. But now GST is to be payable on such advances. Point of taxation is the receipt of advances.
2. In the case of Inter-state trade, GST is payable on transfer of vehicles to other premises. It may block the working capital as the taxes is to be paid from own funds and tax will be collected at a later date only when such goods are sold.
3. In pre GST era, automobile dealers cannot avail ITC on the following items like:
  - CST paid on purchase of vehicle, spares, accessories etc.
  - CVD paid on imported spares, accessories etc.
  - SBC paid on input services
  - Reversal of proportionate CENVAT Credit of Service tax due to trading activity.

But now, all the above duties or taxes are subsumed to GST and hence the dealer can get the advantage of availing ITC.

*Comment:* Due to application of GST, overall cost gets reduced but working capital requirement gets increased from the viewpoint of dealer. Moreover Automobile dealers charge amounts for sale of vehicles and also for different ancillary services such as insurance, logistics, accessories, registration etc. It is imperative for the industry to realise whether this transaction is to be classified as "Composite Supply" or as a "Mixed Supply" so that GST can be charged accordingly. Besides that GST brings easy credit mechanism so that all the taxes on input services or taxes on capital goods or taxes on manufactured products can be set off against the output liability of GST.

### *Impact on Agriculture Sector:*

As of now, Agricultural sector is the largest contributing sector towards overall Indian GDP (around 16%). GST affected this sector also. The impact is as follows:

1. In GST regime, fertilizer is taxed @ 12% [Earlier it was 6% (1% Excise and 5% VAT)]. Impact is negative as it would increase the cost of the product.
2. Improvement in logistics sector due to GST helps in easy transportation of Agricultural goods and thereby improving the market growth.
3. Dairy farming, Poultry farming are kept out of the definition of agriculture. So these are taxed under GST. Earlier 2% VAT was charged on milk and certain milk products. But now GST rate of fresh milk is nil, skimmed milk @ 5% and Condensed milk @ 18%.

*Comment:* GST does have average impact on this sector. Increase in tax rate might increase the overall cost but continuous availing ITC, ease of transportation may have positive impact on this sector.

### **Conclusion**

Prior to the implementation of GST, the perception of the Government was that it would have undoubtedly have favourable impact on all the sectors from the viewpoint of Govt. as well as consumers. And another motto was to establish the transparency of the overall system. But based on the above analysis, we can conclude that GST does not have positive impact on all the sectors from the view point of the consumers but for sure it will help to make the system clear, transparent and thereby generate more revenue to the Government as compared to earlier taxation system.

### **Recommendations**

The Government should look after the following matter:

- Improvement of proper infrastructure
- Reduction of tax rate in necessary commodities
- Easy compliance
- Proper training of the GST practitioners
- Provision of proper time facilities
- Transparency in availing ITC.

### **References**

1. Bhowmik, G. (2016). Introduction of Goods & Services Tax (GST) in India: prospects and the road ahead. *The Management Accountant*, April 2016, Vol. 51, 19-26.
2. Datey, V.S. (2017). GST Ready Reckoner. 1<sup>st</sup> Ed. New Delhi: Taxmann Publications, April 2017.
3. Garg, Girish. (2014). Basic Concepts and Features of Good and Service Tax in India. *International Journal of Scientific Research and Management*, Vol-2 (2).
4. Garg, Keshav. R. (2017). GST Ready Reckoner. 3<sup>rd</sup> Ed. New Delhi: Bharat Publisher, 2017.
5. Gupta , S.S. (2017). GST Law & Practice. New Delhi: Taxmann Publications, 2017.
6. Kotwal, J. R. (2016). GST In India: An enrichment of indirect taxation system. *International Journal of Applied Research*, Vol-2 (4).
7. Kumar, Raj. (2016). Comparison between Goods and Services Tax and Current Taxation System :A Brief Study. *International Journal of Allied Practice, Research and Review*, Vol-3 (4).

8. Subramanian, P.L.(2017). Guide to GST. 3<sup>rd</sup> Ed. Mumbai: Snow white Publications, April 2017
9. Subramanian, P.L . (2017). Guide to GST. 3<sup>rd</sup> Ed. Mumbai: Snow white Publications, April 2017
10. Thowseaf, M.Ayisha Millath (2016). A study on GST implementation and its Impact on Indian Industrial Sectors, International Journal of Management Research & social Science, April-June 2016, Vol-3 (2), 27-30.
11. Vasanthagopal, R. (2011). GST in India: A Big leap in the indirect taxation system. International Journal of Trade Economics & Finance, April 2011,Vol. 2 (2).

COM/FIN/4

## Prospects and Financial Constraints of Indian Manufacturing Firm

Priyata Chaudhury

Assistant Professor, Department of Commerce, J.D. Birla Institute, Kolkata;  
[priyatamother@gmail.com](mailto:priyatamother@gmail.com)

### Abstract

*Heterogeneity in firms' financing patterns has attracted a great deal of attention in research on financial markets, one important implication of a higher cost of external funds is that investments would be constrained by the availability of internal funds, which in turn varies according to the relative exposure of firms to international markets. This paper is an attempt to analyze that firms with accessibility beyond the national boundaries, that is with a distinct ability to cater to international markets, rather than size of the firm is the relevant criteria for distinguishing firms, that may be categorized into 'financially-constrained' from those that are not. An empirical analysis with Panel Dataset Analysis and critical financial ratio analysis of database of six manufacturing firms in India comprising of secondary data containing time series information for a period of four years from 2013 to 2016, on financial performance from income – expenditure statements, balance sheets, details from the annual reports and other financial statements of firms which are listed on various stock exchanges in the country, suggest that suppliers of funds in India use the firm's export competitiveness as a signal of the strength of the firm, and that exporting firms are less constrained by the availability of internal funds than firms which sell primarily to domestic markets. The results suggest that while issues of asymmetric information and agency costs are also of relevance to investment decisions of firms of developing countries like India, the pattern in which finance constraints exhibit themselves in developing countries may be specific to the institutional orientation of the firms especially the exposure to international markets.*

**Keywords:** Export orientation, Information asymmetry, International Markets, Sources of Fund

### Introduction

Investment, finance, availability of loanable funds, and investment expenditures are the pillars of firm financing. Funds available for loan exhibit a positive relationship with investment expenditures, as it is the surplus funds available after meeting the operating and financial expenditures.

The cost of internal finance is much lower than the costs of external finance ,the insiders being aware of the firms' financial prospects ,whereas for the outsiders distinguishing the quality of a firm at times poses challenges. The constraining factor therefore lies in the funds available for investment in case of firms with low information costs. However in developing nations the governmental intervention in matters related to certain firms and sectors at times hinder the financial markets to function effectively.

Through this study an investigation is conducted into the presence of finance constraints on firms' investment behavior using Indian manufacturing as a case study. Under the trade regulations prior to 1991, protection was automatically extended to all industries, regardless of cost, efficiency and comparative advantage,

market determined investment decisions being affected, compared to the other countries who banked on opportunity cost to determine financing and investing decisions. A protection to the indigenous industries was provided by imposition of higher tariffs across the borders which hindered them in operating in a condition of perfect competition. This also inturn discouraged the organizations to engage in export competitiveness due to the the high profitability they enjoyed catering the domestic market. All these factors made the industrial sector largely inefficient.

Post 1991 however industrial licensing was abolished and quantitative controls on capital and intermediate goods were virtually abolished and import duties reduced. Impetus was given to the market forces governing financial decisions after the control on lending rates of banks and lending institutions were lifted subsequently. Economic and market reforms post 1991 had largely substituted imports with indigenous products, banks and other financial institutions started enjoying considerable freedom regarding whom to lend and how much to lend, as did the manufacturing sector regarding investment and capital structure decisions. The analysis covers six manufacturing organizations belonging to different industries and data from the recent past, that is from 2013 to 2016 is investigated in detail.

### **Review of Literature**

Lack of uniformity in the financing patterns of organizations has attracted research into the field of firm financing and capital structure decisions. Traditionally the debt and equity decisions were considered keeping in mind the relative cost and benefits of these two broad sources of finance. The modern financial concept is of the view that internal and external funds are not perfect substitutes for each other due to asymmetric information between the suppliers and users of funds and incentive problems between managers and owners of the firm. Transaction costs and extent of information asymmetry contribute to the cost differentials.

Recent theories of investment do away with the assumption of perfect markets and holds information asymmetry and costs associated with it to be of prime importance. Considering a situation where information costs are high; that is, a situation where the quality and possibly the amount of information about profitable investment opportunities are different between firm insiders and outsiders. Such a situation arises due to the difficulty faced by the firm insiders to communicate the true prospects and profitability of investment to the outsiders and also the higher incentives associated with using the internal finance for investment purposes.

In most cases it has been found that the small firms suffers from financial constraints due to complexities in accessing bank as well as market finance .While the larger firms can depend on the lenders as it can offer collaterals sufficiently against the loan amounts. In the Indian context however the difference between external finance of small and large firms may not be as significant as that of the developed countries, as the larger firms with higher amount of fixed assets may not be liquidated immediately on bankruptcy due to the absence of an organized market for such assets or poor bankruptcy laws.

In the Indian context the more appropriate distinguishing attribute for lenders is the outward orientation or the capacity of the firms to survive the competition prevalent in international markets. With the liberalization of economy the domestic firms

protected from international competitors by import barriers and high tariffs needs to produce high quality output to survive competition.

### **Methodology**

An empirical analysis with Panel Dataset Analysis and critical financial ratio analysis of database of manufacturing companies in India comprising of secondary data containing time series information for a period of four years from 2013 to 2016 on financial performance from income – expenditure statements, balance sheets, details from the annual reports and other financial statements of firms which are listed on various stock exchanges in the country. Industry type such as sugar producing industries, textiles and cement industries are taken into consideration. From each industry two firms are selected one of the firms being more export oriented than the other firm which primarily caters to domestic markets. A comparison is drawn between the financial ratios. Such secondary data is analyzed with the help of charts to conclude the trend that firms that undertake appreciable export activities display a better position in terms of investment and profitability figures. In the Charts used for pictorial representation 1, 2, 3, "4," denote the years 2016, 2015, 2014 and 2013 respectively.

### **Results & Discussion**

The higher the asset turnover ratio, the better the company is performing, since higher ratios imply that the company is generating more revenue per rupee of assets. The asset turnover ratio tends to be higher for companies in certain sectors than in others. Retail and consumer staples, for example, have relatively small asset bases but have high sales volume and, thus, often yield the highest asset turnover ratio.

A higher debt-to-equity ratio typically shows that a company has been aggressive in financing its growth with debt, and there may be a greater potential for financial distress if earnings do not exceed the cost of borrowed funds.

The net profit margin, also known as net margin, indicates how much net income a company makes with total sales achieved. A higher net profit margin means that a company is more efficient at converting sales into actual profit.

The above mentioned ratios for each of the manufacturing concerns from 2013 to 2016 is presented in tables ,comparison and interpretation between the selected two firms from each industry type is made with the help of line charts.

Table 1: Dalmia Sugar

Particulars	2016	2015	2014	2013
Debt Equity Ratio	1.90	1.79	1.64	1.67
Total Assets turnover Ratio	0.80	0.91	0.99	0.83
Net Profit Margin(%)	5.01	0.12	0.25	1.83

Table 2: Andhra Sugar

Particulars	2016	2015	2014	2013
Debt Equity Ratio	0.33	0.52	0.41	0.38
Total Assets turnover Ratio	0.94	0.92	0.92	1.15
Net Profit Margin(%)	5.33	0.43	7.51	8.99

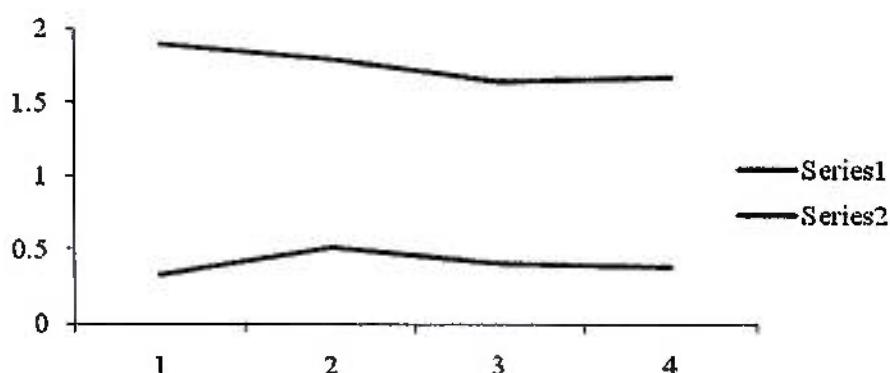


Figure 1: Comparison between Debt Equity ratio of Dalmia Sugar and Andhra Sugar

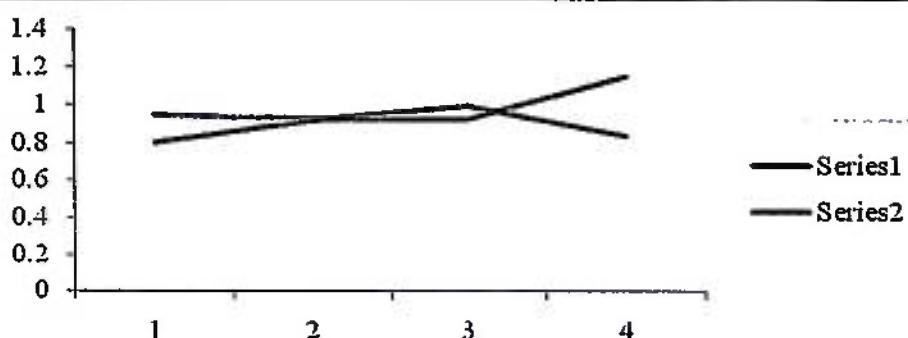


Figure 2: Comparison between Total Assets turnover Ratio of Dalmia Sugar and Andhra Sugar

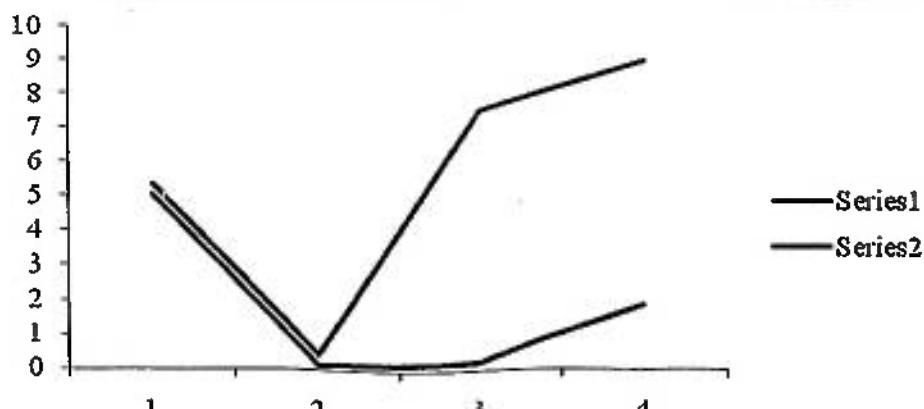


Figure 3:Comparison between Net Profit Margin (%) of Dalmia Sugar and Andhra Sugar

Andhra Sugar in comparison to Dalmia Sugar has been expanding its export foray into countries like USA, Mexico, Spain, Romania and Bulgaria. As is evident from the stark rise in Net Profit Margin(%). Even the total asset turnover in the year 2013, remains appreciably higher. On Analysis of the Debt Equity Ratio Chart it can be seen that the presence of debt in comparison to Equity is lower for Andhra Sugar indicating much of its capital being funded internally by owners, retained earnings. On the other hand Dalmia Sugar needs to borrow more external funds.

Table 3: Adinath Textile

Particulars	2016	2015	2014	2013
Debt Equity Ratio	0.02	1.28	2.19	3.11
Total Assets turnover Ratio	0.95	0.36	0.37	4.07
Net Profit Margin(%)	19.07	35.85	23.32	7.91

Table 4: Arrow Textiles

Particulars	2016	2015	2014	2013
Debt Equity Ratio	0.13	0.34	0.24	0.67
Total Assets turnover Ratio	1.30	1.18	1.31	1
Net Profit Margin(%)	10.81	9.87	8.53	8.07

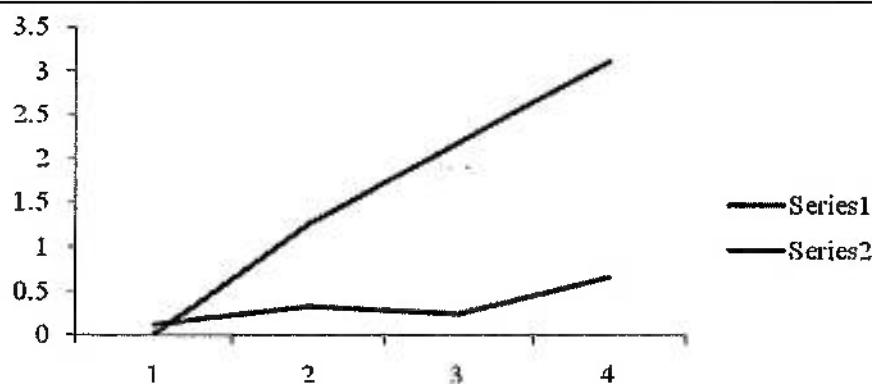


Figure 4: Comparison between Debt Equity ratio of Adinath Textile and Arrow Textiles

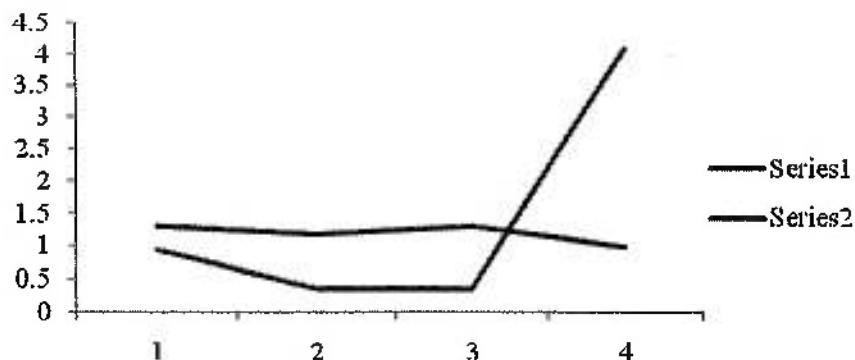


Figure 5: Comparison between Total Assets Turnover Ratio of Adinath Textile and Arrow Textiles

Adinath Textile has exhibited better export capacity than Arrow Textiles by exporting yarn to Bangladesh, Hong Kong and Middle Eastern Countries .It caters to the international markets by producing bags, slings, fabric, clothing and so on. The Net profit Margin(%) chart shows a noticeable difference between the net profit of the two firms, Net Profit Margin(%) of Adinath Textile being consistently higher. The total Assets Turnover Ratio had a marked difference in the year 2013 however it declined appreciably in case of Adinath Textile. The Debt Equity Ratio chart indicates higher debt content in Adinath Textiles displaying its credit worthiness to the external

lenders. However Arrow Textiles has been able to fund its operations and liabilities from its internal funds.

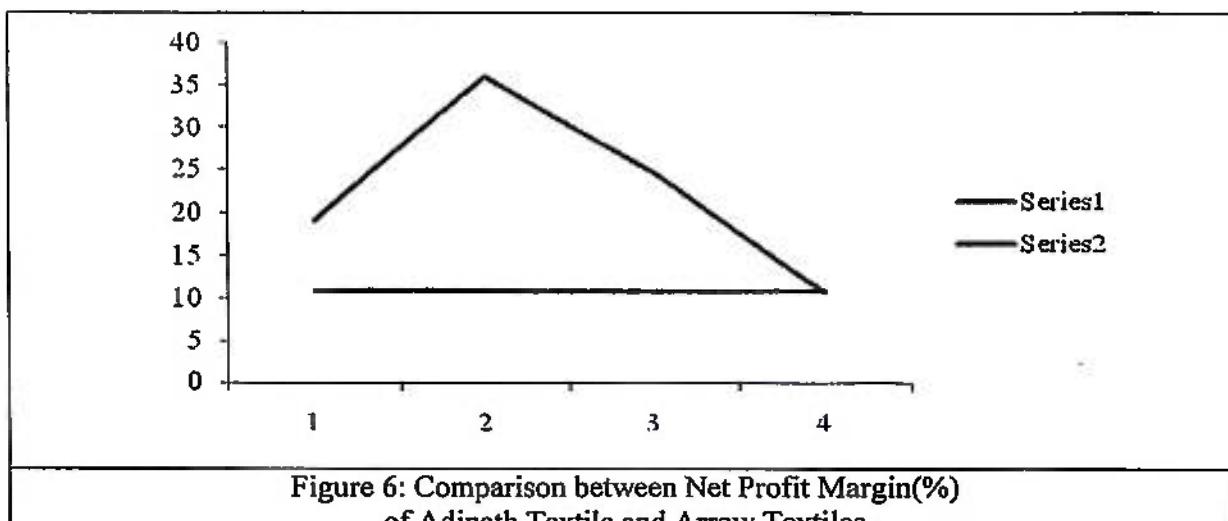


Figure 6: Comparison between Net Profit Margin(%)  
 of Adinath Textile and Arrow Textiles

Table 5: Sagar Cement

Particulars	2016	'2015	2014	2013
Debt Equity Ratio	0.32	0.35	0.74	0.64
Total Assets turnover Ratio	0.85	0.82	1.17	1.28
Net Profit Margin(%)	8.00	51.54	-5.23	1.57

Table 6: Ultra Tech Cement

Particulars	2016	'2015	2014	2013
Debt Equity Ratio	0.23	0.35	0.28	0.29
Total Assets turnover Ratio	1	0.91	0.93	1.03
Net Profit Margin(%)	9.02	8.78	10.57	13.15

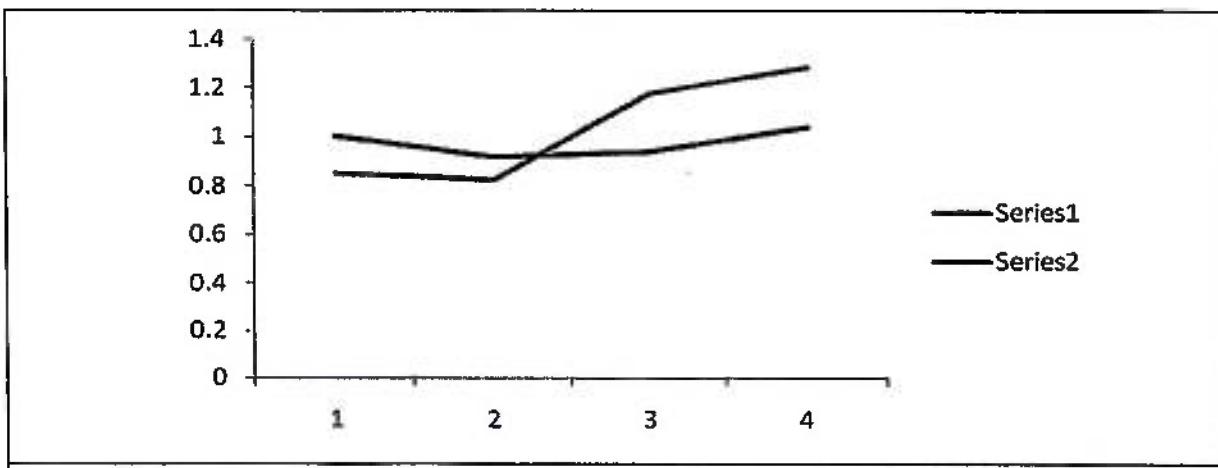


Figure 8:Comparison between Total Assets Turnover Ratio of Sagar Cement and UltraTech Cement

UltraTech Cement has 18 integrated plants, 1 clinkerisation plant, 25 grinding units in India and 7 bulk terminals. Its operations span across India, UAE, Bahrain, Bangladesh and Sri Lanka. UltraTech Cement is also India's largest exporter of cement .Although the pictorial re presentation in the Line Charts suggest otherwise analysis of the data reveals the Net Profit Margin for export oriented UltraTech Cement is more consistent than that of Deccan Cements whose export has hit the rock

bottom. It had registered negative net profit margin in one of the years. The Debt content in capital structure is more for Sagar Cements.

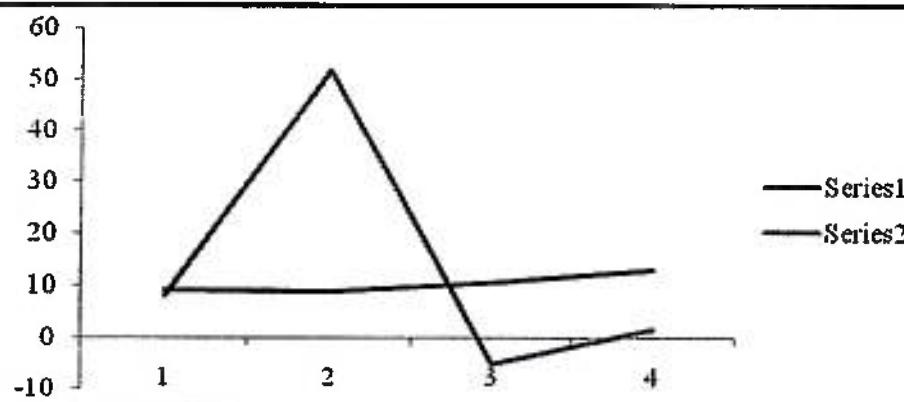


Figure 9:Comparison between Net Profit Margin(%) of Sagar Cement and UltraTech Cement

### Conclusion

The presence of asymmetric information and agency costs in financial markets may cause some types of firms to be constrained in their investment decisions by the availability of internal funds. It has been put forward within the limited scope of this paper that firm size may not be a meaningful criterion in developing countries, particularly those that have significant restrictions on the smooth functioning of asset markets and on the bankruptcy process.

An alternate criterion has been proposed – whether a firm is competitive in international markets – arguing that outward-oriented firms would be less financially constrained than firms which produce mostly for domestic consumption, particularly in a newly liberalizing economy. This hypothesis is tested for the Indian economy, which has witnessed significant market-oriented reforms since 1991. There is strong support for the hypothesis that the firm's export competitiveness is a signal of the strength of the firm, and that exporting firms are less constrained by the availability of profit and funds than firms which sell primarily to domestic markets. The results suggest that while issues of asymmetric information and agency costs are also of relevance to investment decisions of firms of developing countries, the specific manner in which finance constraints manifest themselves in developing countries may be institutionally determined and context-specific. From a policy perspective, the results suggest that the enabling environment may already be in place in the Indian financial sector for exporting firms to obtain the external funds they require for their investment purposes and generate substantial profit thus, compete successfully in world export markets, investment being an important determinant of firm competitiveness.

### References

1. Anant, T.C.A. and O. Goswami, 1995, Getting Everything Wrong: India's Policies Regarding Sick Firms, D. Mookherjee (ed.), Indian Industry: Policies and Performance, New Delhi: Oxford University Press, 236–88.
2. Aivazian, V., (1998), Microeconomic Elements and Perspectives From Finance Theory, in J.M. Fanelli and R. Medhora (eds.), Financial Reform in Developing Countries, Basingstoke: Macmillan.
3. Athey, Michael J. and P.S. Laumas, Journal of Money, Credit and Banking, 20 (3), pp.559–88.
4. Harris, John R., F. Schiantarelli and M.G. Siregar, 1994, The Effect of Financial Liberalization on the Capital Structure and Investment Decisions of Indonesian Manufacturing Establishments, World Bank Economic Review, 8, (1), 17–47.
5. Hermes, N. and R. Lensink, 1998, 'Banking Reform and the Financing of Firm Investment: An Empirical Analysis of the Chilean Experience, 1983–92, The Journal of Development Studies, 34(3),27–43.
6. Hubbard, R. Glenn, 1998, 'Capital-Market Imperfections and Investment', Journal of Economic
6. A.Ganesh-Kumar K. Sen & R. Vaidya (2001) Outward Orientation,Investment and Finance Constraints: A Study of Indian Firms, The Journal of DevelopmentStudies, 37:4, 133-149,

COM/FIN/5

## The Standing of Extraordinary Items in today's Indian Accounting Context: A Study with Special Reference to Ind AS 1

Tanmayananda Chattaraj<sup>1</sup> and Namrata Roy<sup>2</sup>

<sup>1</sup>Assistant Professor, Accounting and Finance, St.Xavier's University, Kolkata

<sup>2</sup>MCom, Student, University of Calcutta, Kolkata

### Abstract

*Indian Accounting Standards (Ind ASs) have evolved as a compromise formula that tries to harmonies Professional Accounting Standards earlier prevailing in India with IFRS. Ind ASs has not just changed the way entities present their numbers but has also bumped up profit/loss of the entities.*

*One of the many notable instances where a material departure is noted in terms of accounting policy from the erstwhile Accounting Standards is "Extraordinary items." As per AS 5, the nature and the amount of each extraordinary item should be disclosed in the statement of profit and loss in a manner that its impact on current profit or loss can be perceived. This practice has now been rendered redundant by the pronouncement of Para 87 of Ind AS 1, which states that, "an entity shall not present any items of income or expense as extraordinary items, in the statement of profit and loss or in the notes."*

*The primary focus of this rather descriptive and inquisitive research endeavour is to assess the nature of extraordinary items, the frequently infrequent activities that qualify as non-operational extraordinary items in light of the millennium, and to explore its standing vis-à-vis "Exceptional Items," which are still allowed to be presented as an integral part of the Statement of Profit and Loss.*

*The paper further attempts to find a feasible solution to the problem surrounding the treatment of Extraordinary Items, well within the bounds of Ind AS, and in keeping with the economic realities of events qualifying as such.*

### Introduction

The introduction of Ind AS has brought about sea changes in the directions and methodologies in the Indian Financial Accounting and Reporting scene. One of the significant items impacted as a result is the area dealing with the reporting of Extraordinary Items in the Statement of Profit and Loss (hereinafter referred interchangeably with "Revenue/Income Statement").

Para 87 of Ind AS 1 entitled "Presentation of Financial Statements" states the following- "An entity shall not present any items of income or expense as extraordinary items, in the statement of profit and loss or in the notes."

This is in contrast with the guidelines given in AS 5 which expressly allows the disclosure of extraordinary items in the statement of profit and loss so that its impact on current profit or loss can be perceived.

An entity, being a part and parcel of the social and economic world, is exposed to uncertainties that the world presents before its components. The intricacies of the economic façade of the world of business are numerous. Ranging from Earthly and National Disasters through man-made calamities to socio-political and legal litigations, an entity is almost never immune to the possibilities of Extraordinary events.

This paper searches for a feasible solution to fill the void felt in addressing the accounting concern that arises in this context; "How to report Extraordinary Items in the entity's Financial Statements?"

### **Objectives of the Study**

- The primary purpose of this study is to analyse and draw a clear demarcation between Extraordinary Items, Exceptional Items, and Operating Items in Accounting Context.
- Furthermore, in the backdrop of pronouncements made by the Accounting Standards Board (ASB) vide Ind AS 1, an attempt shall be made to find a feasible solution to the research question that is being dealt with.
- Such an answer, if found, shall only be in a recommendatory capacity, and used as a reference point in further potential research undertakings

### **Methodology**

The paper is based strictly on descriptive and analytical research. No quantitative or econometric models have been used in carrying out this research. The data used for research is wholly and exclusively and secondary in nature and style, collected from documents and other resources available in the Internet.

#### *Relevant Definitions*

*Operating Activities:* Activities which form a part of the primary reason for existence of an entity, and those activities which may be considered incidental or ancillary to the business's primary reason for existence.

*Exceptional Items:* Items which as per management's judgment are material items arising from the events or transactions that fall within the ordinary activities of the group and which individually, or if of similar type in aggregate need to be disclosed by virtue of their size or incidence (Ganesh)

*Non-Operating Activities:* Activities which are outside the core operating activities of a business. Non-operating activities are more likely to be an one time event.

#### *Analysis of Extraordinary Items vis-à-vis Exceptional Items*

Extraordinary items represent income or loss from extraordinary events and transactions that must be separately classified, presented and disclosed on companies financial statements. Before the application of IND AS, companies put a lot of effort into determining if a particular event should be deemed extraordinary. They had to be shown separately after income from operating activities. However with the application of Ind AS the concept of extraordinary items is eliminated to reduce the cost and complexity of the financial statements.

Extraordinary items are different from Exceptional items in the sense that Extraordinary Items do not fall within the purview of items to be considered "normal" or frequent in the entity's context, e.g. Damages incurred as a result of an

Earthquake or any other natural calamity, or Attachment of a Property as the consequence of a legal suit; whereas Exceptional Items in the other end of the spectrum, are well within the scope of activities to be regarded as "ordinary" but infrequent, e.g. Gain on disposal of Non Current Assets.

Some knowledgeable accountants are of the opinion that the context of elimination of the disclosure of Extraordinary Items as a part of Financial Statements has brought about the need to change the nomenclature of items erstwhile considered as "Extraordinary Items" and rename and reclassify them into one umbrella in the nature of a single connotation, i.e. Exceptional Items. (Fazal, 2011)

However, considering the variation in nature of events that qualify as "Extraordinary Items" from those qualifying as "Exceptional Items," such a proposition can be considered contrary to the pronouncement of Ind AS, which clearly calls for the separate disclosure of "Exceptional Items" in the Statement of Profit and Loss.

*The need for separate disclosure of Extraordinary Items:*

The rationale behind accounting for extraordinary items separately is to prevent once in a lifetime events from skewing a company's regular earnings. Most analyst and investors add extraordinary items back to the company's reported net gain to get a sense of company's actual profitability scenario. However not all investors exclude extraordinary items from their calculation thus resulting in misleading P/E ratio. Thus extraordinary items give companies some leeway, allowing them to sometimes report lower earnings but great credit for higher earnings. This is certain to have consequences of information asymmetry, and would potentially lead to mispricing of securities in the Capital Market.

Also, the Generally Accepted Accounting Principle (GAAP) of "Materiality" and the Qualitative Characteristic of "Completeness" as well as the need for "true and fair view of the state of affairs of an entity" calls for such segregation.

This very view is supported by the interpretation of Para 86 of Ind AS 1 which itself states-

"Because the effects of an entity's various activities, transactions and other events differ in frequency, potential for gain or loss and predictability, disclosing the components of financial performance assists users in understanding the financial performance achieved and in making projections of future financial performance... An entity considers factors including materiality and the nature and function of the items of income and expense."

As a result, the need for separate accounting and disclosure of "Extraordinary Items" can be clearly felt.

## **Results & Discussion**

From the trailing paragraphs, the need for treating "Extraordinary Items" separately, and their full and adequate disclosure is evident. It is also evident that the reclassification of Extraordinary Items as Exceptional Items would be an exercise that could lead to misinterpretation of information in Financial Statements, and would leave room for error in making "informed judgments,"

thereby impairing and defeating the purpose of preparing Financial Statements for users of Financial Statements.

Considering the above, what can be suggested in the absence of any clear instruction in the set of Accounting guidelines in Ind AS is the disclosure of such Extraordinary Items as non-revenue and a part of "Other Comprehensive Income," where revenues of Extraordinary nature would be regarded as positive entries, and losses arising as a result of Extraordinary Activities would be regarded as negative entries in the Statement of Other Comprehensive Income (OCI).

Since Para 87 also expressly disallows the disclosure of Extraordinary items "in the notes,"

such items may well be disclosed in the face of the Statement of Other Comprehensive Income.

This would help in the clear segregation of Extraordinary Items from Operating Activities. Later on, such Extraordinary Items, if causing a gain (a rare phenomenon), such Extraordinary Items can be used to write-off any Extraordinary Item causing a loss to the entity, or any other item forming a part of the Statement of OCI, that cannot be reclassified as items to be amortized in the Revenue Statement in later accounting periods. On the contrary, if such Extraordinary Items give rise to a loss, such losses should be carried forward to be wiped off against any potential gain from any other Extraordinary Development in the entity, or any other item forming a part of Statement of OCI that cannot be reclassified as a revenue in the Statement of Profit and Loss in later accounting periods.

## References

1. Fazal, H. (2011). What is the difference between Exceptional item and Extraordinary item? Retrieved from Pak Accountants: <http://pakaccountants.com/what-is-the-difference-between-exceptional-item-and-extraordinary-item/>
2. Ganesh, B. (n.d.). AS-5. Retrieved from <http://www.icaiknowledgegateway.org/littledms/folder1/as-5-net-profit-or-loss-for-the-period-prior-period-items-and-changes-in-accounting-policies.pdf>
3. Ind AS 1: Presentation of Financial Statements. (2015). Retrieved from Ministry of Corporate Affairs: <http://mca.gov.in/Ministry/pdf/INDAS1.pdf>
4. Sussman, A. B., & Alter, A. L. (2012). The Exception Is the Rule: Underestimating and Overspending on Exceptional Expenses. *Journal of Consumer Research*, 39(4), 800-814. Retrieved 4 3, 2018, from <http://jstor.org/stable/10.1086/665833>

COM/GM&E/1

## Demonetization: An Enemy for Real Estate

Amit Kumar Das<sup>1</sup> & Shubhasmita De<sup>2</sup>

<sup>1</sup>Lecturer, Victoria Institution (College), Kolkata;  
akd9786@gmail.com

<sup>2</sup>Lecturer, Victoria Institution (College), Kolkata;  
shubhasmitade@gmail.com

### Abstract

*On 8<sup>th</sup> November, 2016 the present government has taken an initiative to remove the black money, fake currency circulation and terror financing movement from the Indian Economy by withdrawing currency notes having denominations of Rs. 500 and Rs.1000. It is considered to be one of the most debatable issues of the Indian Economy in recent times. Due to this demonetization policy Indian Economy got hurt with RBI itself as growth forecast for the fiscal has come down from 7.6% to 7.1%. It is to be believed that for this slow growth; few sectors got affected on which real estate sector is the huge one. Some people have welcomed this move and expressed their concern for real estate market.*

*The Indian Real Estate sector is one of the most challenging sectors when it comes to sale and overall growth. So, in this paper an attempt has been made to understand the impact of demonetization on sales and growth of this most watched and sensitive sector of the Indian Economy i.e. real estate. Moreover, we have also tried to show the long-term effect of 'Notebandi' policy on this particular business.*

**Keywords:** Black Money, Demonetization, RBI, Real Estate, Gross Domestic Product (GDP), Growth, Sale

### Introduction

Real Estate sector can be described in business terms as buying and selling of Properties (Residential and Commercial) consists of Land and Buildings and other resources attached to it. This sector went through various ups and downs from Post-Independence era to Post – Recession era (The 2000s), but still be the second largest employment generator and leading GDP contributor in the Economy.

Government of India announced demonetization of the high value currencies of 500 and 1000 with an objective to remove the black money and to curb the corruption, counterfeit currency as well as terror funding. This decision is claimed to be most important step towards removal of black money from Indian economy whose benefits expected to be enjoyed in the long run. However, the impact of this sudden move is causing major cash crunch in the economy affecting daily transactions of the common man and businesses. According to the views of various analysts, experts and scholars the impact of demonetization estimated 0.5% - 3% on the Gross Domestic Product (GDP) of the country in the current financial year 2016-17.

According to RBI, banks have received almost 13 lakh crores in old 500 and 1,000-rupee notes up to December 10, 2016. Meanwhile, the banks have issued new currency notes valued at 5, 92,613 Crore to the public over their counters and through their ATMs (between 10th November – 19th December 2016. In this period, the RBI has issued to the public through the banks and their branches a total of 22.6 billion

pieces of notes of various denominations of which 20.1 billion pieces belonged to small denominations of 10, 20, 50 and 100s and 1.7 billion belonged to higher denominations of 2000 and 500.

It has been observed that money deposited and money withdrawn has a deficit of 7,07,387 Crore in the system which in the present situation is causing immense cash crunch in the economy ultimately affecting the day to day requirements of people and businesses across the country.

From this Demonetization an immediate effect has been seen on the capital intensive Real estate sector. This sector is one of the booming markets in the country especially in the Urban and semi urban area which gives contribution of 11% in GDP. Large amount of Cash Transaction is involved in this sector. So, this demonetization scheme has affected in the real estate sector multiple ways. Due to this '*Notebandi*', the price of the land has come down at the initial point which may directly benefitted the common man but affect hugely to the seller of the property. This is the sector which has been hit hardly due to this policy as huge amount of cash transactions involved in this sector. It has been assumed over the next six months the real estate sector will face growth challenge and in particular hurt discretionary spend on real estate purchase. Not only that, due to less demand of property and high amount of cash transactions in rural areas a downward pressure on price can be seen which is going to negatively affect this sector.

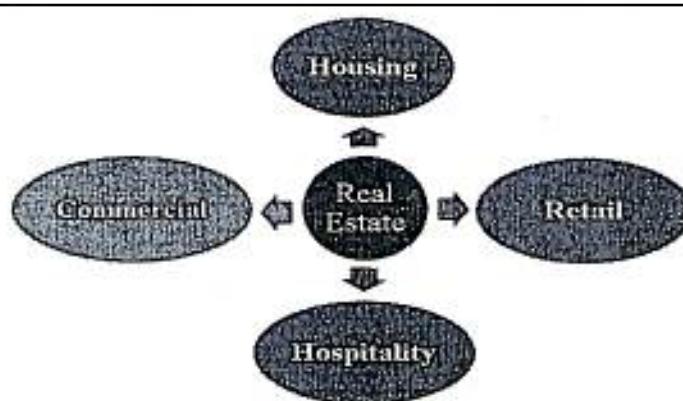


Figure 1: Showing the distribution of Real Estate Sector

## Review of Literature

For the purpose of the study, we have done some literature review which can be summarized as follows:

Singh (2016) confronted that this step of present government to demonetize the currency will create disorder in lives of millions of poor people as cash is the base of their livelihood.

Charon Singh (2016), RBI chair professor said that this step will result in positive and negative impacts on the society. He concluded that this will also bring up India's rank as it reflects that our country is against corruption and wants to eradicate it. Moreover, the output in agriculture and many more industries was reduced due to scarcity of cash.

Patil (2016) commented that due to demonetization the credit cost dropped quickly which led to increase in raising money for investment purpose. As Rs 500 and Rs1000 notes were declared invalid people were forced to deposit their currency in banks to

get it changed with new currency notes. Thus, they were able to raise loan to be used for investment in business.

Kumar (2016) mentioned that Demonetization is an act of declaring currency as not valid wherein old notes are withdrawn and replaced by new currency notes. The act of demonetization is not new in the history as it is being adopted by various countries. Ghana demonetized its 50 Cedi currency notes to check corruption. Myanmar demonetized 80% of its currency to track black money.

Singh (2017) provided that secondary market of the real estate business definitely got affected, considering the structure of the deals involved often take here. With scarcity of cash, a large corpus of buyers went off the market and sellers can do little but wait and the segment of primary market is effectively insulated from the currency ban. It was not expected to be affected, and in fact was no other than in terms of the initial confusion induced decline in sentiment.

### **Objectives of the Study**

The objectives of the paper can be presented as follows:

- To understand the immediate impact of demonetization on the sale volume of real estate.
- To understand whether the enemy effect of demonetization in real estate exists for longer period.

### **Methodology**

Research is a process of systematically obtaining accurate answers to significant and pertinent questions by the use of scientific method of gathering and interpreting information. This study is based on the secondary data i.e. financial information and data about the impact of demonetization taken from the Newspapers, Magazines etc. The study is focus on determining the impact of demonetization and analyses the change in trend of progress of the Indian industries after and before the demonetization of currency note in 2017.

### **Results & Discussion**

The term demonetization which has whipped the Indian Economy on 8<sup>th</sup> of November, 2016 has given major challenge to the real estate. From the mid of 3<sup>rd</sup> quarter of 2016, the real estate companies have witnessed a decline in Home sale of 35%. A Bengaluru based Real estate company Sobha Developers has explained the Company like DLF, Godrej, Oberoi Reality, Prestige Estate and Brigade has experienced a slash on cumulative account for Housing Sale by 25% in that respective quarter. As a result, the aggregate profit of these companies has come down over 20%.

The Chairman of Axis Capital has remarked that in the eve of Christmas and New Year no such contribution has been seen towards sale of real estate sector. An International Brokerage Fund mentioned that from first week of November to March, 2017, no company has launched any new project which results in decrease in Home Sale. In Post – Demonetization another effect has been seen that People have postponed the plan of purchase on the hope that the price of the property may come down in the near future and for that the immediate sale of post demonetization has got

hampered. Some builders have said that the demonetization does not affected their business as they have not decreased price of their property.

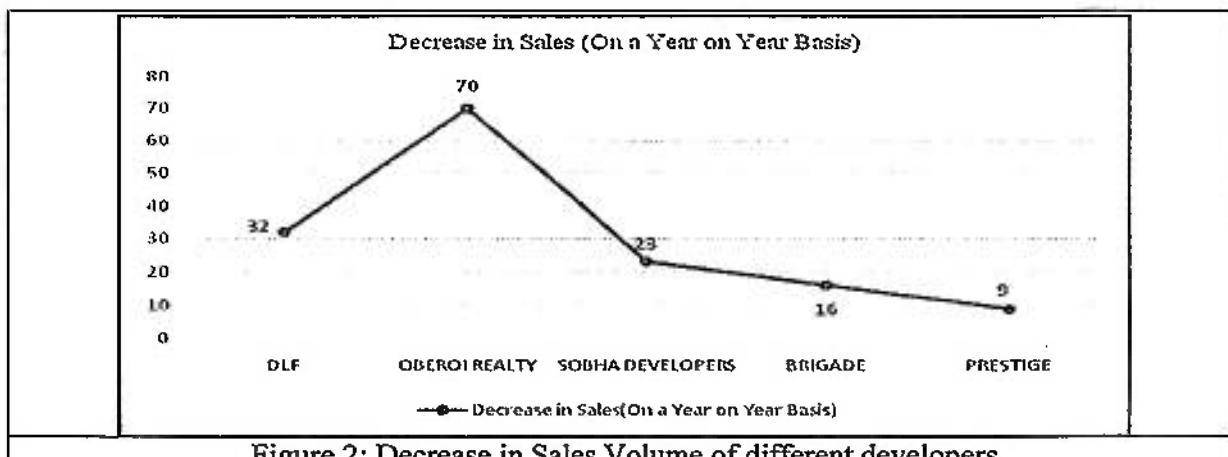


Figure 2: Decrease in Sales Volume of different developers

The secondary market indicates that price of the Housing Sector has fallen by almost 4% on an aggregate level as compared to 8<sup>th</sup> November, 2015. In fact, it also has been seen that there is drop of 11% in supply of new owners' property in Post – demonetization Period. And it has been found; some sellers who probably has high holding power deferred their decision of selling the property.

Sobha Developers, leading Real Estate Company, has suggested that, the property that cost less than 50 lakhs has seen a drop of 7% in supply volume whereas this percentage is 17 when price of the property is more than 1 crore, which as a whole discourages the fresh sellers to get entered in the market.

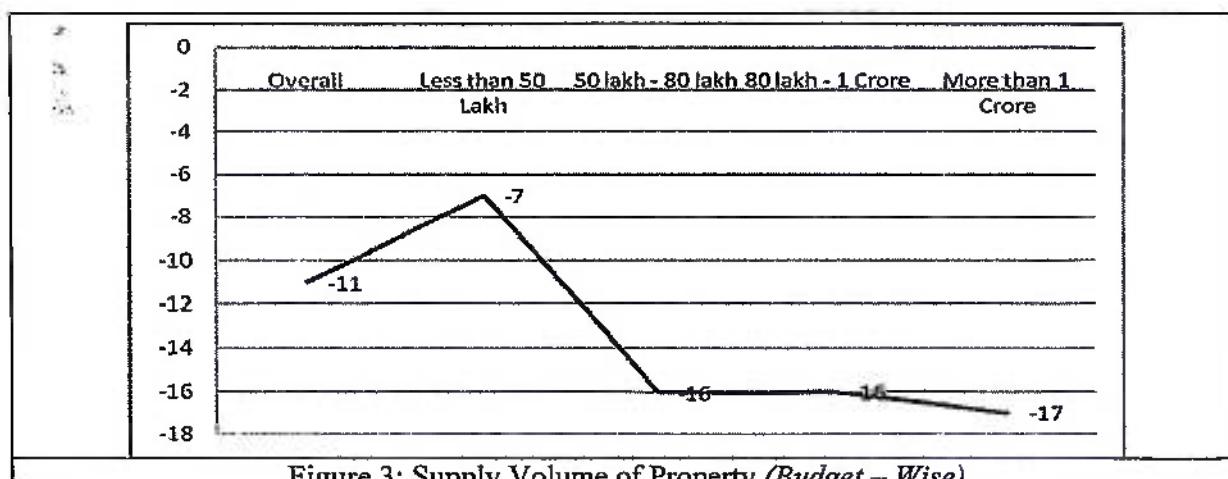


Figure 3: Supply Volume of Property (Budget – Wise)

Demonetization has shifted the mind of people from buying of a house to take a house on rent as huge level of cash crunch has been visible. They are deferring their purchase decision as they want to see that how the pricing or supply will get unfold. The people who belongs to this mentality is not less than 7%. Knight Frank's Samantak Das, has said that the resale market of property is under a tremendous pressure after the demonetization move.

There is no exception for The Kolkata Market regarding this downfall in the real estate sector. According to Global Real Estate Services Firm JLL, the Kolkata market had recorded a sale of 11,531 units between October, 2015 and September, 2016. But between October, 2016 to September, 2017, sale had crashed to 2,648 units and new launches were also down from 12,169 units to 3,581 units.

This demonetization has shifted the demand for three bed room apartments to two bed room apartment which has affected the size of the unit that get reduced to 7-8% that enable the developers in adjusting the cost hike without giving any impact on the Unit Price.

From the above discussion we have seen that the real estate sector has been going through challenging times for the past couple of years. The sector's importance cannot be neglected as it is the second-biggest employment generator after agriculture and it contributes around 5-6% to the country's Gross Domestic Product (GDP). Some major policies have been considered in the recent budget which includes -

- An announcement has been done to set affordable housing which will enhance the infrastructure status.
- The Government has affirmed its intention of constructing 1 crore rural houses by 2019
- Allocation to *Pradhan Mantri Awaas Yojana* increased from Rs. 15,000 Crore to Rs. 23,000 Crore.
- For affordable housing, the Carpet area of 30 and 60 Sq. meters will be applicable instead of built-up area of 30 and 60 Sq. meters
- Developers will get tax relief on unsold stock, as they will need to pay capital gains only in the year when the project is completed
- The National Housing Bank (NHB) will refinance 20,000 Crore loans.
- Fund allocation for development

From the above policies it is quite clear that the newly-granted infrastructure status builders of budget housing now have access to cheaper sources of funds. As per statistics, the shortage of housing currently stands at around 1.87 crore homes, and nearly 95% of the shortage is in the affordable segment. So, from it the developers can easily make focus more on launching projects in this segment, where maximum demand has been observed. All in all, developers - who were just a couple of months ago severely affected by demonetization, can now look forward for healthy growth and improved financial conditions. This will make a major effect on related industries, and on the overall economy.

Another point which can be considered is that after demonetization, there have been more speculation regarding reduction of interest rates and for that downward action has already been recorded. With more supply of funds in the hands of the banks, the rate of interests might fall further, making home loans more attractive. So, as a whole the consumer will get home at lower cost as builders will be able to pass on the savings accrued due to long-term finance at lower rates of interest.

### **Conclusion**

The demonetization process has created a larger impact on Real Estate Sector. Starting from the drop of sale to fluctuation in the rate of interest, the real estate sector has smelt a significant change for demonetization. The dealer of the property has faced some real challenges to meet up the requirements of the economy as a whole.

From our Analysis, a clear picture can be portrayed that the post demonetization has affected the sale volume so badly that the buyers has dropped their willingness to

buy and the sellers are also under depression. In pre-demonetization period the little stability which have seen in this sector gets completely hampered which not only affected the parties associated with it but also the other industries which are directly or indirectly related this kind of service sector. Some kind of disturbances has been felt in the real estate business at the immediate time of demonetization which was slowly got faded away as the time passed by.

The government has taken few policies which shows the path of improvement in the real estate sector so definitely in short term demonetizations was a curse or enemy of real estate but in long run a sign of upliftment can be visualized.

## References

1. ASA and Associates LLP. (2015). A brief report on real estate sector in India
2. CARE, R. (2016). Economic consequences of demonetization of 500 and 1000 Rupee Notes. Mumbai: Credit Analysis & Research Limited.
3. Chelladurai, M., and Sornaganesh V. (2016). Demonetization of Indian Currency and Its Impact on Business Environment. International Journal of Informative & Futuristic Research, 4(3), 5654-5662.-
4. Demonetization: Dissecting the impact on real estate sector. (2017). Retrieved from <http://taxguru.in/rbi/impact-demonetization-real-estate-india.html>
5. Impact of demonetization on Indian real estate (2016), Retrieved from <http://www.squareyards.com/blog/wpcontent/uploads/2016/12/Demonetization-Whitepaper.pdf>
6. Kumar, A. P. (2016). Demonetization and the Rule of Law. Economic and Political Weekly, 19-21.
7. Mali, V., (2016). Demonetization: A Step towards Modified India. International Journal of Commerce and Management Research, 2(12), 35-36.
8. Manohar Chowdhry and Associates. Demonetization Retrieved from [https://www.mca.co.in/images/Demonetisation\\_MCA.PDF](https://www.mca.co.in/images/Demonetisation_MCA.PDF)
9. Nautiyal, R., Kalra, G., & Jayati, S. (2017). Indian real estate sector
10. Patil, D. (2016, December 5). Fringe Benefit of Demonetization: Credit Cost Falls Sharply for India Inc. Retrieved December 13, 2016, from The Economic Times:<http://economictimes.indiatimes.com/markets/stocks/news/fringe-benefitofdemonetization-credit-cost-falls-sharply-for-india-inc/articleshow/55807934.cms>
11. Ramani, V. (2017). Demonetization impact on real estate worse than 2008 Lehman crisis? (2017).
12. Rani, G., (2016). Effects of Demonetisation on Retail Outlets. International Journal of Applied Research, 2(12), 400-401
13. Real Estate (2016). Retrieved from [www.idef.org](http://www.idef.org).
14. Singh, A. R. (2017, January 12). How Demonetization has impacted Real Estate. Retrieved March 12, 2017, from [www.morningstar.co.in](http://www.morningstar.co.in): <http://www.morningstar.in/posts/39098/impact-of-demonetization-on-real-estate.aspx>
15. The Impact of Demonetization in India, Squire Patton Boggs (2016).

COM/GM&E/2

## Role of Self-Help Groups in Empowering Rural Women for a better India: A Case Study on Selected SHGs in Purulia 1, Baghmundi and Santuri Blocks of Purulia District of West Bengal

Anwesha Tripathi<sup>1</sup> & Pritha Sen<sup>2</sup>

<sup>1</sup>M.Com Student, J. D. Birla Institute, Kolkata.

<sup>2</sup>Asst.Professor, J. D. Birla Institute, Kolkata;  
prithasen15@yahoo.in

### Abstract

*Women empowerment is a process in which women demurs existing norms to effectively promote their well being. The participation of women in Self Help Groups (SHGs) have made a significant impact on their empowerment as per the report of 137<sup>th</sup> State Level Banker's Committee Meeting in West Bengal, held on 7<sup>th</sup> September, 2017. The research attempts to study the impact of self help groups on rural women empowerment in Purulia district of West Bengal. The main objectives of the study were to understand the functioning and impact of Self Help Groups (SHGs) on poor women in the selected areas. The data was collected using both primary and secondary sources. Multistage random sampling technique was used to select a sample of 160 respondents from Purulia 1, Baghmundi and Santuri blocks of the district. Statistical tools like ANNOVA and t-Test were used to analyse the effectiveness of indicators of women empowerment namely education, awareness regarding banking services after joining SHGs and family style on financial decision making of the women. The findings revealed that joining SHGs, proved to increase the income and savings of the women, enabling them to take active participation in financial decision making matters of their respective households. However, goal of complete financial independence of women remained a far-fetched idea.*

**Keywords:** Financial Independence, Self Help Groups, Women Empowerment

### Introduction

Women's empowerment refers to the capacity of women in reducing their socio-economic vulnerability and dependency on male household members. The empowerment of women through gives benefits not only to the individual woman but also to the family and community as a whole.

A self-help group is a small group of rural poor voluntarily coming together to save small amounts regularly, to mutually agree to contribute to a common fund, to meet their emergency needs. The origin of SHG is from the brain child of Grameen Bank of Bangladesh which was founded by Prof. Mohammad Yunus, NABARD attempted digitisation of SHGs under a project called E-Shakti in the year 2015, to take advantage of the available technology to address the problem of book keeping and related issues<sup>[5]</sup>.

Table 1: Position of savings and credit linked SHGs for West Bengal for last three years

Year	Target No.		Achievement Deposit Linked No.	Achievement – Credit Linked	
	Deposit Link	Credit Link		Number	Amount (Crores)
2014-2015	150000	158000	63384	114041	1026.03
2015-2016	150000	178515	96309	200967	2084.08
2016-2017	150000	250018	102392	224884	3329.81

(Source: 137<sup>th</sup> State Level Banker's Committee Report for West Bengal, 2017)

According to the State Level Banker's Committee Report for West Bengal for the year 2017-18 revealed that as of the year 2016-17, presently there are more than 2.24 lakh self help groups in the state.

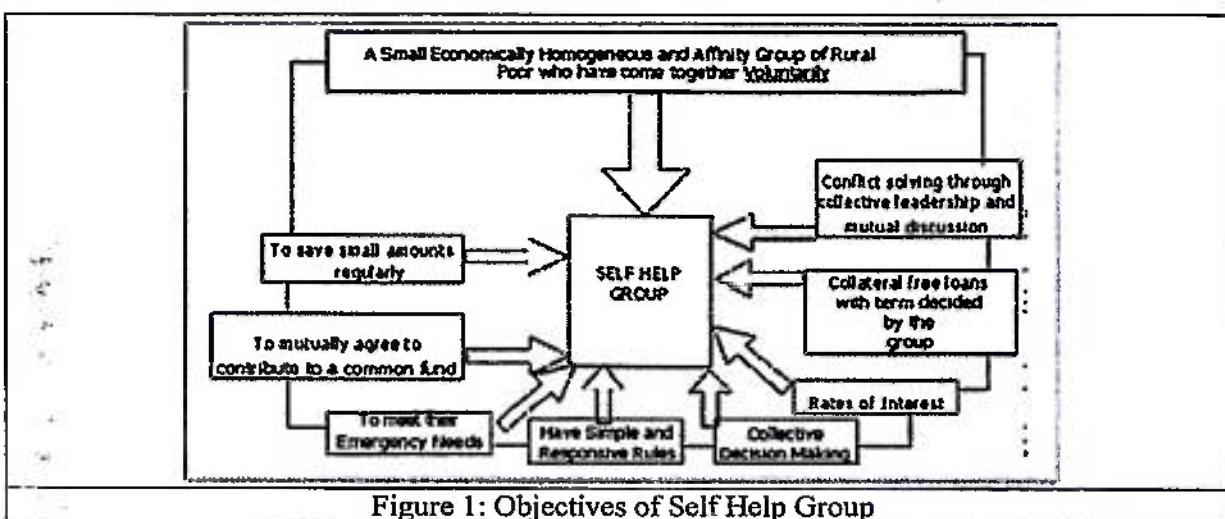


Figure 1: Objectives of Self Help Group

## Review of Literature

H J. (2016) depicted the empirical evidence on empowerment through SHG participation in Karnataka. The findings revealed that SHGs plays an important role in women empowerment<sup>[7]</sup>.

Selvi R.(2016), attempted to study the role played by self-help groups on rural women empowerment in Erode district in Tamil Nadu. The results elucidated that in Erode district the women have become self-dependent and economic decision makers after joining SHGs<sup>[8]</sup>.

Saravanan M. (2016), tried to address the women empowerment through self-help groups in TamilNadu. The observation of the researcher proved that in the region, SHG programme clearly played a central role in the lives of the poor women<sup>[9]</sup>.

Das E. (2015), tried to study the role of SHGs in empowering the rural women in Rani block of Kamrup district of Assam. From the study, it was found that micro finance through self-help group helped the poor and upgraded women empowerment by making them financially strong.<sup>[10]</sup>

Sharma V. (2014), addressed women empowerment through self help groups. The results of the study revealed that the SHGs have had greater impact on economic aspects of the beneficiaries than those who were not engaged in any SHG<sup>[11]</sup>.

### **Objectives of the Study**

There were primarily two objectives of the study.

- To study the socio –economic details and the constitution and functioning of the self help groups in Purulia, Baghmundi and Santuri blocks of Purulia.
- To find out the impact of self help groups on financial decision making of rural women in the selected areas within Purulia.

### **Methodology**

#### *Sources of Data:*

The study of the researcher was descriptive in nature, but was empirically analysed and was based on both primary and secondary data. Primary data was collected through a field survey in the study region which was completed using a well structured questionnaire including questions on the socio economic details of women in various self help groups .The questionnaire consisted of various dichotomous, structured and unstructured questions. The secondary data were collected from a series of national as well as international journals on commerce, economics and management and so on.

#### *Area of sampling, population and sample size:*

According to the 137<sup>th</sup> State Level Banker's committee report 2017, there are at present 2.24 lakh registered women self help groups. The final sample size was 160 respondents.

#### *Sample Design:*

A multi-stage random sampling was adopted to conduct the study. There were three stages-

- *1<sup>st</sup> stage:* Out of 23 districts in West Bengal, Purulia was selected mainly because the objective of the study was to understand the impact of self help groups in empowering poor women in West Bengal and as per the West Bengal State Development Report of 2016 on poverty rate, 32.7 % of poverty stricken women, alone stayed in the above district, which occupied a major proportion of poor women population staying in the state.
- *2<sup>nd</sup> stage:* The selection of district was followed by the selection of blocks in the district. Three blocks were selected randomly from three subdivisions namely Purulia I, Baghmundi and Santuri based on convenience of the study.
- *3<sup>rd</sup> stage:* Finally the block selection was succeeded by the selection of registered women operated self help groups in the above blocks.

#### *Statistical Tools used for the Study:*

The analysis had been conducted using statistical tools such as ANOVA and t-Test. These tests had been conducted to comprehend the impact of joining SHG on financial decision making of rural women in Purulia. EXCEL had also been used to analyse the five point likert scale questions. Further column graphs and pie charts had been used to represent the questions graphically.

The following model had been formulated in order to understand the impact of SHG on financial decision making of rural women in three blocks of Purulia district.

#### *Model Formulation*

$$\text{Savings} = \alpha + \beta_1 (\text{Education}) + \beta_2 (\text{Awareness Regarding Banking Services}) + \beta_3 (\text{Women Headed Family}) + \epsilon (\text{error term})$$

where,

Savings was a proxy variable representing financial decision making of rural women in Purulia. Education, awareness regarding banking services, women headed family were explanatory or independent variables. The independent variables had been selected based on a research paper titled “Factors influencing individual financial decisions: A literature review” by Tudor Ciumara.

Based on the above indicators of financial decision making, the following hypothesis had been proposed for the study:

$H_{01}$  = Education of rural women does not have a significant impact on savings being deposited in the banks

against

$H_{11}$  = Education of rural women does have a significant impact on savings being deposited in the banks

$H_{02}$  = Awareness regarding banking services of rural women does not have a significant impact on savings being deposited in the banks

against

$H_{12}$  = Awareness regarding banking services of rural women does have a significant impact on savings being deposited in the banks

$H_{03}$  = Women headed family style does not have a significant impact on savings being deposited in the banks

against

$H_{13}$  = Women headed family style does have a significant impact on savings being deposited in the banks

### **Results and Discussion**

*Situation of women pre-joining the Self help groups:* Women in all the three blocks were not engaged in any kind of economic activities and were entirely dependent on their male counterparts.

*Situation of women post-joining the Self help groups:* After the year 2012, Government of West Bengal made it compulsory for every woman to be a part of a SHG.

LEVEL OF LITERACY

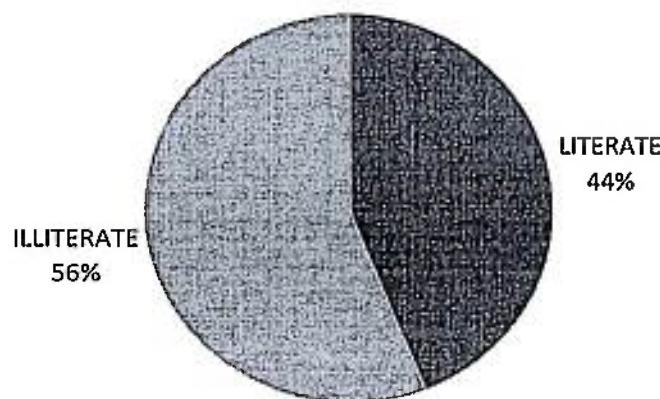


Figure 1: Socio-Economic Profile of Women of Self Help Groups in all the three blocks of Purulia

*Interpretation:* The scenario was quite different in terms of education. This was so because among the women members of the self help groups, only 44% were literate. Majority were primary school drop outs and few were secondary passed.

Table 2: Details of activities practiced by women SHGs

Activities	Loan Availed
Aloe Vera Cosmetics Making	Rs 25000
Spice Making	Rs 50000
Football Making	Rs 100000
Embroidery Stitching	Rs 75000
Mask Making	Rs 50000

(Source: Primary Data)

DECISION REGARDING LARGE PURCHASES OF THE FAMILY



Figure 2: Decision regarding large purchases of the family

*Interpretation:* The female members dominated the family, as a result of which they had an upper hand in all decisions regarding large purchases of the household.

OPENING OF BANK ACCOUNT

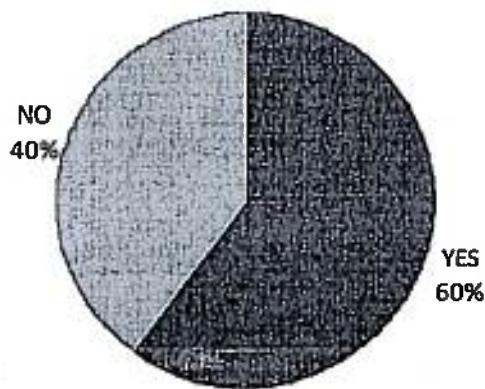


Figure 3: Opening of Bank account

*Interpretation:* In Purulia, women self help groups operated more actively compared to their previous position .As a result the groups had opened a lot of bank accounts. Bank-linkage program had performed significantly in this area.

INCREASE IN INCOME POST JOINING SHG

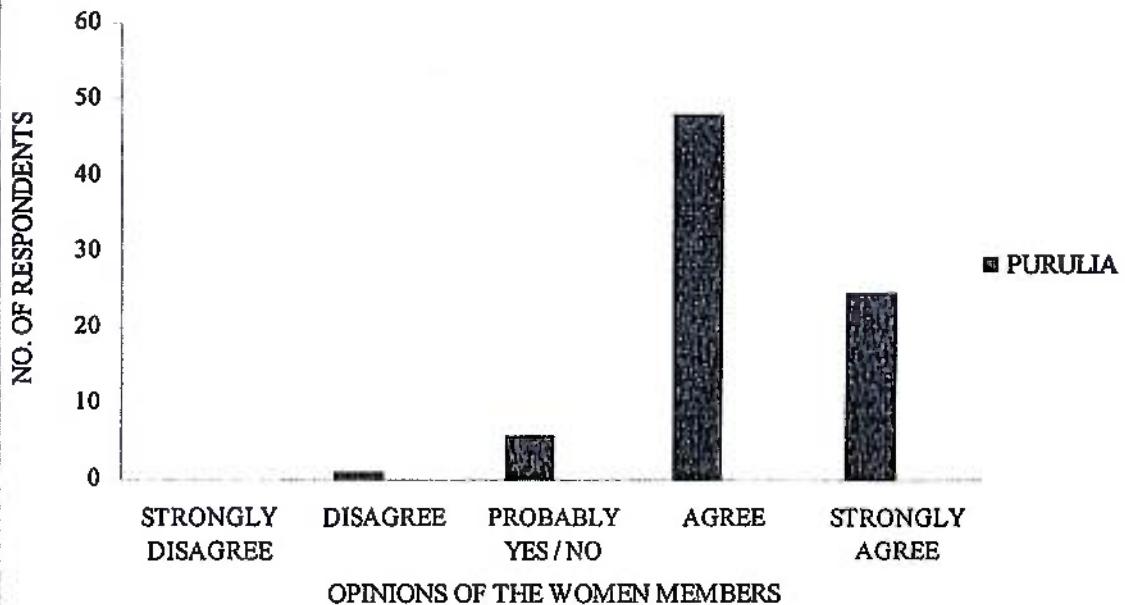


Figure 4: Analysis and Interpretation of constitution and functioning of SHGs in Purulia

*Interpretation:* In all the three blocks of Purulia, the mean was found to be 4.2125. The women were satisfied with the working of their groups, so the majority of the respondents said that their income increased after joining the SHG.

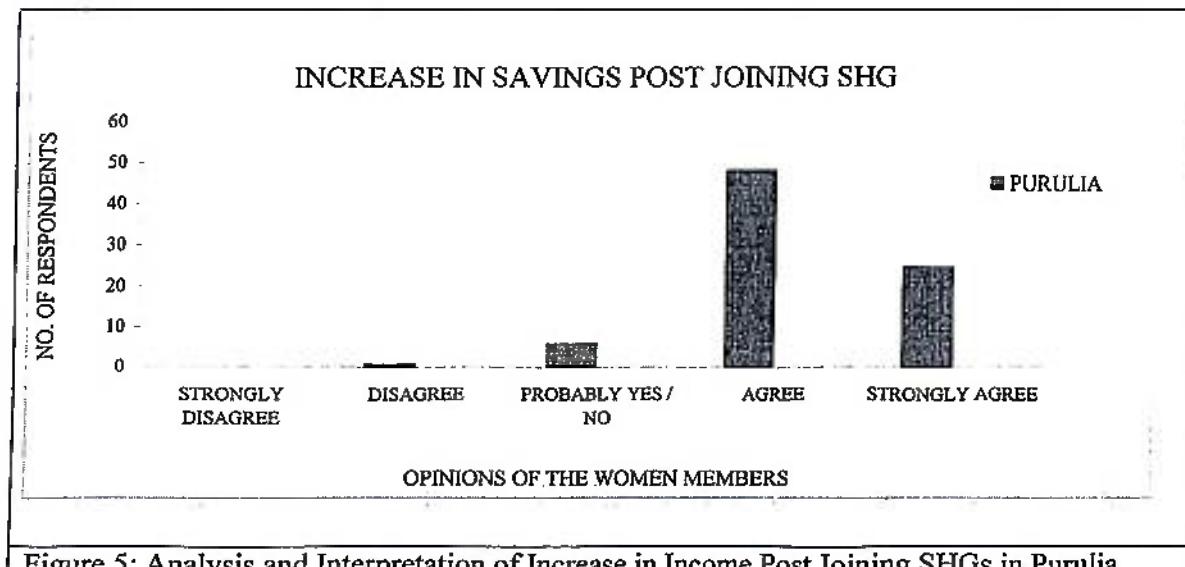


Figure 5: Analysis and Interpretation of Increase in Income Post Joining SHGs in Purulia

*Interpretation:* In Purulia, the mean was found to be 4.2125, as above. Majority said that there savings increased post joining the SHG. Very few respondents said that they kept the savings as theft.

Table 3: ANNOVA Results for understanding impact of SHG on financial decision making of rural women in Purulia

	Degree of freedom	F	Significance F
Regression	3	49.32125163	1.78129631770962E-22
Residual	156		

(Source: Microsoft Excel, 2007, Primary Field Survey)

*Interpretation:* This test had been used to test difference among different groups of data for homogeneity. In this method, the calculated value of F is 49.321 which was extremely high than the critical value of 1.7813 at 5% level of significance with degree of freedom (d.f.). It therefore was concluded that the independent variables taken all together at one time was statistically significant in explaining the variation in the dependent variable (savings) at 5 % level of significance

Table 4: t-Test Results for understanding impact of SHG on financial decision making of rural women in Purulia

	Coefficients	Standard Error	t-Stat	P-Value
Intercept( $\alpha$ )	440.75986	165.02252	2.67090	0.00836
X1(Education)	13.02806	21.25969	0.61280	0.54089
X2(Awareness of banking services)	13.10766	20.50051	0.63938	0.52351
X3(Women-headed family)	-206.82933	71.02969	-2.91187	0.00411

(Source: Microsoft Excel, 2007, Primary Field Survey)

*Interpretation:* This test was done in order to understand the impact of individual independent variables on the dependent variable. The above table clearly showed that for X1, as t-stat (0.61) < 2(since critical value is missing), therefore education as an independent variable did not statistically signify the variations in savings. Also, here it can be seen that the P-value (0.54) > 0.05(5 % level of significance), hence null hypothesis ( $H_0$ ) was accepted, indicating that the concerned independent variable did not statistically signify the variation in savings. It could be possibly due to reasons like inaccessibility of banking services and lack of proper brick-mortar outlet of nationalised banks.

Further, for X2, as t-stat (0.63) < 2, therefore awareness of banking services individually did not signify the variations in savings. Further, the P-value (0.52) > 0.05, hence null hypothesis got accepted at 5% level of significance. Lastly, if we take the modulus value of the t-stat of X3 which was 2.91, then it could be observed that t-stat > 2. So, this independent variable definitely statistically signify variations in savings. Further, P-value (0.004) was less than 0.05; null hypothesis gets rejected indicating the above stated interpretation.

Thus, this was possible mainly because only when women were allowed to go beyond the household shackles and dominate the family, they saved more.

## Conclusion

In Purulia women had experienced a rise in both their income and savings after joining SHGs and had also found themselves to be more financially independent. Yet, on the other hand there were observed to be several conundrums on the way to success like inaccessibility to banks due to improper transportation facilities and exploitation by middlemen.

Purulia, showed a lot of variations in performance of SHGs, as there were groups that exported products while on the other hand, there were also few that did not even get to witness the day of light.

## Limitations of the Study

The following were the limitations of this study:

- Due to time constraint, the survey was limited only to three prominent blocks of Purulia namely Purulia I, Baghmundi and Santuri.
- There might be a chance of multicollinearity as more than one independent variable had been selected. Well, this may have created a difference in the results obtained.

## References

1. Das, E. (2015). Role of Self-Help Groups in Empowering Rural Women: A case study on selected SHGs in Rani Block of Kamrup District of Assam, Journal of Economics and Finance, ISSN: 2321-5925, Vol.6 (2), 27-31
2. Das, S. (2012). Best practices of SHGs and women empowerment: A case study of Barak Valley of Assam, Far East Journal of Psychology and Business, Vol.7 (3), 29-51
3. HP, J. (2016). Self-help groups: Empowerment through participation (An impact Assessment study", International Journal of Advanced Education and Research, ISSN: 2455-5746, Vol.1 (7), 15-18

4. Roy, N. (2016). Women Empowerment Through SHGs And Financial Inclusion : A Case Study On Lataguri Region In West Bengal, International Journal of Management Research & Review, IJMRP Publishers, Vol.2(6), 827-834 [ISSN : 2249-7196]
5. Report on 137<sup>th</sup> State Level Banker's Committee Meeting for West Bengal
6. Saravanan, M. (2016). The impact of SHGs on the socio-economic development of rural household women in Tamil Nadu -A study, International Journal of Research, Vol.4 (7), 22-31 [ISSN- 2394-3629]
7. Selvi, R. (2016). A Study on women empowerment through self-help groups in ERODE district", International Journal of Multidisciplinary Research and Modern Education, Vol.2 (1), 383-388 [ISSN: 2454 – 6119]
8. Sen, S. (2017). Digital economy and microfinance, The MIBM Research Journal, Vol.5 (1), 27-35 [ISSN: 2347.2405]
9. Sharma, V. (2014). Impact Of Self Help Groups On Women Empowerment, International Journal of Social Science and Humanities Research, Vol.2(3), 193-198 [ISSN 2348-3156]
10. Singh, N. (2009). Micro Finance Practices In India: An Overview., International Review of Business Research Papers, Vol.5 (5), 131-146
11. Singh, R. (2012). Women Entrepreneurship Issues, Challenges and Empowerment through SHGs: An Overview of Himachal Pradesh, International Journal of Management Research and Review, Vol.2 (1), 77-90 [ISSN: 2249-7196]

COM/GM&E/3

## An Overview of CSR Compliances of the Leading Cement Producing Companies in India

Sapana Mishra<sup>1</sup>& Debjyoti Dey<sup>2</sup>

<sup>1</sup>Assistant Professor, Department of Commerce, J. D. Birla Institute, Kolkata;  
sapanamishra875@gmail.com

<sup>2</sup>Assistant Professor, Department of Commerce, J. D. Birla Institute, Kolkata;  
debjyoti.dey1@gmail.com

### Abstract

*CSR is generally understood as being the way through which a company achieves a balance of economic, environmental and social imperatives ("Triple-Bottom-Line-Approach"), while at the same time addressing the expectations of shareholders and stakeholders. Section 135 of Companies Act, 2013 has made it mandatory for companies with an annual turnover of at least Rs. 1,000 crore, or a net worth of minimum Rs. 500 crore, or a net profit of Rs. 5 crore and above during the immediately preceding financial year to constitute a CSR committee of the Board. Such companies (including foreign companies in India) are required to mandatorily spend at least two per cent of the average net profits of the company made during the three immediately preceding financial years, in pursuance of its Corporate Social Responsibility Policy. Schedule VII of the Companies Act proposes activities towards which CSR expenditure should be made, including eliminating extreme hunger and poverty, promoting education, ensuring environmental sustainability, social business projects, reducing child mortality and improving maternal health, etc.*

*The objective of the present research is to compare the CSR spending of the leading five cement producing companies from financial year 2013-14 to 2016-17 and to discuss about the different CSR activities undertaken by them. For the purpose of the study we have selected five major cement producing companies namely UltraTech Cement Limited, Shree Cement Limited, Ambuja Cements Limited, ACC Limited and J.K. Cement Limited. Data and information relating to CSR expenditure of the selected companies from the financial year 2013-14 to 2016-17 is collected from the Annual Report of the respective companies.*

**Keywords:** Annual Turnover, Cement Industry, CSR, Net Worth, Net Profit

### Introduction

Corporate Social Responsibility (CSR) is a concept whereby organizations serve the interests of society by taking responsibility for the impact of their activities on customers, employees, shareholders, communities and the environment in all aspects of their operations. With the Companies Act, 2013 coming into the scene, India has emerged as the first country to obligate companies to spend on Corporate Social Responsibility (CSR) activities through a legal provision. Every company falling under the scope of Section 135 of Companies Act, 2013 need to spend a specific percentage of their average profit after tax of the immediately preceding last three financial years towards benefit of the society. Companies falling under the purview of

Section 135(1) of Companies Act, 2013 must constitute a CSR Committee if during the immediately preceding financial year, it has:

- Net worth of Rs. 500 crores or more; or
- Turnover of Rs. 1000 crores or more; or
- Net profit of Rs. 5 crores or more.

Every Company including its holding or subsidiary company, and a Foreign Company under Section 2(42)of Companies Act, 2013 having its branch office or project office in India, which fulfills the criteria specified in Section 135(1), shall comply with the provisions Section 135 and its rules.

CSR Committee must be formed by the companies which are covered under Section 135 of Companies Act, 2013. The CSR Committee must have 3 or more directors, of which at least one should be an independent director. As per Rule 5 of Companies (Corporate Social Responsibility Policy) Rules, 2014, there is no requirement to appoint Independent Director in CSR Committee for: -

- An Unlisted Public Company and Private Company, if Section 149(4) does not apply.
- A Private Company having only two Directors (both should be in CSR Committee).
- A Foreign Company (It can have two persons in CSR Committee - one shall be as specified in Section 380(1)(d) and another to be nominated by the Foreign Company).

The functions of the CSR Committee is enumerated in sub-section (3) of section 135 of the Act, which provides that the Committee shall,

- Formulate and recommend to the Board, a Corporate Social Responsibility Policy which shall indicate the activities to be undertaken by the company as specified in Schedule VII;
- Recommend the amount of expenditure to be incurred on the activities referred to in CSR Policy and
- Monitor the CSR Policy of the company from time to time.

Rule 2(1) (e) of Companies (Corporate Social Responsibility Policy) Rules, 2014 sprovides that "CSR Policy" relates to the activities to be undertaken by the company as specified in Schedule VII to the Act and the expenditure thereon, excluding activities undertaken in pursuance of normal course of business of a company. Hence, a company cannot undertake activities which are in normal course of its business (either gratuitously or at reduced prices) and claim such expenditure as CSR expenditure. Such policy is framed by the CSR Committee are recommended to the Board for its adoption.

Rule 6 of Companies (Corporate Social Responsibility Policy) Rules, 2014provides that the CSR Policy of the company shall inter-alia include the following namely:

- The list of CSR projects or programs which a company plans to undertake falling within the purview of the Schedule VII of the Act, specifying modalities of execution of such projects or programs and implementation schedule for the same; and
- Monitoring the process of such projects or programs.

It has been specified in the act that any amount spent in excess of the prescribed 2 % cannot be carried forward to the subsequent year and adjusted against that year's CSR

expenditure. As regards any shortfall in CSR spend during any year, only disclosure of reason in Board's report is mandated.

The mode of CSR activities may either be through a registered trust (including a trust registered under the provisions of Income Tax Act, 1961 for states where registration of trusts is not mandatory) or a registered society or a company established under section 8 of the Act by the company. Such implementation agency may be incorporated and expenditure made either by the company singly or along with its holding or subsidiary or associate company, or along with any other company or holding or subsidiary or associate company of such other company, or otherwise. Sub-section (2) of section 135 provides that the Board's report shall disclose the composition of the CSR Committee. In case of failure to spend the CSR amount, the Board's report shall disclose the reason for not spending the same. Rule 8 further provides that the Board's report of a company covered under these rules pertaining to a financial year commencing on or after the 01.04.2014 shall include an annual report on CSR containing particulars specified in annexure to the Companies (Corporate Social Responsibility) Rules, 2014. Rule 9 requires the Board to disclose the contents of such policy in its report and the same shall be displayed on the company's website, if any.

### **Review of Literature**

Various theories have been used by authors to explain the concept of CSR in the past, being reviewed in the present study as follows:

An agency theory perspective implies that CSR is a misuse of corporate resources that would be better spent on valued-added internal projects or returned to shareholders. It also suggests that CSR is an executive perk, in the sense that managers use CSR to advance their careers or other personal agendas.

Another perspective, stewardship theory (Donaldson, 1990) is based on the idea that there is a moral imperative for managers to "do the right thing," without regard to how such decisions affect firm's financial performance. Institutional theory and classical economic theory have also been applied to CSR in a paper by Jones (1995). He concludes that companies involved in repeated transactions with stakeholders on the basis of trust and cooperation are motivated to be honest, trustworthy, and ethical because the returns to such behaviour are high.

CSR holds a very important place in the development scenario of the world today and can pose as an alternative tool for sustainable development. As companies have shown great concerns for their immediate community and the stakeholders, it can be safely concluded that much of the fate of society lies in the hands of the corporate (Ahmed, Khalil, Mohammad). CSR has a wide-ranging effect across the globe especially in emerging markets. In India CSR is still at a very growing stage. (Ghose, Soheli, 2012). CSR has come a long way in India. From responsive activities to sustainable initiatives, corporates have clearly exhibited their ability to make a significant difference in the society and improve the overall quality of life. In the current social situation in India, it is difficult for one single entity to bring about change, as the scale is enormous. Corporates have the expertise, strategic thinking, manpower and money to facilitate extensive social change. Effective partnerships between corporates, NGOs and the government will place India's social development towards tremendous growth (Usha, L, 2012).

Stakeholder-inclusive social auditing could help to establish the substantive meaning of the social dimension of sustainable development in its own right, as well as facilitating the development of integrated auditing tools across the different dimensions of sustainable development (Sillanpää 1998).

According to Sethi (1975), a structural framework to facilitate analysis of corporate social activities should have at least the following two properties. First, categories for classifying corporate activities should be stable over time, which makes historical comparisons possible. Second, the definitions of various categories should be applicable across firms, industries, or even social systems, making comparative analysis possible.

#### *Research Gap:*

From the existing literatures reviewed for the present study, it is found that there are existing research work in field of CSR compliances by Indian companies. But CSR compliances by Cement Industries are very limited in number though India holds the second position as far as production and consumption of cement is concerned. And it is also important to mention that cement industry reported a compound annual growth rate in production of cement by 3.95% from the F/Y 2012 (as reported by business standard, ministry of external affairs, investment & technology promotion division.) and expected to grow by 5-6% by 2020 and it has a direct and positive correlation with the GDP of the nation. Also Cement Sector has a significant contribution for the infrastructural development of the nation. So we have decided to select the above topic for our present research.

#### **Objectives of the Study**

The objective of the present study is:

- To compare the CSR spending of leading five cement producing companies for four years starting from 2013-14(i.e. after implementation of Companies Act,2013)
- To discuss about the different CSR activities undertaken by the companies

#### **Methodology**

The present study is purely based on secondary data collected from the annual reports of the five leading cement producing companies for a period of four financial years starting from 2013-14 to 2016-17. It is to note that ACC Limited and Ambuja Cements Limited publishes their annual report on 31<sup>st</sup> December every year. For these two companies annual reports from Dec'2013 to Dec'2016 is used. To compare the CSR spending of the selected companies graphs and tables are used. And to analyse the mean difference of CSR spending of the selected companies One-Way ANOVA is used, it's a parametric statistical test used to compare the mean of data sets.

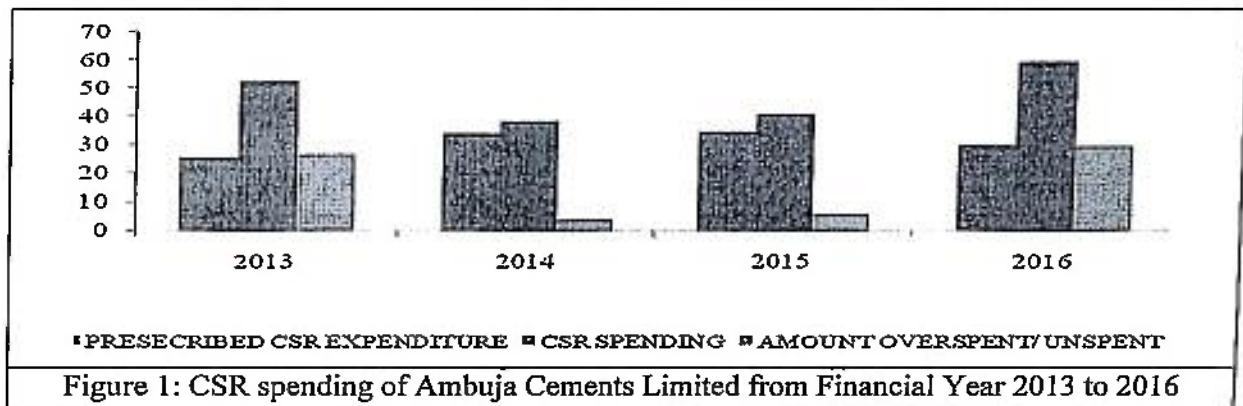
*Hypothesis:* Only one hypothesis is tested for the present research, i.e.

*Null Hypothesis:* The average CSR expenditure of the leading cement manufacturing companies is same.

*Alternative Hypothesis:* The average CSR expenditure of the leading cement manufacturing companies is different.

## Results and Discussion

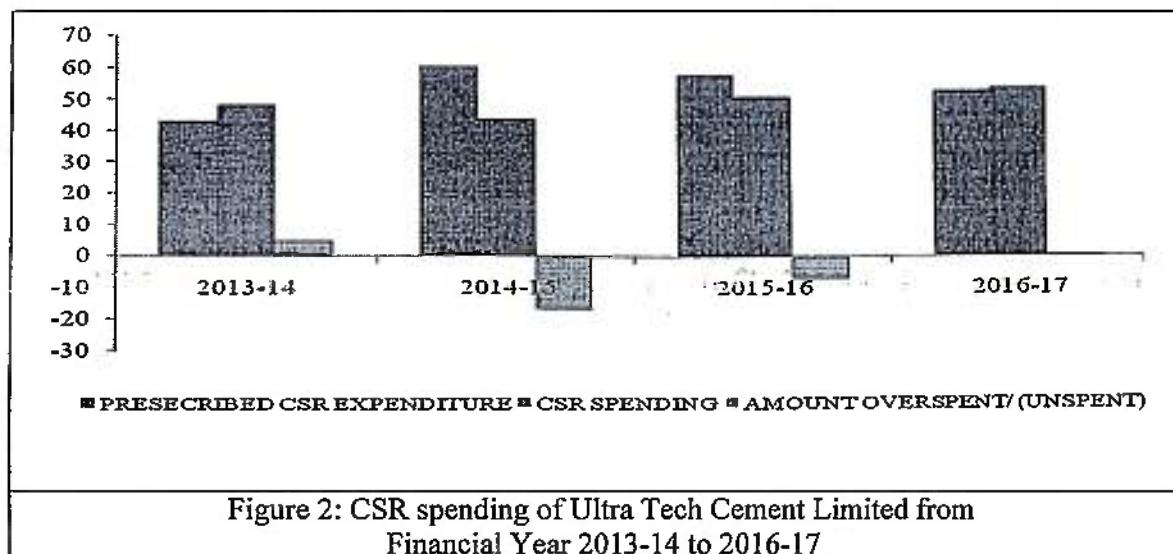
- a. The CSR Spending of Leading Five Cement Producing Companies for Four Years Starting From 2013-14(i.e. After Implementation Of Companies Act, 2013):



From the above figure it is found that over the years Ambuja Cements Limited has been spending more than the required CSR expenditure as prescribed in the Companies Act, 2013. The Company carries its Corporate Social Responsibility (CSR) activities through Ambuja Cement Foundation (ACF) and runs schools at plant locations through Ambuja Vidya Niketan Trust (AVN), a charitable organisation registered under Bombay Public Trust Act, 1950. It has been found from the company's annual reports that the company has made investment in many states like Andhra Pradesh, Chattisgarh, Gujarat, Himachal Pradesh, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Uttarakhand, Uttar Pradesh and West Bengal for different CSR activities like:

- Water Resource Management in Gujarat, dry arid territories of Rajasthan, hilly regions of Darlaghat and the water scarce state of Andhra Pradesh for which it has been awarded FICCI "Water Award" under 'Community Initiative, Industry' category.
- Krishi Vigyan Kendra (KVK) at Ambujanagar for developing the latest and best technologies in agriculture.
- Better Cotton Initiative to help the farmers in selling their produce at a better rate without any middlemen. In 2013, the Foundation was conferred with the "Best NGO Award" by the Northern India Cotton Association Ltd.
- The Skill and Entrepreneurship Development Institutes (SEDI) at the Foundation to bridge the gap between drop-out or undertrained youth and high demand by industry of skilled personnel.
- To ensure round-the-clock health services in the far flung rural areas, Sakhis (village health functionaries) are provided home-based neo natal care for the numerous mothers and children across locations. Their services are complemented by regular health checks by doctors and health camps. Ambuja Cements Limiteds also works extensively towards the prevention of HIV & AIDS in and around its plants and locations and works towards reducing stigma on those affected by it.
- The Company has been promoting education through the non-profit AmbujaVidyaNiketan Trust (AVNT), to provide educational facilities through its schools in each of its five integrated plants. The schools provide education to the wards and dependants of Ambuja employees as well as children of nearby villages.

- The Foundation also runs the AmbujaManovikas Kendra (AMK), a special school for mentally challenged children in Ropar, Punjab.
- To promote allied farming livelihoods, the farmers are introduced to Alternative Fuel Resource (AFR), where they get paid by Ambuja to provide bio-wastes like sugarcane trash, leaves, cotton stalk, wheat straw and other crop residues as biomass.
- ACF along with Women's Federations in Chandrapur (Maharashtra) and Kodinar (Gujarat) encouraged people to construct toilets in their households to improve health and sanitation.



From the above figure it is found that Ultra Tech Cement Limited has spent little more than the prescribed CSR expenditure under the Companies Act, 2013 in financial year 2013-14 and 2016-17. But in financial year 2014-15 and 2015-16 the expenditure is lesser than the prescribed CSR expenditure. The company has spent towards education, health care, women empowerment, sustainable livelihood, infrastructure development, social welfare. The company has made expenditure in states like:

- West Bengal, Bihar, Haryana, Uttar Pradesh and Punjab for promoting education by helping poor children, by providing computer education, by career counselling and by maintaining sanitation and drinking water facilities in schools.
- Rajasthan, Madhya Pradesh, Gujarat, Maharashtra, Chhattisgarh, Karnataka, Andhra Pradesh, Tamil Nadu, Odisha and West Bengal towards health care programs and health infrastructure.
- Rajasthan, Madhya Pradesh, Gujarat, Maharashtra, Chhattisgarh, Karnataka, Andhra Pradesh, Tamil Nadu and Odisha towards development of agriculture, animal husbandry, non-farm and skills based income generation program, natural resource conservation programs and non-conventional energy.

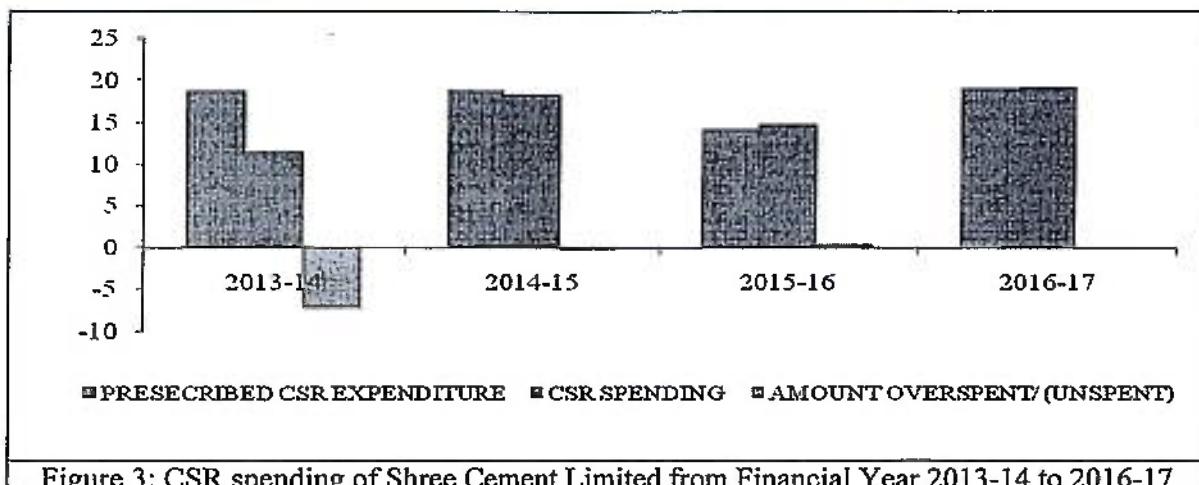


Figure 3: CSR spending of Shree Cement Limited from Financial Year 2013-14 to 2016-17

It is observed from the above figure that Shree Cement Limited has been spending almost the same amount of money towards CSR activities as prescribed in the Companies Act, 2013 except in the financial year 2013-14. The Company has spent money towards:

- Health care initiatives i.e. for promoting health care and sanitation in villages adjoining plants at Beawar, Ras, Khushkhera, Jobner, Suratgarh (Rajasthan), Roorkee (Uttarakhand), Raipur (Chhattisgarh), Panipat (Haryana) and Bulandshahr (Uttar Pradesh).
- Arranging drinking water for nearby communities in villages adjoining plants at Beawar, Ras, Suratgarh, Jobner (Rajasthan), Roorkee (Uttarakhand), Aurangabad (Bihar), Panipat (Haryana), Bulandshahr (Uttar Pradesh) and Raipur (Chhattisgarh).
- Agriculture support to farmers i.e. Measures for reducing inequalities faced by socially and economically backward groups in Villages adjoining plants at Beawar and Ras (Rajasthan).
- Initiatives to promote education including consumer education in Villages adjoining plants at Beawar, Ras, Khushkhera, Jobner, Suratgarh (Rajasthan), Roorkee (Uttarakhand), Aurangabad (Bihar), Raipur (Chhattisgarh), Bulandshahr (Uttar Pradesh) and marketing offices of the Company spread across North and East India.
- Income generation programs & skill enhancement trainings in marketing offices of Rajasthan, Haryana, Chhattisgarh, Bihar and Delhi.
- Promoting gender equality, empowering women in villages adjoining plants at Beawar, Ras, Khushkhera, Jobner (Rajasthan), Roorkee (Uttarakhand), Raipur (Chhattisgarh), Bulandshahr (Uttar Pradesh) and Panipat (Haryana).
- Providing medical facilities to senior citizens in Beawar (Rajasthan), Roorkee (Uttarakhand), Bulandshahr (Uttar Pradesh), Aurangabad (Bihar) and Kolkata (West Bengal).
- Ensuring environmental sustainability and animal welfare in villages adjoining plants at Beawar, Ras, Khushkhera (Rajasthan), Raipur (Chhattisgarh), Roorkee (Uttarakhand) and Aurangabad (Bihar).
- Promotion and protection of art and culture in Beawar, Ras, Khushkhera, Suratgarh, Jaipur (Rajasthan), Roorkee (Uttarakhand), Aurangabad (Bihar), Raipur (Chhattisgarh) and Panipat (Haryana).
- Promote rural sports and nationally recognized sports in villages adjoining plants at Beawar, Ras, Khushkhera, Suratgarh, Jobner (Rajasthan), Aurangabad

(Bihar), Raipur (Chhattisgarh), Panipat (Haryana) and Bulandshahr (Uttar Pradesh).

- Certain other rural development projects in villages adjoining plants at Beawar, Ras, Khushkhera, Jobner, Suratgarh (Rajasthan), Roorkee (Uttarakhand), Aurangabad (Bihar), Raipur (Chhattisgarh) and Panipat (Haryana).
- 

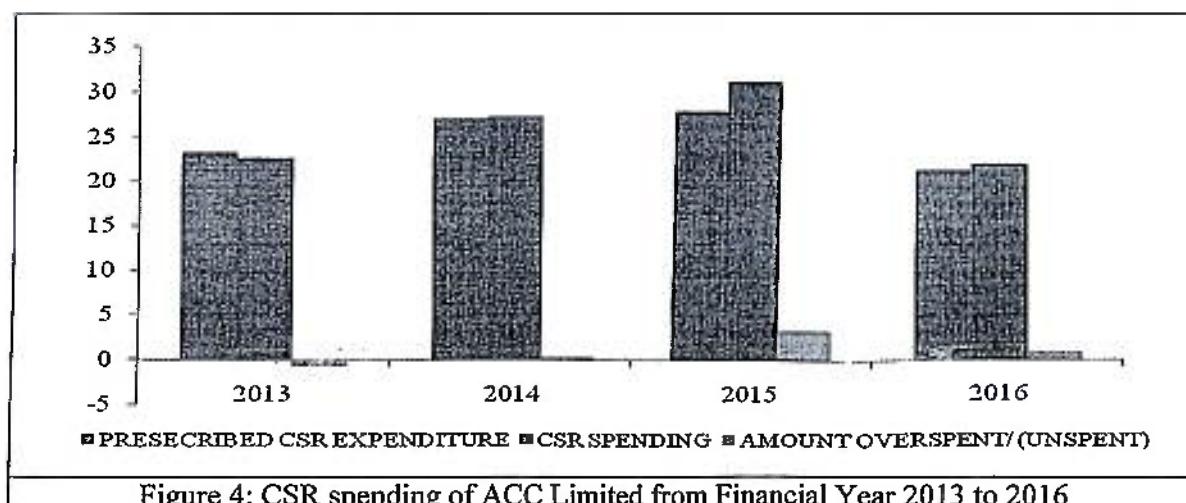


Figure 4: CSR spending of ACC Limited from Financial Year 2013 to 2016

It is found from the above figure that ACC Limited has been spending money towards CSR activities according to the specifications of the Companies Act, 2013. For the financial year ending on 31<sup>st</sup> December, 2013, the company could not meet the requirements of the Act and the amount of expenditure was lesser than the prescribed amount. Company has spent money in Bilaspur (Himachal Pradesh), Katni (Madhya Pradesh), Bundi (Rajasthan), Gauriganj (Uttarpradesh), Bargarh (Odisha), West Singhbhum (Jharkhand), Purulia (West Bengal), Durg (Chhattisgarh), Dhanbad (Jharkhand), Chandrapur (Maharashtra), Yavatmal (Maharashtra), Bellary (Karnataka), Chikkaballapur (Karnataka), Gulbarga (Karnataka), Coimbatore (Tamil Nadu) and Erode (Tamil Nadu) towards the following CSR activities:

- Youth Employability
- Sustainable Agriculture
- Women Empowerment
- Promotion of Education
- Providing Scholarship and Support to Students
- Health and Sanitation
- Conservation of Environment
- Promoting Local Art and Culture

It is found from the above figure that J. K. Cement Limited has spent almost the same amount as required under the Companies Act, 2013 except in the financial year 2013-14. The company has undertaken various CSR activities in the states of Rajasthan, Haryana, Karnataka, Delhi, Maharashtra, Uttar Pradesh, Kanpur and Delhi like community welfare, sports promotion, environmental protection, promoting education including special education and employment enhancing vocation skills especially among children, women, elderly, and the differently abled and livelihood enhancement projects, rural development projects like temple construction, fair, food

arrangement, water supply, garden & committee hall, medicine distribution to villagers, safe and clean drinking water supply in rural areas through RO Plant.

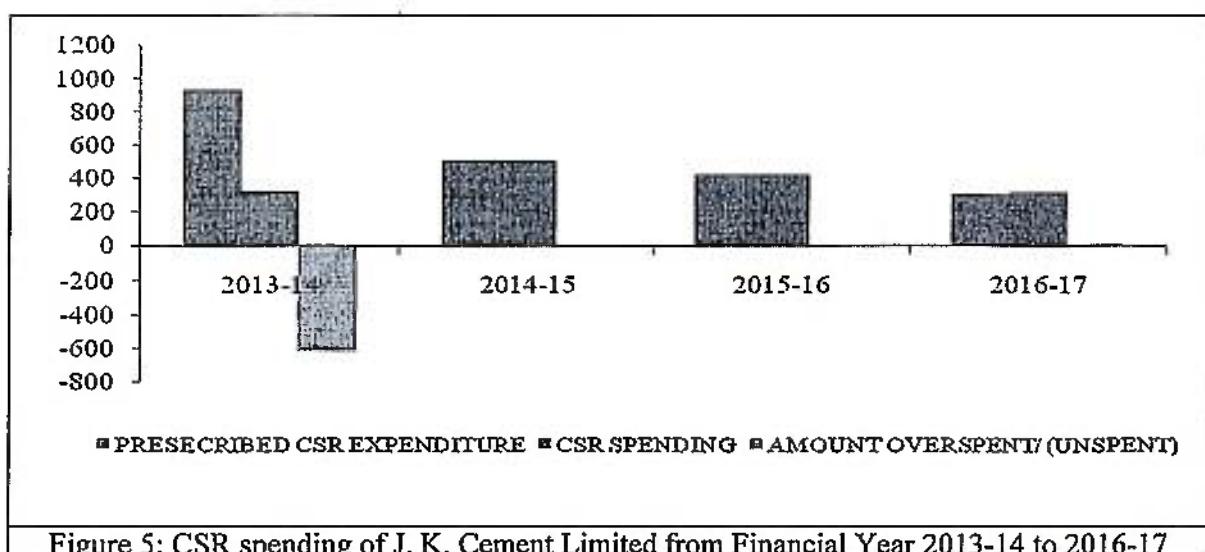


Figure 5: CSR spending of J. K. Cement Limited from Financial Year 2013-14 to 2016-17

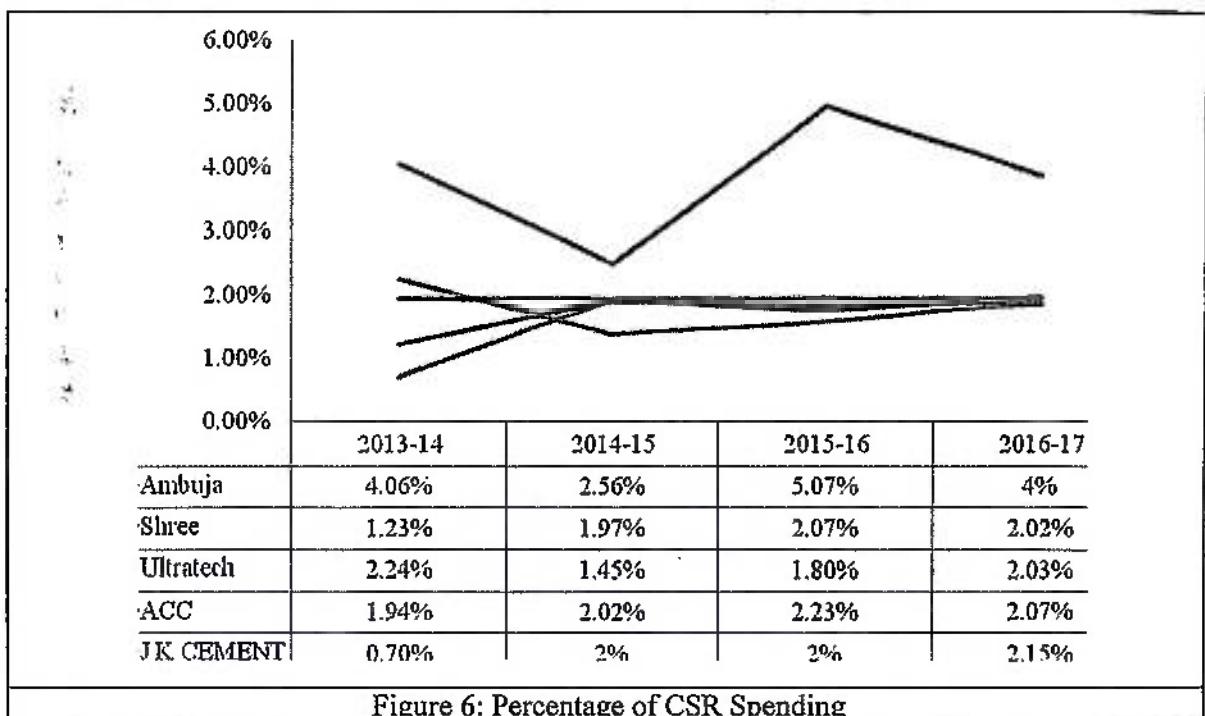


Figure 6: Percentage of CSR Spending

The above figure shows that Ambuja Cements Limited has been spending the maximum percentage of profit towards CSR activities as compared to other cement producing companies. It is also observed that in the financial year 2013-14 all the companies which are a part of our study except Ambuja Cements Limited and UltraTechCement Limited have reported less than 2% of average net profit of immediately preceding last three financial years towards CSR activities because CSR notification came into effect from 1<sup>st</sup> April 2014. There was no obligation on the part of the companies to invest money for the betterment of the society before 1<sup>st</sup> April 2014.

The Average CSR Spending of the Selected Cement Manufacturing Companies after Implementation Of The Companies Act 2013:

Table 1: Descriptive Statistics

	Ambuja Cements Limited	Shree Cement Limited	J. K. Cement Limited	Ultra Tech Cement Limited	ACC Limited
Mean	4783	16.025	397.73	4940	2588.75
Standard Error	492.85	1.784	45.50	213.40	211.50
Median	4677.5	16.62	376.52	4972.5	2506
Standard Deviation	985.70	3.56	91.00	426.80	423.00
Sample Variance	971622	12.73	8282.57	182160.7	178930.9
Kurtosis	-3.49	-2.25	-1.59	0.21	-2.49
Skewness	0.33	-0.59	0.78	-0.40	0.61
Range	2097	7.72	192.52	1015	889
Minimum	3840	11.57	322.68	4400	2227
Maximum	5937	19.29	515.2	5415	3116
Sum	19132	64.1	1590.92	19760	10355
Count	4	4	4	4	4

Descriptive statistics are used to summarize data. The above table shows that the mean of CSR expenditure of the cement companies are vastly varying. The average CSR spent by UltraTech Cement Limited is highest i.e. Rs. 4940 lakhs, Shree Cement Limited reported the lowest average CSR spending i.e. Rs. 16.02 lakhs. Whereas Ambuja Cements Limited has reported highest standard deviation and Shree Cement Limited reported the lowest for the same. So we can say dispersion from the mean is highest in Ambuja Cements Limited i.e. 985.70 and lowest in Shree Cement Limited i.e. 3.568.

Table 2: Result of One-Way ANOVA

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.00137	5	0.00027	7.07114	0.00172	2.95825
Within Groups	0.00054	14	3.9E-05			
Total	0.00192	19				

One way ANOVA test is conducted to determine the mean difference of percentage of CSR spending of leading cement producing companies after implementation of Companies Act 2013. It is found from the above ANOVA table that for percentage of CSR spending of leading cement companies, calculated value of  $F_{(4,15,0.05)} = 7.07$  is greater than the critical value of  $F_{(4,15,0.05)} = 2.95$  and  $p$  value is less than 0.05, so null hypotheses is rejected and alternative is accepted i.e. mean of CSR spending of leading cement manufacturing companies are significantly different.

### Conclusion

It is concluded from the above study that out of the five leading cement producing companies selected for our study, Ambuja Cements Limited has done the maximum expenditure towards CSR activities over the years. Some companies failed to comply with the requirement of the Companies Act, 2013 in some financial year but the reason for the same has been disclosed in the Board's Report of the company, all the five companies have been spending money on different activities to benefit the

society at large. It is also found that after the section 135 being notified the companies have been investing a greater percentage of net profit towards CSR activities.

### References

1. Annual Reports of Ultratech Cement Limited, Shree Cement Limited, Ambuja Cements Limited, ACC Limited and J. K. Cement Limited, (Financial Year 2013-2014 to 2016-2017).
2. Cochran and Wood (1984). Corporate Social Responsibility and Financial Performance, Academy of Management Journal, 27, 42-56
3. Friedman, (1970). The Social Responsibility of Business is to Increase its Profit, The New York Times Magazine, Sept 13, 122-126
4. Ghose, Soheli (2012). A look into Corporate Social Responsibility in Indian and emerging economies, International Journal of Business and Management Invention, 1 (1), 22-29.
5. Jones (1995). Instrumental Stakeholder Theory: A Synthesis of Ethics and Economics, Academy of Management Review, 20(2), 404-437
6. Khanna, Parrul & Gupta, Gitika (2011). Status of Corporate Social Responsibility: in Indian context, APJRBM, 2 (1), ISSN. 2229-4104.
7. Maignan, I. and Raltson, D. A. (2002). Corporate Social Responsibility in Europe and the US: Insights from businesses' self-presentations, Journal of International Business Studies, 3rd Quarter, 33 (3), 497.
8. McWilliams and Siegel (2001). Corporate Social Responsibility: A Theory of the Firm Perspective, Academy of Management Review, 26, 117-127
9. Sethi, S.P.(1975), Dimensions of corporate social performance: an analytical framework, California Management Review Spring, 17 (3)
10. Sharma, Anupam & Kiran, Ravi (2012). Corporate Social Responsibility Initiatives of Major Companies of India with Focus on Health, Education and Environment, African Journal of Basic & Applied Sciences, 4 (3), 95-105, ISSN 2079-2034.
11. Shrivastava (1995). The Role of Corporations in Achieving Ecological Sustainability, Academy of Management Review, 20(4), 936-960
12. Usha, L. (2012). Corporate Social Responsibility in India – A way to Socio Economic Development, Indian journal of applied research, 2 (2), ISSN - 2249-555X.

COM/GM&E/4

## Goods and Services Tax: The Game Changer

Sukanta Kundu<sup>1</sup>, Priyanka Jaiswal<sup>2</sup>

<sup>1</sup> Lecturer, Heramba Chandra College, Department of Commerce, Kolkata;  
sukanta.sk44@gmail.com

<sup>2</sup> Lecturer, AJC Bose College, Department Of Commerce, Kolkata;  
ambition2807@gmail.com

### Abstract

*One of the greatest tax reforms in the history of our nation is the introduction of Goods and Services Tax (GST) in India. Since its introduction from 1<sup>st</sup> July 2017, it creates a great impact on the market. It also benefited the economy by creating an unified common national market. Since, it is a comprehensive tax system, it subsumes all the state and central indirect taxes that were supposed to exist earlier in our market. It also eases the tasks of business persons to do their business as they don't need to charge many taxes with many rates. The reformation is expected to iron out the wrinkles of the previous tax system and it also plays a pivotal role in the growth of India. But there are mixed responses, inexplicit arguments and opinions among the manufacturers, traders and society about GST. A survey has been done to collect data from 100 people. A questionnaire has been canvassed. This study was conducted in Kolkata corporation jurisdiction, between Dec, 2017 to Feb, 2018. Cronbach's alpha test was done with the help of SPSS software to check the reliability of collected data and Chi-square test was done to find out whether GST has any significant impact on the tax burden of common people or not. This paper also articulates the background, benefits and prospects of GST in India.*

**Keywords:** Indirect Tax, Comprehensive Tax, Destination based Tax, Multi Stage Tax, GST, Value Addition, Consumption, Revenue, Service, Tax Reform.

### Introduction

Goods and Services Tax is considered as one of the biggest tax reforms after Independence. Previously, India was following a complicated indirect tax system where one product has been charged by tax several times both from state as well as from central. To reduce this burden of charging tax on the same product several times, Government planned to introduce a unified tax system which will be charged only once. All the other indirect taxes are subsumed into a single comprehensive tax, bringing it all under a single umbrella. Experts say that GST will help the economy to grow in more efficient manner by improving the tax collections. GST was first introduced by France in 1954 and now it is followed by 140 countries. Most of the countries followed unified GST while some countries like Brazil, Canada, etc. follow a dual GST system where tax is imposed by central and state both in India, also dual system of GST is implemented where both central (CGST) and state (SGST) will impose tax separately.

### Review of Literature

Nitin Kumar (2014) studied, "Goods and Service Tax- A Way Forward" and concluded that implementation of GST in India help in removing economic distortion by current indirect tax system and expected to encourage unbiased tax structure which is indifferent to geographical locations.

Dr. R. Vasanthagopal (2011) studied, "GST in India: A Big Leap in the Indirect Taxation System" and concluded that switching to seamless GST from current complicated indirect tax system in India will be a positive step in booming Indian economy. Success of GST will lead to its acceptance by more than 130 countries in world with new preferred form of indirect tax system in Asia also.

AgogoMawuli (May 2014) studied, "Goods and Service Tax- An Appraisal" and found that GST is not good for low income countries and does not provide broad based growth to poor countries. If still these countries want to implement GST should be less than 10% for growth.

### **Objective of the study**

- To give a clear idea about the concept of GST and evaluate the advantages of introduction of GST.
- To find out the impact of GST on the tax burden of common people.

### **Methodology**

This paper is basically based on both primary as well as on secondary data. For collecting primary data, questionnaire method was used. We have approached 129 people but 29 out of them didn't respond to the questions, hence sample size is 100.

*Sampling Technique:* Random Sampling

*Time period of the Survey:* Between Dec 2017 to Feb 2018.

*Area of the study:* Kolkata corporation jurisdiction.

Secondary data has been collected from various articles, journals and useful websites.

### **Conceptual Framework:**

GST is an indirect tax which subsumed almost all the indirect taxes of central government and state government into a single comprehensive tax, bringing all the taxes under an umbrella. It is levied on both goods and services at every stages of value addition. GST has two components keeping in mind the federal structure of India: the Central GST (CGST) and the State GST (SGST). The Central GST to be levied and collected by the central, whereas, the State GST to be levied and collected by the respective states. At the central level, Central Excise Duty, Additional Excise Duty, Service Tax, Countervailing Duty (Additional Customs Duty) and Special Additional Duty of Customs are to be subsumed. On the other hand, at the state level, Value Added Tax (VAT) / Sales Tax, Entertainment Tax, Octroi and Entry Tax, Purchase Tax, Luxury Tax and taxes on lotteries, gambling, betting etc. are to be subsumed. The central and the state GST will be levied simultaneously on each and every transaction of supply of goods and services except exempted goods and services, goods which are not consider under the purview of GST and also goods which are below the prescribed threshold limit.

### **Timeline of GST in India:**

An empowered committee was set up in 2000 by the Atal Bihari Vajpayee administrator under the chairmanship of Sri. Asim Dasgupta to design the GST model. With UPA government in power, the then Union Minister P. Chidambaram, in his budget speech on 28<sup>th</sup> February, 2006 announced the target date for

implementation of GST to be 1<sup>st</sup> April, 2010 and formed another committee to design the road map. A Joint Working Group was set up by empowered committee of state finance ministers which submitted the report in November, 2007. First detailed discussion paper on structure of GST was introduced by the empowered committee in November, 2009 with the objective of generating a debate and getting inputs from all stakeholders. It suggested a dual GST Module along with a GST Council and finally in March 2011, constitution 115<sup>th</sup> amendment bill was introduced to draw up laws for implementing GST. In August 2013 the standing committee submitted the report and recommended the proposed Dispute Settlement Authority should be removed and its mechanism should be given to GST Council itself. But the proposed 115<sup>th</sup> amendment bill was lapsed with dissolution of 15<sup>th</sup> Lok Sabha.

After many days of nagging, finally the GST bill passed in Rajya Sabha on 3<sup>rd</sup> August, 2016 under the chairmanship of the Union Finance Minister Sri Arun Jaitley. Afterwards, it is then passed in Lok Sabha on 8<sup>th</sup> August, 2016.

#### *Features of GST:*

The features of GST can be described in a nutshell. These are likely to be as follows:

- GST is a dual indirect tax structure where both the central and the state government have the power to levy tax.
- GST is applicable on supply of goods and services. In GST regime, supply such as sale, transfer, lease, etc. of goods or services made for consideration and in some case without consideration (like permanent transfer of business asset) will attract both central GST and state GST.
- The central and the state GST is applicable on all supply of goods and services for a consideration except exempted goods, goods not under the purview of GST and the goods which are below the prescribed threshold limit.
- The CGST and SGST are to be paid to the accounts of the central and the state separately. Taxes paid against CGST and SGST will get input tax credit (ITC).
- GST is payable at the time of supply and hence the determination of time and place of supply is very important as far as levy of GST is concerned.
- The tax payer would need to submit the return periodically to both the central and the state GST authority.

#### *Benefits of introduction of GST in India:*

The introduction of GST in India is considered as one of the biggest reformation in the taxation system of our nation. The major advantages of GST implementation in India can be highlighted with the help of the following points:

- Both the central as well as the state government will get the benefit from increase in tax collection due to the widening of tax base and coverage of taxable supply of goods or services.
- With the introduction of GST, all other taxes are subsumed into GST, making compliance easy.
- It aimed to eliminate the cascading effect of taxation on the prices of production and distribution of goods.
- GST would provide India with a competitive edge in the international market leading to increase in exports.
- It is expected to bring down the inflation and fiscal deficit in the medium term.

*List of some items which are completely exempt from the GST regime:*

- The unprocessed cereals, rice and wheat etc.
- The unprocessed milk, vegetables (fresh), fish, meat, etc.
- Unbranded colouring book/drawing books.
- Sindoor/Bindis, bangles, etc.

#### *Hypothesis*

*Null Hypothesis ( $H_0$ ):* GST has no significant impact on the tax burden for common people.

*Alternative Hypothesis ( $H_1$ ):* GST has initially increased the tax burden for common people.

#### **Results & Discussion**

##### *Demographic Profile of the Respondents:*

**Table 1: Gender and Age of the Respondents**

Parameters	Age between 20-30	Between 31-40	Above 41	Total
Male	11	26	13	50
Female	7	28	15	50
Total	18	54	28	100

**Table 2: Occupation of the Respondents**

Salaried Persons	Business Persons	Professors, Research Scholars	Total
45	30	25	100

**Table 3: Educational Qualification**

Under Graduate	Graduate	Post Graduate
0	33	67

**Table 4: Annual Income**

Below 1 lac	18
1 to 2 lac	44
2 to 3 lac	22
Above 3 lac	16

**Table 5: Reaction of Respondents Towards The Statement Whether GST Has Increased The Tax Burden For Common People or Not**

GST has increased the tax burden for common people	Salaried Persons	Business Persons	Professors, Research Scholars	Total
Yes	30	12	19	61
No	15	18	6	39
Total	45	30	25	100

*Testing of Hypothesis*

Our test statistic is Chi square with  $[(r-1)(c-1)] = [(2-1)(3-1)] = 2$  degree of freedom. Data table 5 is used as observed frequency and expected frequency is calculated as follows:

Table 6: Expected Frequency

GST has increased the tax burden for common people	Salaried Persons	Business Persons	Professors, Research Scholars	Total
Yes	27.45	18.3	15.25	61
No	17.55	11.7	9.75	39
Total	45	30	25	100

Table 7: Calculation of Chi-Square Test

Cell (i,j)	Observed Frequency	Expected Frequency	Chi-square Value
(1,1)	30	27.45	0.237
(1,2)	12	18.30	2.169
(1,3)	19	15.25	0.922
(2,1)	15	17.55	0.371
(2,2)	18	11.55	3.392
(2,3)	6	9.75	1.442
Total			$\sum[(f_o - f_e)^2/f_e] = 8.533$

Tabulated value of chi square at 5 % level of significance with 2 degree of freedom is 5.99. As the calculated value of chi square is more than the tabulated value of chi square at 5% level of significance, hence Null Hypothesis ( $H_0$ ) is rejected. So we can conclude that GST has initially increased the tax burden for common people.

*Study Related More Questions:*

Table 8: Merging all levies on goods and services GST has resulted in a simple , transparent and easy tax structure

Options	Respondents	Percentage
Agree	22	22%
Strongly agree	36	36%
Disagree	13	13%
Strongly disagree	6	6%
Neither agree nor disagree	23	23%

Table 9: GST has boost up economic unification of India it will evade the cascading effect in Indirect tax regime

Options	Respondents	Percentage
Agree	18	18%
Strongly agree	40	40%
Disagree	15	15%
Strongly disagree	7	7%
Neither agree nor disagree	20	20%

Table 10: Do you agree with the statement – ‘GST is a luxury tax’?

Options	Respondents	Percentage
Agree	26	26%
Strongly agree	31	31%
Disagree	8	8%
Strongly disagree	9	9%
Neither agree nor disagree	26	26%

Table 11: ‘GST has burn a hole in the consumers’ pocket in the name of cess and costlier services.’

Options	Respondents	Percentage
Agree	38	38%
Strongly agree	43	43%
Disagree	3	3%
Strongly disagree	0	0
Neither agree nor disagree	16	16%

Table 12: Some experts say that CGST, SGST are nothing but new names for Central Excise, Service Tax, VAT and CST. Hence there is no major reduction in the number of tax layers

Options	Respondents	Percentage
Agree	42	42%
Strongly agree	48	48%
Disagree	2	2%
Strongly disagree	0	0
Neither agree nor disagree	8	8%

Table 13: GST has increased operating costs for businessmen

Options	Respondents	Percentage
Agree	30	30%
Strongly agree	25	25%
Disagree	21	21%
Strongly disagree	16	16%
Neither agree nor disagree	8	8%

Table 14: GST provides increased protection for Make in India goods from imports

Options	Respondents	Percentage
Agree	36	36%
Strongly agree	22	22%
Disagree	11	11%
Strongly disagree	18	18%
Neither agree nor disagree	13	13%

Table 15: The implementation of GST puts India in the line of international tax standards, making it easier for Indian businesses to sell in the global market

Options	Respondents	Percentage
Agree	12	12%
Strongly agree	25	25%
Disagree	10	10%
Strongly disagree	6	6%
Neither agree nor disagree	47	47%

**Table 16: Reliability Test**

**Case Processing Summary**

Cases		N	%
	Valid	100	100.0
	Excluded <sup>a</sup>	0	0.0
Total	100	100.0	

**Table 17: Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.821	.712	8

**Table 18: Item Statistics**

	Mean	Std. Deviation	N
Merging all levies on goods and services GST has resulted in a simple transparent and easy tax structure.	2.7200	1.47079	100
GST has boost up economic unification of India it will evade the cascading effect in Indirect tax regime.	2.7100	1.38750	100
Do you agree with the statement – ‘GST is a luxury tax’?	2.7800	1.56721	100
‘GST has burn a hole in the consumers’ pocket in the name of cess and costlier services.’	2.1300	1.36074	100
Some experts say that CGST, SGST are nothing but new names for Central Excise, Service Tax, VAT and CST. Hence there is no major reduction in the number of tax layers.	1.8400	1.07045	100
GST has increased operating costs for businessmen.	2.4400	1.26587	100
GST provides increased protection for Make in India goods from imports.	2.5000	1.45990	100

### Results and Discussion

From Table 7, Chi-square test, it is clear that GST has initially increased the tax burden for common people.

From Table 17, as the result of Cronbach’s alpha is more than 0.70, the data which was collected through questionnaire is reliable.

From Table 8, we observe that 22 % respondents have agreed and 36 % respondents are strongly agreed about the fact that GST has resulted in a simple, transparent and easy tax structure whereas 13 % are disagreed, 6 % are strongly disagreed.

From Table 9, we observe that 18% of the respondents agreed and 40% of the respondents strongly agreed with the statement that GST has boost up economic unification and evade cascading effect in Indirect tax regime. However, 15% of the respondents disagreed and 7% of the respondents strongly disagreed with it. 20% of the respondents neither agreed nor disagreed with it.

From Table 10, we observe that 26% of the respondents agreed and 31% of the respondents strongly agreed with the statement that GST is a luxury tax. However, 8% of the respondents disagreed and strongly disagreed with it. 26% of the respondents neither agreed nor disagreed with it.

Table 19: Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Merging all levies on goods and services GST has resulted in a simple transparent and easy tax structure.	17.9100	20.204	.144	.119	.681
GST has boost up economic unification of India it will evade the cascading effect in Indirect tax regime.	17.9200	19.670	.218	.123	.569
Do you agree with the statement – 'GST is a luxury tax'?	17.8500	18.957	.210	.076	.351
'GST has burn a hole in the consumers' pocket in the name of cess and costlier services.'	18.5000	19.707	.225	.408	.346
Some experts say that CGST, SGST are nothing but new names for Central Excise, Service Tax, VAT and CST. Hence there is no major reduction in the number of tax layers.	18.7900	20.450	.277	.362	.336
GST has increased operating costs for businessmen.	18.1900	23.125	-.037	.104	.455
GST provides increased protection for Make in India goods from imports.	18.1300	19.973	.166	.122	.373
The implementation of GST puts India in the line of international tax standards, making it easier for Indian businesses to sell in the global market.	17.1200	19.278	.187	.129	.532

From Table 11, we observe that 38% of the respondents agree and 43% of the respondents strongly agree with the statement that GST has burn a hole in the pockets of the consumers. However, 3% of the respondents disagreed and none of the respondents strongly disagreed with it. 16% of the respondents neither agreed nor disagreed with it.

From Table 12, we observe that 42% of the respondents agreed and 48% of the respondents strongly agreed with the statement that GST has not reduced the tax layers. However, 2% of the respondents disagreed and none of the respondents strongly disagreed with it and 8% of the respondents neither agreed nor disagreed with it.

From Table 13, we observe that 30% of the respondents agreed and 25% of the respondents strongly agreed with the statement that GST has increased operating costs for businessmen. Whereas, 21% of the respondents disagreed and 16% of the respondents strongly disagreed with it and 8% of the respondents neither agreed nor disagreed with it.

From Table 14, we observe that 36% of the respondents agreed and 22% of the respondents strongly agreed that GST has increased protection for Make In India goods from imports. However, 11% of respondents disagreed and 18% of the respondents strongly disagreed with this statement and 13% of the respondents neither agreed nor disagreed with the statement.

From Table 15, we observe that 12% of the respondents agreed and 25% of the respondents have strongly agreed that implementation of GST puts India in the line of international tax standards making it easier for Indian businesses to sell in the global market. However 10% of respondents have disagreed and 6% of respondents have strongly disagreed with this statement and 47% of the respondents couldn't form an opinion on this.

Table 20: Scale Statistics

Mean	Variance	Std. Deviation	N of Items
20.6300	24.276	4.92705	8

## Conclusion

Though GST has initially increased the tax burden of common people but in long term it will be beneficial for our economy. It is demand of time to implement GST. Consumption and productions of goods and services is undoubtedly increasing and because of multiplicity of taxes in current tax regime administrative complexities and compliance cost is also accelerating. Thus, a simplified, user -friendly and transparent tax system is required which can be fulfilled by implementation of GST. Its implementation stands for a coherent tax system which will colligate most of current indirect taxes and in long term it will lead to higher output, more employment opportunities and flourish GDP by 1-1.5%.

It can also be used as an effective tool for fiscal policy management. Its execution will also result in lower cost of doing business that will make the domestic products more competitive in local and international market. No doubt that GST will give India a world class tax system by grabbing different treatment to manufacturing and service sector. But all this will be subject to its rational design and timely implementation. There are various challenges in way of GST implementation as discussed above in paper. They need more analytical research to resolve the battling interest of various stakeholders and accomplish the commitment for a cardinal reform of tax structure in India.

## References

- Charan Piyush, Benjaminand Rohan & Khan Zohaib Hasan (2016). Goods and Services Tax (GST) Bill: Gearing up for the next big wave in the Indian Economy, International Journal of Scientific & Engineering Research, 8(1)
- Garg Girish (2014). Basic Concepts and Features of Good and Services Tax in India, International Journal of scientific research and Management, 2(2), 542-549
- Khurana Akanksha & Sharma Aastha (2016). Goods and Services Tax in India-A Positive Reform for Indirect Tax System, International Journal of Advanced Research, 4(3), 500-505
- Lourdunathan F. and Xavier P. (2017). A study on implementation of goods and services tax (GST) in India: Prospectus and challenges, International Journal of Applied Research, 3(1), 626-629.

5. Nitin Kumar. (2014). Goods and Services Tax in India: A Way Forward. *Global Journal of Multidisciplinary Studies*, 3(6), 216-225.
6. Sehrawat Monika & Dhanda Upasana (2015). GST In India: A Key Tax Reform, *International Journal of Research Granthaalayah*, 3(12), 133-141.
7. Vasanthagopal, R. (2011). GST in India: A Big Leap in the Indirect Taxation System, *International Journal of Trade, Economics and Finance*, 2(2)

COM/GM&E/5

## Mediation and Conciliation of Disputes under Companies Act, 2013- Cost and Time Effective Way Forward

Sneha Singh

Faculty, Business Laws, St. Xavier's University & Research Scholar, West Bengal  
National University of Juridical Sciences, Kolkata

### Abstract

*Under the Companies Act, 2013 (hereinafter referred to as the Act), Mediation and conciliation was suggested as a dispute resolution mechanism for Companies in an attempt to synchronise the Indian dispute resolution mechanisms with standards and popular practices around the globe. Mediation and Conciliation are voluntary dispute resolution mechanism rendered with statutory recognition under Section 442 of the Act. Parties to disputes under the Act can at any stage of the proceeding before quasi judicial bodies such as the Central Government, Tribunal and the Appellate Tribunal can be facilitated by Mediation and Conciliation for settlement of the disputes. Though the term Mediation has not been defined by the Act or the relevant rules, as per the definition in Black Law Dictionary, Mediation is "an act of a third person who interferes between two contending parties with a view to reconcile them or persuade them to adjust or settle their dispute" and Conciliation is "the process of adjusting or settling disputes in a friendly manner through extra judicial mean". It was also further simplified by the rules framed by the Central Government by Companies (Mediation and Conciliation) Rules, 2016. This paper analyses the effectiveness of Mediation and Conciliation as dispute resolution mechanisms and then studies the same in the context of commercial disputes as understood under the Companies Act, 2013.*

### Introduction

Conflicts or disputes are driven by either interests or rights. When the issue is regarding either of these, parties tend to focus on the conflict mode. These parties are either safeguarding their rights or emphasising on their interests. Parties to the dispute often take the recourse of mechanisms for resolution of disputes- adversarial or non-adversarial. Adversarial mechanism is all about the rule of Law established by the Courts of Law whereas non-adversarial mechanism is informal and less complex in terms of procedure.

Though Company is an artificial legal entity, it can be party to a dispute and thereby seek resolution of these disputes. Each conflict of company affects it the most because the dispute is with the people who will continue to be in a relationship and the sourness due to the conflict can adversely affect their performance or orientation towards the company directly.

To understand the concept of disputes in companies, conflict can be basically of three categories-

- Company against Company;
- Company against its own stakeholders (such as shareholders, employees, debtors, creditors etc); and
- Company against Third party or Public at large.

Each kind of conflict in company affects the artificial legal entity the most because it is one of the two disputants though represented by its human agents. For instance, a dispute between two companies may negatively affect both the companies and their future. Thus the companies would prefer a dispute resolution mechanism which is less controversial and time consuming than litigation. Arbitration was the obvious choice as an alternative but the Companies Act, 2013 endorsed tribunals and Mediation and Conciliation as dispute resolution mechanisms. While tribunals are quasi-judicial bodies, Mediation and Conciliation can be referred to by the Tribunals and Central Government at any stage of pendency of proceedings. This paper discusses in details the two alternative mechanisms of dispute resolution- Mediation and Conciliation and as to how the procedure laid down under the Companies Act, 2013 encourages commercial disputes to be resolved in much friendlier way which is both pocket friendly as well as saves the Company time and scope of evolution to the globalized mechanism.

*Mediation and conciliation-alternatives to traditional dispute resolution mechanism:* Alternative Dispute Resolution Mechanism offers solution to the problem of access of Justice. Alternative Dispute Resolution is any mechanism for resolution of dispute which is not litigation. It is a broad spectrum of binding and non-binding processes and involves assistance of a neutral third party empowering the parties to the dispute to resolve potential or actual disputes. Each alternative dispute resolution mechanism is dependent on the basis of a range of factors such as the specific interests of the parties and accessibility, efficiency and effectiveness of the parties involved in the dispute. While time consumed and costs accrued are few concerns of the disputants, the variety of disputes and their intricacies can lead to concerns as to which means to justice is appropriate.

Parties to specific types of disputes should be encouraged to consider mediation or conciliation as amenable mechanisms. The appropriateness of the cases depend on the parties wish to restore or maintain their relationship with the other party; claims where the monetary and non-monetary costs of litigation are disproportionately high in comparison to the issues in dispute; claims where one or both parties are remedies which are not available through the traditional court system such as flexibility in financial repayments or contracts and where the parties wish to resolve the dispute in a confidential and private manner<sup>i</sup>. The term Mediation is a verb of Mediate which is derived from the latin word '*mediare*' which means '*to be in the middle*'. It is a term which may have different meanings depending in the context it is used in and whether the emphasis is on the process or outcome. In India, the term Mediation is not defined statutorily and is in its simplest form a process to assist people reach voluntary resolution of dispute through a negotiation facilitated by a third party. The Civil Procedure Code, 1908 under Section 89 lays down the provision for settlement of disputes outside court by a referral of the dispute to the alternative dispute resolution mechanism and Mediation is one of the mechanisms recognised therein.

Section 89. Settlement of disputes outside the Court - (1) Where it appears to the Court that there exist elements of a settlement which may be acceptable to the parties, the Court shall formulate the terms of settlement and give them to the parties for their observations and after receiving the observations of the parties, the Court may reformulate the terms of a possible settlement and refer the same for

- arbitration;
- conciliation;
- judicial settlement including settlement through Lok Adalat; or
- mediation

Conciliation is defined as per the 2002 UNCITRAL Model Law on International Commercial Conciliation as: "a process, whether referred to by the expression conciliation, mediation or an expression of similar import, whereby parties request a third person or persons ("the conciliator") to assist them in their attempt to reach an amicable settlement of their dispute arising out of or relating to a contractual or other legal relationship. The conciliator does not have the authority to impose upon the parties a solution to the dispute."

A definition inspired by the Model Law is adopted by the Arbitration and Conciliation Act, 1996 to define Conciliation which has been a successful mechanism of dispute resolution for Industrial Disputes and recognised under the Labour law jurisprudence of the country since independence<sup>ii</sup>.

*Mediation and conciliation of commercial disputes:*

Mediation and Conciliation are alternative dispute resolution mechanisms with the crucial role of a neutral third party. These mechanisms are used interchangeably in certain jurisdictions but they have their unique features differentiating them from each other. The fundamental difference is the degree of involvement by the neutral and independent third party in the respective processes. Both the mechanisms adhere to the principle of self-determination and are non-determinative processes. Conciliation allows the conciliator i.e. the name given to the third party to advise on substantive matters through the issuing of formal recommendations and settlement proposals. Mediation requires the mediator (the third party) to address process issues only and facilitate the parties reach a mutually acceptable negotiated agreement. The Conciliator is more active in intervention in between the disputants and may from time to time advise the members on the content and outcome whereas the Mediator generally assists the parties to communicate with each other facilitating identification of the issues and consider options to reach mutual settlement.

One of the many advantages of Mediation as an alternative dispute resolution mechanism is that the process is voluntary and confidential wherein the disputants determine the outcome for the dispute and the third party acts as a facilitator. The possible range of outcomes through mediation is higher than the adversarial mechanism of litigation. The disputants and the mediator explore their options and permutation combinations of solutions possible to custom make their personal case specific solution. The scope of participation of the disputants is higher with reduced costs in comparison to litigation. The impartiality of the mediator and heightened level of communication leaves the parties more involved and aware whether or not the dispute is resolved. Mediation is often argued as "*soft justice*" with limitations of its own and impediments on the parties involved. However, they have their own share of advantages. They are cost and time effective processes. As an additional layer of civil

litigation, it may or may not lead to settlement but keeps on adding the cost. As per the Companies Act, 2013, Mediation and Conciliation can be initiated at the post referral stage. The statutory authorities under the Act have the power to refer the dispute pending before them for the process to facilitate and direct the dispute resolution in between parties and stakeholders.

*Analysis from the companies act, 2013 perspective:*

Under the Companies Act, 2013, resolution of disputes is considered from two dimensional perspectives<sup>iii</sup>. It modernised the practices from around the globe to the incorporations in India. The parties to a dispute can take their dispute to authorities such as Regional Director, Registrar of Companies, Tribunals and Special Courts. The tribunals are National Company Law Tribunal and National Company Law Appellate Tribunal. These tribunals and the Central Government are authorities who can refer the dispute to the process of Mediation and Conciliation. As per Section 442 of The Companies Act, 2013, the Central Government is expected to maintain a panel of experts. The Central Government should maintain a panel of experts to mediate between the parties. Mediation can be referred to parties only during the pendency of the proceedings under the Companies Act before the Central Government, Tribunal or the Appellate Tribunal. The Panel as per the Act is expected to dispose the matter within three months from the date of reference and forward its recommendations to the referring authority. Appeal against the recommendations can be duly filed with the referring authority.

Inclusion of alternative dispute resolution mechanism provides a scope of speedy access to justice in comparison to the adjudication process bound in the shackles of procedure and merits of the case. Nevertheless, the binding nature may act as a deterrent to acceptance of the mechanism- Mediation or Conciliation can only be initiated if referred by the authorities discussed hereinabove and not voluntarily by the parties to the dispute. Obligation imposed by the Tribunals or Central Government negates the concept of Mediation and Conciliation to be opted as a Voluntary mechanism of resolution of dispute. The concept of introducing a Mediation and Conciliation Panel in the Companies Act, 2013 is inspired by the pendency of matters before the courts and tribunals. The delegation of the dispute resolution authority allows for case wise resolution of disputes by the alternative processes.

The process of constituting the panel was initiated by the Central Government with the publication of the Companies (Mediation and Conciliation) Rules, 2016<sup>iv</sup>. The rules categorically specify certain matters which cannot be referred to mediation and conciliation:

- Matters in respect of inspection, investigation or inquiry under CA 2013;
- Matters relating to defaults or offences for which applications for compounding have been made by one or more parties;
- Cases involving serious and specific allegations of fraud, fabrication of documents forgery, impersonation, coercion etc.;
- Cases involving prosecution for criminal and non-compoundable offences; or
- Cases which involve public interest or interest of numerous persons who are not parties before the government administrator or tribunal as the case may be.

To be successful alternative to litigation, the mechanism should be confidential and inexpensive for the disputants. The Companies (Mediation and Conciliation) Rules, 2016 aims at greater adaptability of mediation and conciliation as dispute resolution mechanism for the commercial disputes. The experts on the panel shall attempt to

facilitate voluntary resolution of dispute between the parties and provide assistance in terms of facilitating communication, reducing misunderstandings, clarifying positions and exploring areas of compromise and settlement.

Under the Companies Act, 2013, Mediation and Conciliation is envisaged to be conducted on payment of fee to the mediator or conciliator on payment of fees prefixed by the referring authority. The referring authority is to decide the fee and the disputants are expected to abide. The process is semi-formal and somewhat binding in nature. The disputants whose dispute is referred to mediation during the pendency of the mediation proceedings as per the Act may not initiate any parallel arbitral or judicial proceeding on the same subject matter. However, if parallel arbitral or judicial proceedings are initiated, its validity is to be appropriately determined by the Tribunals or administrators decision in terms of admissibility as the situation or the case demands.

The process of Mediation and Conciliation is simplified and confidential which increases the trustworthiness and popularity of the mechanism. However, this essence of confidentiality does not transpire from the provision laid down in the Companies Act, 2013. On the contrary, the statute specifies as to how the expert from the panel constituted by the Central Government should make recommendations for the referring authority upon completion of the proceedings and there is no specification as to the expected report to the authorities in the instance of a "*failed mediation*." Since the Companies Act does not specify something similar and the expert panel is expected to prepare report and recommendations irrespective of the outcome of the procedure, there lies a concern of acceptability. This condition can be a pre-emptive feature and a concern for the parties to the dispute from disclosing facts during the proceedings which can be of conflicting nature or prejudicial to their interests if otherwise disclosed to the referring authority. The non-disclosure of facts in cases where in Mediation or conciliation failed will increase the confidence of the disputants and encourage them to discuss the issues openly with the Mediator or conciliator.

#### *Way forward- company law jurisprudence in India:*

The statute governing Companies in India took a progressive and creative leap of faith by suggesting Mediation and Conciliation as a prospective dispute resolution mechanism for proceeding pending in tribunals and before the Central Government. Mediation and conciliation provides a win-win situation for the representative of each side and since the proximity of relation between the people involved in a commercial dispute is high. Privacy is an advantage. End product is the agreement of both sides. Mediation is a voluntary mechanism. But the statute kept the restraint of referral with the authorities which made it optional and to be decided by the Central Government and not adopted voluntarily by the parties to the dispute. This absence of voluntariness diffuses the essence of Mediation and Conciliation. Moreover, there is not sufficient engagement of Mediation and Conciliation in commercial transactions in India while Arbitrators hog the limelight as crusaders of Justice beyond the Courts of Law. But it cannot be undermined that Alternative Dispute Resolution support will improve the business climate and leverage the relationship of stakeholders involved in the commercial transactions. It will boost the Companies to take decisions boldly in the overall interest of the Corporate Structure and manage the disputes amicably through these mechanisms which are informal but effective in striking a dialogue with the disputing members who are in commercial disputes close and related either by interests or rights for a long term. Mediation and Conciliation if developed as an

option of resolution of dispute in the pre-referral and in fact pre-filing stage will be a more effective and concrete option of dispute resolution and thus way forward.

### References

1. Rao P.C. & Sheffield William, *Alternative Dispute Resolution What it is and how it works*, Universal law Publishing, 1997 Edition as reprinted in 2011.
2. The term Conciliation is well understood in the Labour Law Jurisprudence of the country. According to the Industrial Disputes Act, 1947, award passed by the Conciliation Officer is binding on the disputants of the Industry and the award can be used for settlement of disputes.
3. G.K. Kapoor and Dr. Sanjay Dhamija, *Company Law and Practice, A Comprehensive Text Book on Companies Act 2013*, Taxmann, 22<sup>nd</sup> Edition, August, 2017.
4. [http://www.mca.gov.in/Ministry/pdf/CompaniesMediationandConciliationRules\\_10092016.pdf](http://www.mca.gov.in/Ministry/pdf/CompaniesMediationandConciliationRules_10092016.pdf) Last accessed on 02.04.2018.

COM/HR/1

## Line of Influence: Facets of Leading

### Chinhita Bose

Deputy Manager – Human Resource, Himadri Speciality Chemical Ltd.

#### Abstract

*In the global competitive business scenario, the concept of Leader and Styles of Leadership has undergone major metamorphosis. The definition of Leadership has witnessed a paradigm shift. The discourse of traditional leadership is being revisited with dynamic interpretations and perspectives to align with the current organizational needs and societal demands at large. The notions of "Leading from front" and "Leading from behind" has gained quite a momentum in the contemporary organizational landscape. The concept of "Leading from side" is another allied perspective which further adds to the dynamism of effective leadership. This paper is a literature review based research, exploring the new facets of contemporary leadership styles, their significance in the organizational and societal context with pertinent examples. The study further attempts to understand the correlation among these facets of leading.*

**Keywords:** Leadership, Leading from front, Leading from behind, Leading from side.

#### Introduction

In the contemporary dynamic business scenario, the major game changers are innovation and adaptation. Theories and discourses are being reinterpreted to address the challenges of today's increasingly competitive marketplace. The concept of Leadership and facets of leading have undergone sea changes to align with the current organizational priorities and societal expectations at large. The notions of "Leading from front", "Leading from behind" and "Leading from side" add new dimensions to the definition of impactful and effective leadership patterns.

#### Review of Literature

Leaders, through ages, have been the harbinger of new thoughts and drivers of change. They are the influencers and the visionaries. Leadership has been characterized as "activity aimed at bringing about change in an organization or social system to improve people's lives" (Astin & Leland, 1991, p. 7). This new dynamic era is no exception; leaders now play more multidimensional roles. Hence a modern kaleidoscopic view of leadership styles is vital to understand the context for building leadership skills for organizational success and progress of societal structure.

#### *"Leading from front"*

The phrase "*Leading from front*" immediately conjures the image of a military general, making war cry and motivating his soldiers to slay the enemy and taste victory!! In the film "*Padmavat*" the character of Allaudin Khilji skillfully plays with words and instigates the fallen spirits of his soldiers. His invigorating speech creates the desired result – the soldiers are imbued with motivation to defeat the enemy. Thus, in simple words, leading from front is leading by examples, coming to the forefront and actually demonstrating the ways and means to accomplish a task. But the greatest pitfall is that the leader can become autocratic and lose the pulse of the team, which is a dangerous proposition. Another practical impediment is that a leader is not a demi -

god, he or she might not possess skill sets or situational opportunities to resolve every crisis or exigency.

*"Leading from behind"*

Hence the concept of "Leading from behind" comes into the picture. This concept was popularized by Professor Linda A.Hill of Harvard Business School. She had derived this term from the autobiography of Mr. Nelson Mandela, who had equated a leader with a shepherd. To some, the term may appear confusing in the beginning. It may seem that the term implies the leader takes a backseat and becomes a mere spectator or audience. But it is not so- the leader no longer leads from front rather lets his or her team face and resolve the challenges by using their learning and expertise. The leader is like a shadow, always following his / her team mates to provide support and guidance. An apt example is the director of a film. He or she is the guiding force behind the film making but allows creative space to the actors and other functions of film making so that the team can give their best performance. In the organizational context, it's about creating leadership pipeline ,succession planning, helping team mates come out of their comfort zone , soar new heights and set new paradigms of leadership.

Hence, both these concepts are complementary rather than substitutes of each other. The application is contextual, situation driven and depends on the stage of organizational growth. In very nascent stage, the organization will prefer leading from front whereas in a more matured state of affairs, leading from behind will be more fruitful as goals and objectives gain clarity and direction.

*"Leading from side"*

The study cannot be complete without discussing another important concept i.e. "Leading from side". In an ever changing environment, in order to realize the full potential of organization and its resources, cross functional approach is the key to sustainability. Now decisions are taken on the basis of holistic perspective rather on a single dimension. Any break through idea or innovation is a collaborative effort rather than the work of a single genius. World is no more SMART, its SMARTER (E-Effectiveness, R -Reinforcement). Cross functional teams is a norm of the day both in terms of function as well as geography. This style is more challenging as there is no direct authority over team members; it's not leading from front or behind rather walking with your team. There is no hierarchy but heterarchy. It is impactful leadership style.

Lastly , an example from our familiar sphere of life will help us to understand and ponder about who is an effective and impactful leader in our lives – the father figure (leading from front), the mother figure ( leading from behind) or the friend who is always walking by your side ( leading from side).

### **Objectives of the Study**

The aim of the study is to explore the new discourses on Leadership and Styles of Leadership which have created a major breakthrough in the current organizational perspective as well as in the societal context. The study further attempts to understand the correlation among these facets of leading.

## Methodology

The study revolves around secondary research based on literature review, concerning contemporary leadership styles, its dynamics in the current organizational topography and societal framework at large.

## Conclusion

Situation or context is the key driving factor to determine the pattern of leadership style. Hence these facets of leading are interchangeable and their correlation is highly contextual and situation driven.

## References

1. Fred Luthans, (2011).Organizational Behavior- An Evidence-Based Approach, 12<sup>th</sup> Ed, MacGraw-Hills.
2. <http://theleadershipwhisperers.com/blog/3-positions-of-leadership-leading-from-the-front/>
3. <https://hbr.org/2010/05/leading-from-behind>

## An Empirical Analysis on the Quality of Work Life among Support Staffs in the Shopping Malls of South Kolkata

Dipanjan Basu<sup>1</sup>, Rishav Bose<sup>2</sup> & Ankita Mazumdar<sup>3</sup>

<sup>1</sup>Research Fellow, St Xavier's College, Kolkata

<sup>2</sup>Student, B.Com (Hons) 1<sup>st</sup> Year, The Heritage College, Kolkata

<sup>3</sup>Student, B.Com (Hons) 1<sup>st</sup> Year, The Heritage College, Kolkata

### Abstract

*Quality of Work Life (QWL) refers to the favourableness or unfavourableness of job environment of people. QWL among employees is important as it entails strong participation in many of the programs organized by firms. Moreover, having quality work life will lead to better well being of the workers and society. QWL helps an employee in better understanding of his work which in turn motivates him to get involved in the job. It also causes a sense of satisfaction among the employees. When an individual's job involvement, job satisfaction and sense of security increase due to QWL, there is also a rise in the job performance. This paper entails the relationship between job satisfaction, job involvement and job security with QWL. Besides, the paper determines the factors which influence QWL in an organization. The study contributes to the mainstream knowledge of the QWL from the perspective of 150 respondents who work as support staffs in the shopping complexes of South Kolkata.*

**Keywords:** Job Involvement, Job Satisfaction, Job Security, Quality of Work Life

### Introduction

Quality of Work Life (QWL) is one of the most important issues in every organization. It denotes all the organizational inputs which aim at the employee's satisfaction and enhancing organizational effectiveness. QWL refers to the favourableness or un-favourableness of a total job environment of the people. When organization offers quality of work life to their employees, it is a good indicator to boosts its image in attracting and retaining employees.

Job satisfaction refers to how well a job provides fulfilment of a need or want, and is the degree to which individuals feel positively or negatively about their jobs. An individual aims for highest possible job satisfaction and the positivity out of the job is derived from a higher QWL.

Job Security is an assurance that an individual will keep his or her job without the risk of becoming unemployed. And QWL plays a pivotal role in giving them assurance that their job is well secured.

Job Involvement refers to the psychological and emotional extent to which someone participates in his/her work, profession, and company. When the suggestions of an employee are taken into consideration and his opinions are implemented while decision making, he feels more involved with his job and hence the productivity increases.

## Review of Literature

Sarina Muhamad Noor & Mohamad Adli Abdullah (2012), "Quality Work Life among Factory Workers in Malaysia" state that: quality of work life among employees is important as it entails strong participation in many of the programs organized by firms. Moreover, having quality work life will lead to better well being of the workers and society. This study was conducted at one of the largest factories in northern part of Malaysia. With a respond rate of 70%, Pearson correlation indicates that job satisfaction, job involvement and job security have significant relationship with quality of work life.

Kanten and Sadullahin (2012) based on "An empirical research on relationship quality of work life and work engagement" state that: Literature on Quality of Work Life (QWL) is limited and several studies commonly correlates with some variables but no study on QWL has associated with work engagement. This research investigates the association between quality of work life and work engagement.

Lee, Singhapakdi & Sirgy (2007), Johnsrud (2002) & Karir & Khurana (1996) stated that job satisfaction is viewed as the outcome of QWL. These studies indicate that employees feel satisfied towards their job once QWL programs are present.

According to Selahattin Kanten and Omer Sadullah quality of work life is related to the welfare of employees at work and it is quite different from the subject of job satisfaction. When the needs of employees at work does not meet, likely they experience a lot of work stress that will have adverse consequences on the welfare of employees and job performance (Emadzadeh et. al, 2012: 438). Research has proved that the relationship of QWL with some of the variables such as job satisfaction, organizational commitment, job performance, turnover intention, labor relations etc. play a crucial role in determining the overall wellbeing of any industrial organization. Work engagement is fundamentally a motivational concept that represents the active allocation of personal resources toward the tasks associated with a work role (Christian, et. al, 2011: 91). Recent efforts to improve organizational performance have begun to emphasize positive organizational behavior concepts and positive emotions. Work engagement has emerged as the most prominent positive organizational concept, particularly among organizational consultants (Burke et. al, 2009: 4-5). It was Published by Elsevier Ltd.

## Objectives of the Study

- To show the degree of association between the job satisfaction, job involvement and job security with QWL.
- To determine the factors which influence QWL in an organization.

## Limitations of the Study

1. *Ambiguity:* Initially while talking to the employees and the labourers in the malls, they were slightly apprehensive about opening up about their work life. They had the fear within them and in order to extract the correct data we had to often deviate from the main questions and talk to them indirectly about the same.
2. *Time factor:* The primary data collected was within a time span of one month and thus we could cover only 6 of the malls in South Kolkata. With more time,

we could've done a bigger survey that would've showed a more clear and broader picture about the working life of the labourers today.

## Methodology

### *Research Sample:*

The number of responses received were 150 and the instrument set was in the form of questionnaires which consisted of Close-ended Question, Likert scale and demographic questions that we requested the workers to fill in.

The 150 employees whom we approached were from 6 malls in South Kolkata during the period of February-March, 2018.

### *Statistical Techniques*

- Central Tendency
- Regression
- Factor Analysis

## Results & Discussion

Out of 150 respondents 60% of the respondents are male and 40% are female. On an average the respondents are of the age group 30-40 years and the mean working hours is 8-12 hours per day. Out of 150 respondents, 123 respondents are full time and the majority of the respondents are having years of service between 1-5 years.

To examine the dependence of Quality of Work life on Job Satisfaction, On the job security and Job Involvement we take a hypothesis.

*Null Hypothesis:* Quality of Work life is not dependent on Job Satisfaction, On the job security and Job Involvement.

*Alternative Hypothesis:* Quality of Work life is dependent on Job Satisfaction, On the job security and Job Involvement.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.762 <sup>a</sup>	.581	.579	.30178

a. Predictors: (Constant), Job Involvement, Job Satisfaction, Job Security

b. Dependent Variable: QWL

R square is basically explaining the goodness of fit. Here, R square is 58.10% that means 58.10% of the variation in dependent variable can be explained by independent variable and 41.90% remains unexplained, it is the error term. The model is having better goodness of fit.

Table 1: ANOVA <sup>b</sup>					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	64.669	3	21.556	36.995	.000 <sup>a</sup>
Residual	85.071	146	.583		
Total	149.740	149			

a. Predictors: (Constant), Job Involvement, Job Satisfaction, Job Security

b. Dependent Variable: QWL

According to the ANOVA Table the F-statistics is significant at 5% level. It confirms that the Alternative Hypothesis is accepted and the Null Hypothesis is rejected.

The Estimated Equation is given:

$$QWL(Y) = 0.570 + 0.639 j.sec + 0.255 j.sat + 0.345 j.inv$$

$$(0.034) \quad (0.001) \quad (.000) \quad (.000)$$

The intercept is significant both at 5% and 10% level of significance.

Job Security is highly significant at 5% level i.e., if the job security increases by 1 unit then QWL increases by 0.57 units.

Job Satisfaction is highly significant at 5% level i.e., if the job satisfaction increases by 1 unit then QWL increases by 0.639 units.

Job Involvement is highly significant at 5% level i.e., if the job involvement increases by 1 unit then QWL increases by 0.345 units.

A factor analysis is done to analyse the factors which influence the Quality of Work life in the organization. So, let us now, contemplate into the potential factors (vis Job Security,

Job Satisfaction, Job Involvement, Training, Participation, Compensation, Medical Facility, Flexibility and Bonus) that can explain the variation in QWL.

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.734
Bartlett's Test of Sphericity	Approx. Chi-Square	172.767
	Df	36
	Sig.	.000

KMO statistic is 0.734 which is statistically significant at 5% level. This makes factor analysis appropriate. This implies that all the variables are strongly correlated to each other.

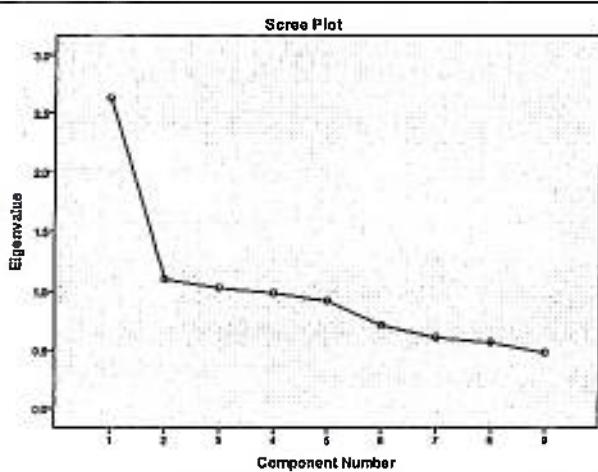


Figure 1: Screen Plot

The Screen Plot shows the percentage of variance explained by the Eigen Values such that the distance among the nodes show the number of factors to be selected.

Table 3: Total Variance Explained			
Rotation Sums of Squared Loadings			
Component	Total	% of Variance	Cumulative %
1	1.873	20.807	20.807
2	1.522	16.910	37.717
3	1.360	15.107	52.824

*Extraction Method: Principal Component Analysis*

There are three components because there are three Eigen Values greater than unity. Component 1 comprises of these variables which explain 20.81% of the variability among the concerned variables in the data set. These variables are strongly inter-correlated.

Similarly, Component 2 captures those variables which are relatively lesser correlated than Component 1. In this manner the percentage follows descending order and Component 3 follows Component 2.

Table 4: Rotated Component Matrix			
	Component		
	1	2	3
Job Security	.738	.167	-.001
Job Satisfaction	.705	.188	.139
Job Involvement	.746	.007	.223
Training	-.044	.836	.012
Participation	.391	.517	-.078
Compensation	.195	.610	.381
Medical Facility	.027	-.077	.875
Flexibility	.169	.205	.043
Bonus	.228	.269	.609

According to Rotated Component Matrix the factor loadings are reported. They show the importance of each variable in a component. Higher the value, significant the importance of the variable and the variable gets accommodated in the component.

Table 5: Rotated Component Matrix		
F1	F2	F3
Paramount Demands	Ancillary Requisites	Pecuniary Desideratum
Job Security	Training	Medical Facility and Insurance Benefits
Job Satisfaction	Participation	Extra Rewards or Bonus
Job Involvement	Compensation	
	Flexibility	

### Conclusion

The research shows that Quality of Work life is dependent on Job Satisfaction, On the job security and Job Involvement and Job Security is found to carry more weightage in explaining the relationship between job Satisfaction, job security, job Involvement and QWL. It confirms that secured jobs can make employees more comfortable in workplace.

The factors influencing the QWL are identified and are grouped mainly under three components- Paramount Demands (F1), Ancillary Requisites (F2) and Pecuniary Desideratum (F3). From the Factors we can understand that, the organization could retain its employees when an employee is more connected with the job and feels

secure about it, his performance level increases and so does the productivity of their job and in turn this could reduce the cost incurred for recruitment of new employees for each time an employee leaves the organization. When proper training and guidance is given to the employees, they tend to be more efficient in their work and be responsible for their own activities. This would lessen the supervision required by the employees. From the employer's perspective, QWL aims at making the organization responsible for making the job environment for the employees hospitable and bearable. It provides means to interact well with the co-workers. When there is free flow of communication i.e. the workers are able to participate in the decision making and communicate their opinions and grievances to the top level management without hindrances, the workers feel more satisfied with the job. QWL helps in making the jobs of the employees more safe and secure.

## Recommendations

- *Monthly meetings:* While talking to the employees we often felt that there was a lack of touch between them and the management. Surprisingly, some of the labourers didn't even know their top officials. Therefore, if the managers hold at least one meeting every month, that would increase the connectivity among the organization and the employees would feel more involved with the organization.
- *Training:* Majority of the employees were partially satisfied with the training given to them before they were employed and were open to better training facilities that the organization would provide for their benefit. This, before employment, if a laborer is given proper training, it would increase the productivity of his work and be beneficial to both the individual and the organization.
- *Vacations:* One of the major grievances of the laborers were denial for leaves and vacations. No matter what might be the occasion the employees are asked to come for work. If the employees are given vacations and leaves slightly more often than usual, they would be satisfied with their work and the organization they serve.
- *Reduction in the working hour:* We found that majority of the laborers were employed for a time period more than 8 hours. While talking to us, they shared how this stringent working hour schedule affects their life back at home. Thus, slight reduction in their working hour could in turn make him put in more efforts at their job front.
- *Fair compensation:* Overtime facilities are almost negligible in some of the malls. Considering the fact that most of the laborers are from the lower levels of the society, in case of financial needs, even if they want to work for longer hours for more payment, the benefit is not available to them. Thus when overtime facilities are provided by an organisation, the employees feel more satisfied when it comes to their needs.
- *Security:* The most important thing that the employees need today is job security. As some of the labourers are from the backward areas of our society, they have a fear of losing their jobs often. When the workers are given assurance that their job is secure, they tend to give in more efforts in their work field.

### References

1. Daud, N. (2010). Investigating the Relationship between Quality of Work Life and Organizational Commitment amongst Employees in Malaysian Firms, International Journal of Business and Management, 5 (10), 75-82.
2. Noor, S.M., & Abdullah, M.A., (2012). Quality Work Life among Factory Workers in Malaysia. Procedia - Social and Behavioral Sciences, 35, 739 745.
3. Omer Sadullahb, & Selahattin Kanten, (2012). An empirical research on relationship quality of work life and work engagement, Published by Elsevier Ltd. Selection and/or peer review under responsibility of Prof. Dr. Huseyin Arasli.
4. Rose, R.C., Beh, L., Uli, J., & Idris, K., (2006). Quality Of Work Life: Implications Of Career Dimensions. Journal of Social Sciences, 2 (2), 61- 67.
5. Sarina Muhamad Noor & Mohamad Adli , Abdullah Faculty of Business Management , Universiti Teknologi MARA, (2012). Quality Work Life among Factory Workers in Malaysia, Published by Elsevier B.V. Selection and/or peer-review under responsibility of Centre for Environment, Behaviour Studies(cE-Bs), Faculty of Architecture, Planning & Surveying, Universiti Teknologi MARA, Malaysia.

