



## INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION AND MANAGEMENT

### CONTENTS

Sr. No.	TITLE & NAME OF THE AUTHOR (S)	Page No.
1.	INTERDEPENDENCE OF VALUE CHAIN LINKS: A TALE OF THREE CITIES MUHAMMAD RIZWAN SALEEM SANDHU	1
2.	PEOPLE IN MARKETING OF MANAGEMENT INSTITUTE: A STUDY OF INDIAN CONTEXT DR. RAJESH.S.MODI	9
3.	INTERNATIONAL SMALL - SCALE FOREST CARBON SEQUESTRATION PROGRAM AND ITS IMPACT ON THE LIVELIHOOD OF LOCAL PEOPLE: EVIDENCES FROM CENTRAL KENYA DEREJE TEKLEMARIAM GEBREMESKEL	14
4.	ANALYSIS OF MARKET AND COMPETITORS TO IDENTIFY TRENDS FOR STRATEGIC MARKETING DR. R. K. SRIVASTAVA & S. T. SALUNKE	23
5.	BIO DEGRADABLE SOLID WASTE MANAGEMENT IN BANGALORE CITY M. P. KALIAPERUMAL	29
6.	ATTITUDE TOWARDS THE ENVIRONMENT AND GREEN PRODUCTS: AN EMPIRICAL STUDY DR. D S CHAUBEY, SIDHESWAR PATRA & DR. SAURABH JOSHI	34
7.	CORPORATE GOVERNANCE AND BUSINESS ETHICS M. SUBRAMANAYAM, DR. HIMACHALAM DASARAJU & KOTA SREENIVASA MURTHY	42
8.	PERFORMANCE MANAGEMENT SYSTEM FOR EMPLOYEES OF IT SECTOR IN CHENNAI J. JERLIN VIOLET & DR. S. N. GEETHA	49
9.	A STUDY ON QUALITY OF WORK LIFE IN TAMILNADU NEWSPRINT AND PAPER LIMITED, KARUR DR. V. MOHANASUNDARAM	53
10.	JANTAR MANTAR ON 'UNESCO' WORLD HERITAGE LIST UNIQUE SELLING PROPOSITION SUNIL KAKKAR, DR. T. N. MATHUR & DR. TAPASYA JULKA	59
11.	XMOWL MODEL: SUPERVISED APPROACH TO TRANSFORM SYNTACTIC MODEL TO SEMANTIC MODEL SHIKHA SINGH & DR. U. S. PANDEY	63
12.	CRM PRACTICES OF TWO INDIAN E-BUSINESS FIRMS AND EVALUATION OF THEIR COMPETITIVE ADVANTAGE THROUGH RBV DIBYENDU CHOUDHURY & DR. SASMITA MISHRA	70
13.	ANALYSIS OF DEPOSITS, ADVANCES AND PROFITS OF HDFC BANK: SPECIAL FOCUS ON PRE AND POST MERGER ERA DR. NARAYAN C. BASER & DR. MAMTA BRAHMBHATT	80
14.	FINANCIAL STRENGTH - A STUDY OF REDINGTON INDIA LIMITED, TRICHY, TAMIL NADU S. CHRISTINA SHEELA & DR. K. KARTHIKEYAN	85
15.	A STUDY ON THE MANAGEMENT ACTION PROFILE OF THE TRIBALS IN THE NILGIRIS DISTRICT OF TAMIL NADU K., MALAR MATHI, AMUL RAJ.K.T. & EBENEZER PAUL RAJAN	91
16.	STRATEGICAL IMPACTS ON GLOBAL BRANDING C. S. JAYANTHI PRASAD	94
17.	A STUDY ON DEPLOYMENT OF EFFECTIVE MICRO FINANCE FOR WOMEN EMPOWERMENT DR. P. ANBUOLI	100
18.	A STUDY OF HRD PRACTICES IN AUTO COMPONENT COMPANIES IN HARYANA SACHIN MAHESHWARI & S P AGARWAL	105
19.	GREEN HEALTH MANAGEMENT FOR EMPLOYEES IN I.T. AND BPO SECTORS, USING SHARON SCHEMA WITH CHRISTINA THEORY N. AKBAR JAN & T. SHANTHA KUMAR	108
20.	WHETHER BSE SENSEX (BSE30) AND BSE NATIONAL INDEX (BSE 100) ARE COINTEGRATED? R. KUMARA KANNAN	113
21.	A STUDY ON ROLE OF SHG'S IN DEVELOPMENT OF WOMEN ENTREPRENEUR DR. SAVITA TRIVEDI	116
22.	PERCEPTION TOWARDS ADVERTISEMENTS AND ITS IMPACT ON SOCIETY - AN EMPIRICAL ANALYSIS R. MAHARA JOTHI PRIYA, DR. R. DHANALAKSHMI & DR. K. PONGIANNAN	119
23.	PERCEPTION OF CUSTOMERS TOWARDS SERVICES OF BRANCHES OF NATIONALISED COMMERCIAL BANKS OF SEMI URBAN AREAS WITH SPECIAL REFERENCE TO E-TECHNOLOGY BIDYUT JYOTI BHATTACHARJEE	126
24.	SHORT SEA SHIPPING - POTENTIALS, BENEFITS AND CHALLENGES IN INDIA M. SARAVANAN	130
25.	DETERMINANTS OF CAPITAL STRUCTURE DECISION IN INDIAN MANUFACTURING INDUSTRIES - AN EMPIRICAL ANALYSIS DR. V. MOHANRAJ	139
	REQUEST FOR FEEDBACK	143

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**INTERDEPENDENCE OF VALUE CHAIN LINKS: A TALE OF THREE CITIES**

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**ABSTRACT**

*Most of the products in the world are produced and delivered by value chains which are the sum name of value adding activities performed in a sequence by different firms working in different countries. And in most of the cases value chain actors belong to both developed and developing world and adding different amount of value to value chain for producing and distributing products. Some value chains are driven by buyers and other work under the leadership of producers. Those who hold the intangibles gain more than those who hold tangibles in a value chain because intangibles .e.g. brands, designs etc provide more sustainable competitive advantage and are more difficult to imitate than tangibles .e.g. machines, buildings etc. The role of developing country firms is maximum original equipment manufacturer and minimum job processors but the role of original brand and design manufacturer is mostly performed by developed country firms. Members working in developing countries are mostly SMEs and exist in clusters. Most of SME clusters in developing countries are linked with global value chain and in some cases with global value chains. These SME clusters are spontaneous and have emerged without any policy support but for upgrading they do need policy support at all levels. This study explores the value chain links of surgical forging industry of Daska, Sialkot and finds out that value chain links are interdependent. This finding has implications for designing the integrated quality assurance system for the industry.*

**KEYWORDS**

Value Chain, Value chain Links, Surgical forging industry, Daska, Gujranwala and Sialkot.

**INTRODUCTION**

**M**ost of the products in the world are produced and delivered by value chains which are the sum name of value adding activities performed in a sequence by different firms working in different countries. And in most of the cases value chain actors belong to both developed and developing world and adding different amount of value to value chain for producing and distributing products. Some value chains are driven by buyers and other work under the leadership of producers. Those who hold the intangibles gain more than those who hold tangibles in a value chain because intangibles .e.g. brands, designs etc provide more sustainable competitive advantage and are more difficult to imitate than tangibles .e.g. machines, buildings etc.

The role of developing country firms is maximum original equipment manufacturer and minimum job processors but the role of original brand and design manufacturer is mostly performed by developed country firms. Members working in developing countries are mostly SMEs and exist in clusters. Most of SME clusters in developing countries are linked with global value chain and in some cases with global value chains. These SME clusters are spontaneous and have emerged without any policy support but for upgrading they do need policy support at all levels.

SME clusters in developing countries consist of sub-clusters and may involve more than one city forming different links of value chain. Different studies show that SME clusters in developing countries are confronting different issues .e.g. lack of sufficient energy sources, lack of training centers, poor quality of inputs etc. On one hand these issues are restricting them to be innovative and on the other hand reducing their competitiveness. To transform from static and dynamic clusters to innovative clusters they obviously need some solid demand driven policy measures at every level.

This study focuses on the value chain links of surgical instruments manufacturing cluster of Sialkot, Pakistan which involves three cities, Gujranwala, Daska and Sialkot of Punjab, Pakistan and the global market for the instruments which consists of USA, Europe in particular and the world in general. The main focus of the study is the surgical instruments global value chain links within Pakistan with special focus on the surgical instruments forging units in Daska as it forms important value chain link but remains unexplored as far as its issues, type and structure, the way they are integrated at forward and backward end and their relationship at horizontal end, is concerned. Previously Nadvi (1999; 2005) has studied the surgical instruments cluster of Sialkot to which Daska and Gujranwala are two important links but his main focus was manufacturing exporters of Sialkot and their external links with global market. As Nadvi (1999) recommended that the cluster needs to upgrade in the value chain which in our opinion is not possible without upgrading the backward linkages of the cluster therefore the study will explore the issues, types and structure of surgical forging units working in Daska which act as suppliers to the firms working in Sialkot.

**PURPOSE & METHODOLOGY**

Purpose of the study is to explore the characteristics and value chain dynamics of surgical forging industry of Daska. It is also the purpose of the study to explore that how value chain links within surgical instruments industry are interdependent.

For this study purposive sampling has been used to collect data from 25 surgical forging firms of Daska out of total population. The estimated population size is around 50, as per the figures provided by the president of informal association of surgical forging firms in Daska, so we have collected data from 50% of firms. In addition to surgical forging firms data were also collected from two stainless steel furnaces, one rolling mill, one stainless steel scrap dealer and regional office of (TDAP) Trade Development Authority of Pakistan, Sialkot, research officer of SCCI (Sialkot chamber of commerce and industry, Sialkot). Purposive sampling technique has been used because exact sampling frame was not available and data was collected on the opinion of president of the association and the researcher. Structured interviews have been used to collect data from surgical forging firms of Daska and unstructured interviews were used to collect data from steel furnaces, steel rolling mills, and scrap dealer, TDAP, Sialkot and SCCI, Sialkot. Personal structured interviews technique was most suitable in our study as respondents were uneducated and required explanation of questions to respond on one hand and on the other hand specific and gathered information was required to complete the study.

In addition to above for conducting research methodology for value chain research discussed by Kaplinsky and Morris (2000) has been used.

**CONCEPTUAL FRAMEWORK AND REVIEW OF THE LITERATURE**

Value chain is the sequence of value adding activities involved in the production and distribution of a product (Schmitz, 2005), it includes conception, design, production and marketing of a product (Kaplinsky and Morris, 2000) and all value added activities of a value chain are linked as a string (Gereffi, 1994; Kaplinsky and Morris, 2000; Schmitz, 2005). The value chain is also known as commodity chain (Gereffi, 1994), Value system (Porter, 1985), value stream (Womack and Jones, 1996). In global context the same concept is called global value chain (Kaplinsky and Morris, 2000; Humphrey and Schmitz, 2000; Schmitz, 2005; Nadvi and Halder, 2005) which involves more than one countries, regions or continents. Value chain is understood as because many products used in the world are the result of a sequence of specialized production activities performed in different countries. Each activity in the value chain adds some value and forms a link of whole value chain and links within a value chain are interdependent (Kaplinsky and Morris, 2000).

Before proceeding further there is a need to address two questions, what is difference between generally understood concept of value chain and Micheal Porter's concept of value chain?, And what is difference between value chain and supply chain?

According to Porter (1985) value chain is the sum name of all the value adding activities performed by a single firm to produce and deliver value in the shape of product to end user and Porter's value chain involves primary value adding activities e.g. inbound logistics, operations, outbound logistics, marketing and sales and after sale services, and support activities e.g. firm infrastructure, human resource management, technology development and procurement, whereas it is argued that it is not necessary that a single firm performs all the activities to produce and deliver a product to end user for example see Kaplinsky and Morris (2000, p.7). In reality production of many products involves different firms of same or different countries (Gereffi, 1994; 1999; Humphrey and Schmitz, 2000; Giuliani, 2005; Nadvi and Halder, 2005) therefore it can be inferred that general concept of value chain is broader than the concept of Porter's value chain and Porter's value chain is termed as corporate value chain (Sorensen, 2008) which is restricted to the value adding activities within a firm and Porter calls generally understood concept of value chain as value stream which is the result of the vertical integration of different corporate value chains.

What is then, the difference between value chain and supply chain? Sturgeon (2001) argued that supply chain is the part of value chain because supply chain involves all value added activities that lead to and support the end use of a set of related products, less the activities of the lead firm whereas if activities of lead firm are included the stream of value added activities is called value chain. Lead firm is the powerful actor who governs the chain (Schmitz, 2005) and its position may be different depending upon the nature of value chain (Gereffi, 1994) as it may be transnational producer in case of producer driven value chain, and mega retailers in case of buyer driven value chains.

It has been learnt that global value chains involve processing factories located in different developed and developing countries (Gereffi, 1994; Nadvi, 1999; Humphrey & Schmitz, 2000; Mytelka & Farinelli, 2000; Kaplinsky & Morris, 2000; Nadvi & Halder, 2005). It is interesting to note that all value chain links, each level in value chain forms a value chain link, add different amount of value. It is argued that developing countries add physical value and developed countries add intellectual value and resultantly the latter gains more than the former gains (Schmitz, 2005).

In the literature there is a common understanding that there are two types of value chains, buyer driven value chain which is mostly found in consumer goods industries such as garments, footwear, toys etc, and producer driven value chain which is found mostly in capital and technology intensive industries such as auto mobiles, aircrafts, computers, heavy machinery etc. Buyer driven chains are led and coordinated by large retailers, marketers and brand manufacturers which act as lead firm whereas producer driven chains are governed by large transnational manufacturers acting as lead firm (Gereffi, 1999; Kaplinsky and Morris, 2000; Humphrey & Schmitz, 2000).

In most of the industries/products, global value chain is organized as it is governed by the lead firm in developed country which outsources its activities to developing country SMEs which act as job processors or original equipment manufacturers for the lead firm and are mostly clustered in sector specific regions. Some of the developing country clusters which are the part of global value chain of their respective industry are Sinos Valley foot wear cluster, Brazil (Schmitz, 1995; 1999), Tiruppur Cotton Knitwear Cluster, India (Cawthorne, 1995), Ludhiana Woolen Knitwear Cluster, India (Tewari, 1999), Shoes Cluster in Guadalajara and Leon, Mexico (Rabelloti, 1995; 1999), Agra Footwear Cluster, India (Knorrington, 1999), Blue jeans Cluster in Torreon, Mexico (Bair and Gereffi, 2001), Sialkot Surgical Instruments Cluster, Pakistan (Nadvi, 1999) as discussed in Schmitz and Nadvi (1999) and Thompson (2005) and Sialkot Sports Wear Cluster, Islamabad Marble and Granite Cluster, Wazirabad Cutlery Cluster, Pakistan (SMEDA and UNIDO, 2006).

## DISCUSSION

### GEOGRAPHICAL LOCATION & BRIEF HISTORY OF SIALKOT SURGICAL INSTRUMENT CLUSTER

Surgical instruments cluster is located in the industrial district of Pakistani Punjab which is known as Sialkot and famous world over for its surgical, sports and leather goods. The city of Sialkot is situated in north-east of Pakistani Punjab at the edge of great mountains of Kashmir. It is near to Jammu and 125 KM north-west of Lahore, the capital of the province Punjab. Total population of Sialkot is about 3 million and consists of mainly Punjabi, Kashmiri and Pashtuns. The people are strongly embedded in family and *brotheri* system which also influence the business environment (Nadvi, 1999).

History of the Sialkot surgical cluster dates back to 100 years, the last decade of 19<sup>th</sup> century. The emergence of the cluster is considered as historic accident (Porter, 1990; Krafman, 1991; Ghani, 1996) as after knowing the fact that Ironsmiths & Blacksmiths of Sialkot were engaged in metalworking such as manufacturing of swords, shields, daggers and knives etc since the time of Mughal Empire, the British doctors of local hospital got repaired surgical instruments to their satisfaction. The American Mission Hospital established in the district in the last decade of nineteenth century also got repaired its surgical instruments from the local Ironsmiths. Being impressed from the craftsmanship and skills of artisans the dean of the American mission hospital ordered the local Ironsmiths to manufacture some of the surgical instruments which they did to the hospital's satisfaction. Gradually more and more orders were placed both within and outside the Sialkot. Till 1920 Sialkot was supplying instruments to all parts of sub-continent (Nadvi, 1999; Ghani 1996; SIMA, 2010). The cluster emerged in the real sense when the British decided to take the Sialkoti Ironsmiths as an alternative source of supply of surgical instruments for war purposes, as on one hand world war II increased demand of surgical instruments in Britain and on the other hand Germans cut the supply line of allied forces. The British developed in 1940's the surgical development center known as MIDC (Metal Industry Development Center, 1942) with the mandate to monitor quality and provide guidance to local informal sector firms engaged in manufacturing of surgical instruments (Ghani, 1996; Nadvi, 1999, 2005; TDAP, 2010; SIMA, 2010).

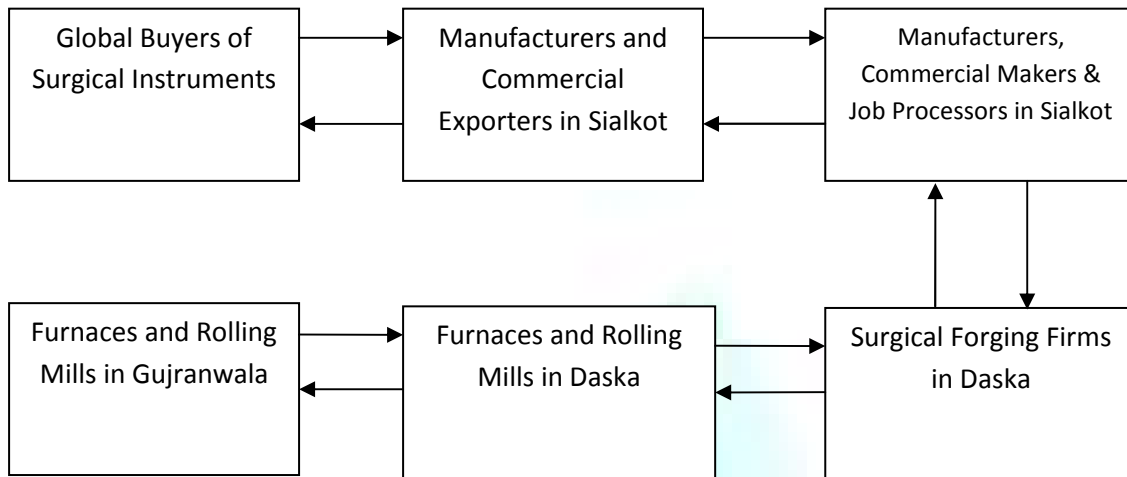
The cluster attracted the interest of German based Tuttlingen surgical cluster, the world leader in exports of surgical goods, in 1970's and developed long term relationships, this was the time Sialkot surgical cluster became the part of global supply chain. Over the years Sialkot firms gained the status of OEM (Original Equipment Manufacturer) from job processors and over took the German cluster in the production of traditional hand held surgical instruments (Nadvi, 1999; 2005; SIMA, 2010; TDAP, 2010).

In 1982 USA increased the demand of disposable instruments from Sialkot which really helped cluster to progress. In 1982 SDPTL (Sialkot Dry Port Trust Limited) was established to handle the customs affairs and provide warehousing facility to the cluster firms by the Sialkoti firms through their trade and industry associations as a private sector venture, this effort is considered the evidence of joint action, (Nadvi, 2005; TDAP, 2010; SIMA, 2010).

In mid of 1990's whole of Sialkot surgical instruments cluster faced quality restrictions imposed by FDA, USA (Food & Drugs Administration) and EU (European Union) for not conforming with ISO 9001 & USA Good Manufacturing Practices Standards which were well responded by the joint action of cluster members initiated and organized by Sialkot chamber of Commerce and Industry (SCC&I) (Ghani, 1996; Abnoui, 2001; Schmitz, 2005; Nadvi, 2005; TDAP, 2010).

Although emergence of cluster was accidental yet many other factors contributed to its success such as the availability of skilled labor, inputs suppliers, repair facilities and other support industries in the region. It is interesting to note that major part of the skilled labor Pakistan received at the time of its independence was due to the transfer of population across the newly born states, Pakistan & India (Khalid & Rahim, 1986). Another important point is noted that the cluster progressed without the deliberate support of public sector and its success is mainly attributed to the collective efficiency gains produced by passive external economies and active joint actions of cluster players (Nadvi, 1996; 1999; 2005; Mytelka & Farinelli, 2000; Thompson, 2005).

FIGURE 1.1: SIALKOT SURGICAL INSTRUMENTS VALUE CHAIN



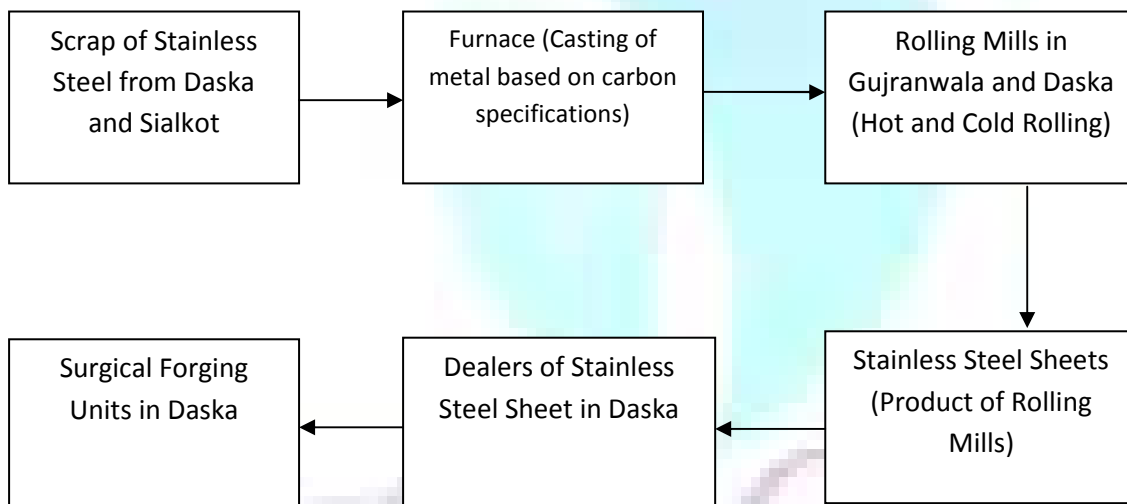
Source: Author Survey, 2010

Two way arrows in figure 1.1 has a purpose as arrow from left to right starting from Global Buyer of Surgical Instruments shows the flow of order from international buyers to local cluster actors and arrow starting from Furnaces and Rolling Mills in Gujranwala shows the flow of production activities involved in the production of surgical goods to international buyers.

#### VALUE CHAIN LINKS OF SIALKOT SURGICAL INSTRUMENTS CLUSTER

**Gujranwala:** This is a well known industrial district of the Punjab, Pakistan which is the house of light engineering products like fans, utensils, electric motors and many more. It is clear from the figure 1.1 that furnace and rolling mills working in Gujranwala form the first link of surgical instruments value chain as this supply stainless steel to the forging firms in Daska as inputs for the forging of instruments. About 15 to 20 furnaces and rolling mills are working in Gujranwala and 10 are working in Daska. It has been noted during survey that the some furnaces and rolling mills are under single ownership and working together and some are owned by different owners and are physically apart from one another.

FIGURE 1.2: HOW DOES A FURNACE AND ROLLING MILL WORKS TO PRODUCE SHEETS OF STAINLESS STEEL?



Source: Author Survey, 2010

In the value chain, the job of a furnace mill is to cast metal based on carbon specifications as per customer's requirements.

It is clear from the process shown in figure 1.2 that furnaces of stainless steel first get scrap both from local and international sources, according to the product specifications, test their composition to know the percentage of carbon; then they put the scrap and other alloys into the electric furnaces which melt the scrap for one and half hour at heat produced by 1000 KW/h of electricity to cast the metal of a particular specification. It is important to note that there is a considerable difference between locally produced steel and imported steel as local steel can only be used for the production of disposable instruments which are used once.

During the melting process metal fluid is tested three times in the laboratory and every time more scrap and alloys are added to get the metal of desired specification by removing the carbon deficiency. After the satisfaction of desired composition of metal fluid, it is poured into moulds either manually or mechanically to give it a shape of steel blocks, locally called "Gooli". Furnaces send metal blocks to rolling mills which convert it into stainless steel sheets according to buyer's (forging firms) specifications by applying hot and cold rolling process. The former process refines the metal sheet and the latter refines it finely. Rolling mills deliver steel sheets to forging firms in Daska. Author's survey shows that steel furnaces working in Gujranwala and Daska are of different sizes but those working for surgical segment range from 250 kg to 1 ton of size and size of the furnace is based on the weight of the furnace as mentioned. Most of the furnaces work in two shifts and production capacity of a medium size furnace is 13 tons per day in two shifts, this classification is based on the explanation by local industry experts, author also learnt that any furnace which has per day production capacity up to 5 tons of steel is considered small but it could not be learnt that which range a large furnace size starts from. In Gujranwala electric furnaces have replaced the mechanical furnaces, as per local industry experts there are two main differences between electrical and mechanical furnaces, the latter requires furnace oil for working and is less cost efficient but in the former heat is produced by electricity and is more cost efficient. Electric furnace is more cost efficient as on one hand oil is more expensive and on the other hand performance of electric furnace is better.



These furnaces buy scrap from their customers (forging firms), from Sialkot & Daska, from local scrap dealers who buy scrap from local and international sources, and then cast the scrap according to the buyer's specifications. According to the furnace owners they have long and healthy relationships with their customers and often sell on credit, discuss the issues, visit and are visited by them. Author has found no knowledge linkages between furnace and forging firms. It has also been observed that there is no inter firm cooperation at horizontal level rather there is intense rivalry based on prices. Furnace owners informed that they don't receive any institutional support. Industry experts informed that most of them are not using bank finance and their major problems are lack of infrastructure, power failures, lack of managerial skills, lack of planning, lack of technology and technical knowledge and lack of formal institutional support. The information was supported by author's survey of three furnace owners and two bankers.

Four types of employees are working in furnaces, supervisor (lower management), furnace operator (Semi-skilled), Molder (Low skilled) and unskilled helper. Furnaces working in Gujranwala and Daska play an important role as a first value chain link and other chain links depend on their performance.

These furnaces have spontaneously emerged without any policy support. The entrepreneurial profile is not very strong as most of the entrepreneurs fall into the category of artisan entrepreneurs. Their level of education is low and they are informally trained and use traditional ways of business management. It was also noted that most of the furnaces are family owned and fall into the category of informal sector firms.

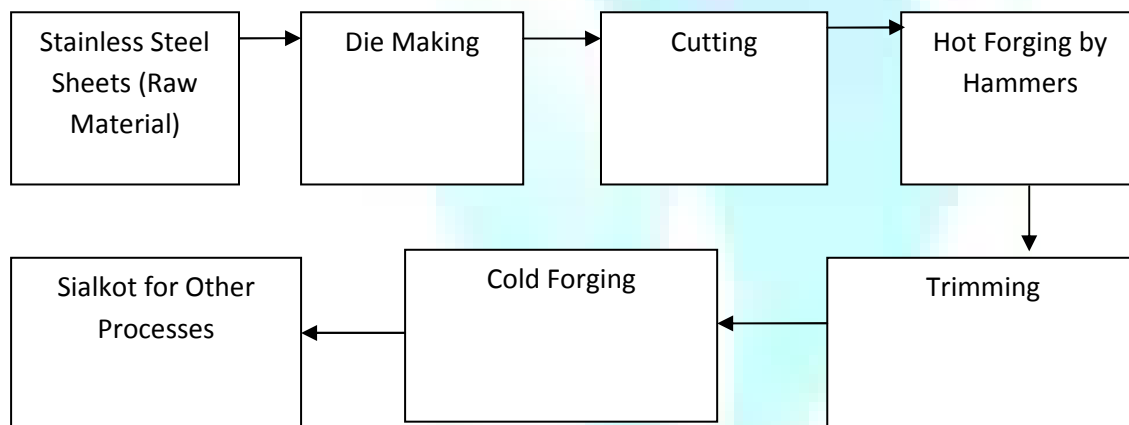
#### **DASKA: A SUB INDUSTRIAL DISTRICT**

A sub industrial district situated exactly in between Gujranwala, Sialkot and Samrial, well known for its metal working and craftsmanship. Historically its small scale engineering industry earned a name in the production of tube wells from 1960-1974 (An interesting case study of the emergence, growth and decline of an industry over the span of 15 years as it was discussed by Aftab and Rahim (1986,1989). Daska is also famous for its production of agricultural implements and washing machines. Currently, in Daska different industries are working in SME sector such as agro-engineering, surgical forging, automotive parts etc. In nutshell it can be written that Daska is the house of small scale engineering industry which is feeding different value chains. Here our point of focus is surgical forging firms which feed the surgical manufacturers and exporters in Sialkot. Daska forms the second link of surgical instruments value chain.

#### **EMERGENCE OF SURGICAL FORGING INDUSTRY IN DASKA**

The history of surgical forging in Daska can be traced back to 1950s when Mr. Haji Sardar shifted from Sialkot to Daska and started manual forging of surgical instruments in 1958. After this startup some other entrepreneurs of Mughal caste background also started forging at small scale, this is the same way generally industries emerge in a geographical area as discussed in Solvell (2009). The business did not get impetus unless in 1978 hammer forging technology replaced the manual forging. 1980s was the same period when tube well (slow speed diesel engine) industry was at its decline so many of the entrepreneurs shifted to surgical forging business as it was growing and demand for surgical instruments was increasing in international market. Since then industry is growing with a reasonable pace and most of the firms in the industry were started in 1990s. The industry went through major technology change in 2004 when manual die making was replaced by spark vision machine which made die making very convenient, as manual die making was a long and painstaking activity, and enhanced its quality. Currently, it is an industry of reasonable size as there are more than 40 firms linked with international market through Sialkot surgical export firms. According to industry experts Daska forges 40% of all scissors and 90% of all forceps which are exported to international market by Sialkot export firms after further processes.

**FIGURE 1.3: HOW DO FORGING UNITS WORK?**



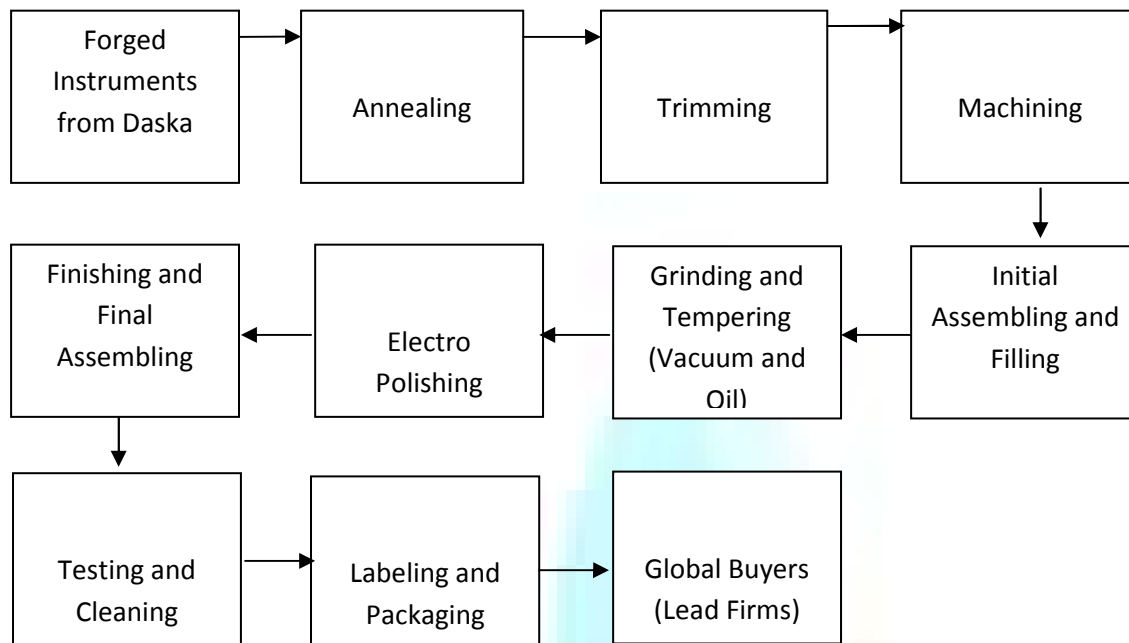
Source: Author Survey, 2010

The figure 1.3 above shows the working process in a typical forging unit. The process starts when forging units receive steel sheets as a raw material, and then they make dies, cut the sheets and forge them through hammers, trim to remove unnecessary metal from the forged instrument pieces and finally use cold forging process and deliver the pieces to Sialkot for further processes.

#### **SIALKOT: AN INDUSTRIAL DISTRICT**

An important and leading export oriented industrial district of Pakistan which is the house of different industrial clusters like sports goods, leather goods, and surgical goods etc. All the industrial clusters working in Sialkot are of international repute and contribute a considerable amount to the export earnings of Pakistan as according to TDAP (Trade Development Authority of Pakistan) the exports made from Sialkot in the year 2007-2008 were US \$ 255 million. Sialkot has a history and tradition of metal working since the times of Mughal Empire or even before. The surgical instruments manufacturing cluster emerged back in 1890s when local ironsmiths repaired and manufactured instruments on the request of local mission hospital. After this historical accident the cluster emerged and grew over the years and became a leading exporter of hand held surgical instruments made of stainless steel (See details on page 2 of the same section).

FIGURE 1.4: PROCESSES AFTER FORGING IN SIALKOT



Source: Author Survey, 2010

**CURRENT PROFILE OF SIALKOT SURGICAL CLUSTER**

According to TDAP (2010) presently about 2400 small, medium and large size surgical instruments manufacturing and exporting firms are working in Sialkot which are supported by thousands of vendors, specialized in different surgical processes, and forging firms working in nearby town Daska. The surgical firms working in Sialkot are also supported by institutions like MIDC (Metal Industries Development Corporation), VTI (Vocational Training Institute), ATC (Apprentices Training Centre), NIDA (National Institute of Design and Analysis), SMEDA (Small and Medium Enterprise Development Authority), SIMTEL (Surgical Instruments Material Testing Laboratory) and associations like SCCI (Sialkot Chamber of Commerce and Industry) and SIMAP (Surgical Instruments Manufacturers Association of Pakistan).

The firms in surgical instruments manufacturing industry can be classified as under:

- Manufacturing Exporters: These are firms which manufacture instruments and export to global buyers/markets either directly or through agents working in foreign markets. According to TDAP, SIMAP and SCCI these are of three types:
  - 1) Large size Firms: Around 25 to 30 large firms perform 70% to 80% in house manufacturing of instruments and rely upon other medium and small firms and job possessors for the remaining 20% to 30% jobs.
  - 2) Medium size Firms: About 1000 medium size firms perform 40% to 70% in house processes and outsource the remaining part to makers and vendors.
  - 3) Small size Firms: Around 1200 small size firms perform 30% in house process and outsource remaining to vendors and makers.
- 1) Non Export Manufacturers: These are in a large number and only perform different manufacturing processes in house as a subcontractor for export firms according to latter's specifications.
- 2) Commercial Makers: These are also in a large number, they don't have own manufacturing facilities or at maximum a facility with one or two last processes like polishing and packaging. They receive order from export firms and get it manufactured from vendors and non export manufacturers.
- 3) Vendors: There are a large number of vendors working in Sialkot. They are specialized in one or more instruments manufacturing processes like annealing, milling, grinding etc. They work as process subcontractors for makers and export firms.

According to TDAP the non export manufacturers, commercial makers and vendors are about 2000 in number.

**PRODUCT PROFILE**

The surgical instruments cluster manufactures over 2000 different types of precision instruments mostly from stainless steel which are used in all branches of medical, surgery, dental and veterinary (Nadvi, 1999), these include mainly scissors, forceps (200 types), scalpels, needle holder, surgical knives, specula, clamps & retractors (Nadvi, 1999; Board of Investment, Government of Pakistan, 2006).

According to the recent diagnostic study (TDAP, 2010), Pakistan mainly produces two types of instruments, disposable Instruments and Re-usable instruments. Disposable instruments are made for one time use only and are mainly exported to USA; while the Re-usable instruments can be used for 10-15 times after sterilization and mainly exported to European market. The difference between two types is of metal quality, in disposable instruments local made steel is used but in re-usable instruments imported steel is used, and not of technology. Both types of instruments are of low value added category and a product of low tech. According to Nadvi (1999, 2005) the surgical instruments industry is divided into two segments .i.e. Mature Product Segment (Traditional), there are 2000 different types of classical hand-held instruments within mature product segment like scissors, knives, forceps, scalpels etc mainly made of stainless steel. These are standardized products for which technical specifications are known and blueprints are available. Technology and skills of appropriate steel, die making, forging, grinding, milling and filling of metals to high level of precision are required which are held by Sialkot surgical cluster firms and new products segment, these include Minimum Invasive Instruments, Endoscopes & Surgical Implants. In addition to metalworking skill the knowledge of optical lens, electrical, miniaturized image enhancing lights and video technology is required which is absent in Sialkot surgical cluster but present in its forward partner German based Tuttlingen surgical cluster. Sialkot surgical cluster is lacking new product development skill because of lack of high knowledge absorptive capacity (Giuliani, 2005) and also lack strong forward linkages with end users and high tech industry.

**DYNAMICS OF CLUSTER**

The Sialkot surgical cluster is connected with the Global Value Chain through main global firms of western origin which act as lead firms (Schmitz, 2000), drive the cluster and form the forward part of cluster vertical integration (Nadvi, 1999). In terms of backward linkages, cluster is linked with a large network of vendors, subcontractors and suppliers of material, labor and machinery (Nadvi, 1999; Ghani, 1996). Sialkot surgical cluster enjoys the benefit of collective efficiency from both external economies and joint action (Ghani, 1996; Nadvi, 1999; Mytelka & Farinelli, 2000; Schmitz, 1999; Giuliani, 2005).

**VERTICAL AND HORIZONTAL TIES OF THE CLUSTER FIRMS**

Vertical integration: Vertical integration has two dimensions backward and forward, in backward ties the instruments manufacturing firms are closely connected with their vendors and suppliers. There is found evidence of close cooperation both in bilateral and multilateral terms (Ghani, 1996; Nadvi, 2005; TDAP, 2010). Manufacturers and exporters provide specifications to their subcontractors, vendors and suppliers. In forward ties, being the part of GVC (Global Value Chain)

firms in Sialkot are connected with OBM (Original Brand Manufacturers) and lead firms of international origin. Process of order flow and specifications starts from the buyers who order and specify the product after that manufacturing process is monitored. It is noted that firms in Sialkot cluster only have knowledge using capabilities and knowledge changing capabilities are missing (Nadvi, 1996; 1999; 2005; Giuliani, 2005).

According to Nadvi (2005) Sialkoti firms mainly use following four channels to access international market:

1. Foreign buyers who purchase complete instruments from Sialkot and supply to the world market through retailing and wholesaling.
2. Foreign particularly German producers who subcontract all or part of their production.
3. Independent Pakistanis based in foreign.
4. International sales offices of Sialkoti firms

Horizontal Integration: there are two types of horizontal ties observed in Sialkot, bilateral ties and multilateral ties; former exists between two firms dealing in the same product. It is noted that such ties are rare in Sialkot mainly because of mistrust and fierce competition among firms (TDAP, 2010; Nadvi, 2005; Thompson, 2005) and latter exists among more than two firms to achieve mutual goals. There is strong evidence of multilateral horizontal ties among firms in Sialkot surgical cluster in different occasions such as formation of SDPTL in 1980s, facing challenges of quality restrictions imposed by the west in 1990s and development of SIAL(Sialkot International Airport Limited) through SIMAP and SCCI (Ghani, 1996; Nadvi, 1999; TDAP, 2010).

There is cut throat competition among firms in the cluster. Most of the firms are producing low tech products. The organizational structure of small firms is "Poor floor-shop organization" and operations are either run by entrepreneur himself or by a low level supervisor called Munshi (TDAP, 2010; SIMA, 2010; SCCI, 2010). Entrepreneurs are not equipped with modern management and technical skills which are one of the causes of low international competitiveness of the sector, moreover we neither find any managerial nor technical skills development certificate and degree awarding institute of quality (Ghani, 1996; Nadvi, 2005; TDAP, 2010).

The success of local firms is attributed to the externality gains of clustering because of well developed local market of inputs, services and skilled labor helped ensured inputs at competitive prices (Nadvi, 2005).

#### COMMON PROBLEMS FACED BY THE CLUSTER

According to a recent diagnostic study by TDAP (2010) common problems faced by the sector are Cut-throat price competition among the firms, Unwillingness of entrepreneurs to develop themselves, increasing costs of raw materials, high cost of labor, shortage of skilled labor, Lack of trust among entrepreneurs, No proper human resource department, One man show practices, financial problems for medium and small enterprises, lack of new technology awareness in SMES. Nadvi (1999, 2005) has identified following three challenges faced by Sialkot Surgical Instruments Cluster:

- 1) Cost based competition in international market
- 2) Advances in medical technology and surgical procedures
- 3) Greater pressure of compliance with international standards

#### THE FLOW OF WORK ORDERS

Only the manufacturing exporters have links with global buyers. They receive orders directly and indirectly through their foreign agents from global buyers. The global buyers specify the type, quality, quantity and design of the instruments by a sample after negotiating price and delivery time. Export firms after receiving orders, according to their size subcontract the different manufacturing processes to non export manufacturers, makers and vendors. As noted earlier mostly the processes after forging are performed. For the forging of instruments orders are placed to the forging firms working in Daska which in turn get the stainless steel sheets of particular specification from furnace and rolling mills working in Gujranwala and Daska.

For some instruments imported steel is also used which is provided to forging units by Sialkoti firms. It is important to note that mainly two types of instruments are produced in Sialkot, disposable instruments and reusable instruments. Sialkot is the final value chain link within Pakistan which is linked with global buyers who act as OBM (Original brand manufactures) and ODM (Original design manufacturers).

Entrepreneurial profile of Sialkot is mixed but mainly weak (Nadvi, 1999; TDAP, 2010) as most of the first generation entrepreneurs are uneducated but second generation entrepreneurs are well educated. In non export and vending firms owners are uneducated and informally trained. Organizational structure in export firms is better but in vending segment is traditional floor shop. Most of the firms are family owned generation after generation.

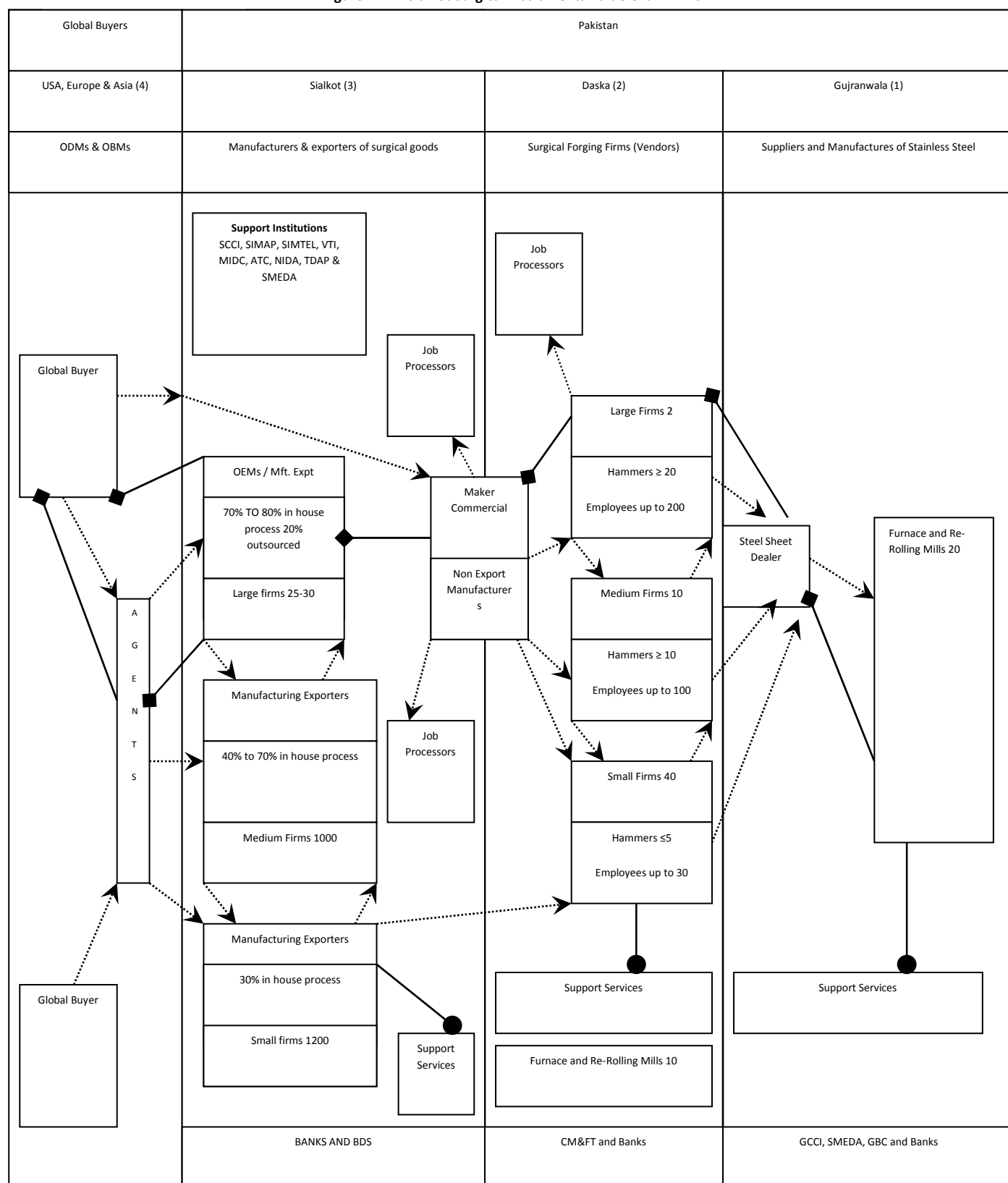
There is evidence of vertical cooperation but without knowledge sharing and there is no strong evidence of cooperation and trust at horizontal level. The cluster is mainly facing problems of lack of skilled labor, effective institutional support, lack of training, lack of brands and own designs and lack of planning and vision. Mistrust and lack of cooperation at horizontal level is a common feature at all supply chain links within Pakistan.

#### THE VALUE CHAIN MAP

Figure 1.7 shows the value chain map of surgical forging industry of Daska. Figure clearly depicts that the value chain map consists of four value chain links, three within Pakistan and one in the global market. As per our main thesis it can be viewed that all value chain links are interdependent. From left to right arrows represent the flow of orders. As discussed earlier that export Firms in Sialkot receive orders from global market for surgical instruments which they transfer to commercial makers and non-export manufacturers. They in turn place orders for forging of instruments with surgical forging firms working in Daska. Forging firms then order stainless steel sheets to furnaces and rolling mills working in Daska and Gujranwala. It is important to note that specifications of instruments are sent by global buyers along with orders which are then systematically travel from one link to another.

Diamond arrow from right to left clearly indicates flow of goods from steel furnaces to the global market. It has been found that quality of surgical instruments depends on the working of each value chain link. If any link, specially within Pakistan, does not perform its working as per the specifications the final market cannot be delivered the promised quality of the instruments. It has also been learnt that performance of each link depends on the performance of its preceding link. For instance if steel furnaces do not supply the required quality of steel to forging firms, they cannot forge the specified instruments and so on it affects the whole value chain performance.

Figure 1.7 Sialkot Surgical Instruments Value Chain Links



## CONCLUSION & IMPLICATIONS

Study has thoroughly discussed the value chain links of surgical instruments industry of Pakistan with the specialities of each link. As noted in the study that performance of each link and final product depends on the performance of all the value chain links. For example the quality and performance of an instrument in world health market depends on the quality of finishing in Sialkot which depends on the quality of instrument forging at Daska. Forging quality is dependent on the quality of steel sheet produced by steel furnace and rolling mill. Hence value chain links in surgical instruments industry are interdependent.

This finding has implications for all the stakeholders of the industry. The important implication is for developing quality assurance system for the whole industry. Such system should be integrated as value chain links are interdependent. There is also implication for the future research which should build on this study and investigate that how an integrated quality assurance system can be designed and implemented for the industry.

In addition to above following two paragraphs discuss the some common problems faced by all the value chain links and their recommended solutions.



Currently value chain links of surgical instruments industry in Pakistan are facing the following problems of Lack of formally skilled labor, Lack of formal education, Informal sector organization/firms, Low wage rates, High labor turnover, Insufficiency of skilled labor, No capacity building, No R&D/No in house knowledge generation, Lack of formal quality assurance system, Lack of horizontal and vertical knowledge linkages, No formal industry association, No cooperation at horizontal level, Lack of trust: There is mistrust everywhere in the forging industry, Lack of quality raw material, No formal planning, Passive learning, Poor physical infrastructure, Lack of management and general training institute, Lack of government support, Poor supply of power/energy, Increasing prices of inputs, Lack of collective vision, Contentment of the entrepreneurs, Lack of formal source of finance.

These issues may be addressed by taking these measures of Establishment of training and research centre, Establishment of a mini steel mill, Establishment of formal industry association, Networking of firms, Linking forging firms with industry benchmark, Linking forging firms with end users, Introduction of formal quality assurance system, Industry specific Islamic banking products.

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## PEOPLE IN MARKETING OF MANAGEMENT INSTITUTE: A STUDY OF INDIAN CONTEXT

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**KINGDOM OF SAUDI ARABIA**

### ABSTRACT

The present paper discussed the innovative and essential issues of people in marketing of education institute in general and management institutes (B-Schools) in particular. The quality of students, staff and faculty members is collectively known as "people". The quality of faculty, staff and students plays a significant role in developing the premier image of management institutes. Appointing the faculty and grooming the faculty members attracts the students who are in search of knowledge. The talent management has two sides namely faculty as well as students. Talented students demands high quality standard of faculty members and also helps in attracting the corporate houses for final placement. The finding is based on large, representative samples of 150 B-Schools as a primary source and with the real life examples of different aspects of people (faculty, staff and students) of Indian B-Schools from various secondary sources. The finding reveals that majority of 'C' and 'B' grade institutions are still struggling to attract right faculty members as well as students. There exists a vast in terms of research exposure, corporate experience and consultancy between the faculty members of "A" grade institutes and "B", "C" grade institutes. This research study include mainly two types of management institute i.e. private and grant-in-aid (government) and focus on the ranking like A, B and C. The study does not include the various other categories of B-Schools like autonomous institute which are not approved by the AICTE, distance education, and various sub categories like A+, A, A-, B+, B, B-, C+, C, C- etc.

### KEYWORDS

CAT, Faculty Development Programme, GMAT, MDP, IIM, IIT, IMT, Regular faculty, Visiting faculty, Adjunct faculty, Clinical faculty.

### INTRODUCTION

People constitute an important dimension in the management of services in their role both as performance of services and as customers. People as performers of services are important because "A customer sees a company through its employees. The employees represent the first line of contact with the customer. They must, therefore, be well informed and provided the kind of service that wins customer approval. The firm must recognize that each employee is a salesman for the company's service". The importance of customers in service stems from the fact that most services imply active and involve customer-organization interface.

### SERVICE PERSONNEL

Service personnel are important in all organizations but more so in an organization involved in providing service is an important influence on the customer's overall perception of the service and he can rarely distinguish between the actual service render and the human element involved in it. How often have had the experiences of holding on to a telephone receiver after dialing for assistance or trunk booking and receiving no response? What do you think has been the role distribution of the telephone operators towards giving our telephone system the image which it has today?

The case of telephone operators is still controllable because the telephone system presents a low contact organization. How or low contacts is defined on the basis of percentage of total time the customer has to spend in the system compared with the relative time it takes to service him. By this definition, restaurants, hospitals, educational institutions representing low contact organization. High or low contact is defined also on the basis of organizations. The other important distinctions of service personnel is between those that are visible to the customer and those that are not. In a restaurant, the waiters are visible while the cook in the kitchen is not. As a marketing manager you have to devote more time training the visible personnel, since they have greater responsibility in maintaining relations with the customer. The rice dish which is not cooked properly is the cook's fault but it is waiter who will have to bear the brunt of the customer's anger. The manner in which the waiter behaves with the customers will be an important determinant in the restaurant losing that customer will be an important determinant in the restaurant losing that customer forever or retaining him as a regular client.

As a marketing manager your primary concern is the visible service personnel and especially so if yours is a high contact organization. You have to be concerned with the ways in which you can improve the quality and performance of your service personnel. This can be done through:

1. Careful selection and training of personnel
2. Laying down the norms, rules and procedure to ensure consistent behaviour
3. Ensuring consistent appearance. and
4. Reducing the importance of personal contact by introducing automation, computerization whenever possible.

### CUSTOMERS

Customers are important because they are a source of influencing other customer. In the case of doctor, lawyers, consultant's one satisfied customer will lead to chain reaction, bringing in his wake a number of other customers. Thus as a marketing manager, your first task should be to ensure complete satisfaction of the existing customer.

The kind of customer you have attracted has an important influence on prospective customers. The prospective customer may feel attached towards the organization because it has his 'type' of customers to be of a kind with whom you would like to have and work towards providing your service organization an image which will fetch your future customer.

### PEOPLE IN MANAGEMENT EDUCATION

Rapid economic growth, global competition and privatization have caused a surge in demand for MBA degrees in India. It has become the most prestigious qualification for current and potential managers as it prepared them to take on new challenges and multiple management tasks. MBA graduates from top business school are picked even before they complete their studies. Few can deny that those who graduate from lesser-known school also have great leadership and business potential.

The key issue is whether business schools have the relevant syllabus and delivery system to prepare future leaders for the dynamic changes in business. The effectiveness of delivery system is largely depending upon the **quality of students and faculty members** collectively known as "people" in service marketing terminology.

### QUALITY OF STUDENTS

The quality of students entering business schools is very important to consider. As described earlier, traditionally, education in commerce was not seen as the educational path of the brightest students. However, currently, getting accepted into a well regarded business school is seen as very attractive career. IIMs have

been ranked at the top in several surveys of b-schools in Asia-Pacific region, and admission to any IIM is seen by most as a passport to a fast track career at the national and international levels. In 2003, IIM Bangalore was ranked in the top hundred business schools in the world. Although it did not rank top on the list, it was the only Asian Business School to be ranked at all. Each year about 100,000 aspiring candidates take Common Admission Test or the entrance exam of the IIMs. Of these 1,100 will be selected to join one of the IIM's. For example, IIM Ahmedabad has 200 seats. Thus admission standards are very high. Collectively, the IIMs have been recognized as the world's number 1 in terms of their selectivity, and difficulty of getting admission into. An interesting aspect of the selection process is the use of different admission tests and procedures by different business schools, unlike the US where GMAT is used as a standard test score. The Government of India tried to introduce a common admission test for the b-schools but the Supreme Court of India rejected that attempt. The Court ruled that "private educational institutions have a personality of their own, and in order to maintain their atmosphere and traditions, it is necessary that they have the right to choose and select the students who can be admitted." (Goswami, 2003). The merits of a common entrance test are debatable and proponents will feel there is a need to develop some measures of equivalencies among scores of different admission tests, so that the quality of the inputs can be isolated from the quality of the academic process while making comparisons among different b-schools.

A distinctive element of b-schools in India is the diversity of student profiles. Since management education is most popular at the graduate level, aspiring candidates come from a variety of academic streams such as engineering, liberal arts, science, commerce, and medicine, thereby providing a very rich interdisciplinary classroom experience. However, most of the MBA students in India are relatively young, and they enter the graduate program straight after their undergraduate education. Although many of the Indian institutions give some extra weight for work experience, a majority of students are without work experience. This is the same situation in both the top ranked and second tier schools. This is in contrast to the US, where traditional graduate students have at least 3-4 years of work experience. Recently, though, Harvard Business School has begun accepting candidates without work experience; it now evaluates applicants on academic ability, personal characteristics, and leadership experience; where informal or formal leadership experience outside work settings is also recognized. The benefits of relating business theories to their own work experience may thus not take place, but there is expected to be stronger openness to learn about alternative business models.

### QUALITY OF FACULTY & STAFF

Faculty is seen as the scarce resource and the underlying philosophy at many B-Schools is to develop systems and supporting staff that will free faculty to do two things that others cannot do well – research and teaching. In doing that, each faculty is also expected to do some academic administration but care is taken that this does not take them away from the prime purpose of their existence at the school, i.e., research & teaching. All other resources are seen to support these activities of the faculty.

B- Schools have three types of faculty – regular faculty, visiting faculty, and adjunct faculty. Lately, a few schools have also developed a fourth group called clinical faculty.

i. **Regular faculty** is the permanent research and teaching faculty at the school. They

form the majority of the academic staff and are expected to undertake research, teaching and some academic administration. A regular faculty is supposed to devote at least fifty per cent of her time on research.

ii. **Visiting faculty** is a group of academics from other schools who are visiting this school for a limited duration (say, a year). They may be on leave or on sabbatical from their parent school.

iii. **Adjunct faculty** is a group of faculty from local schools or from industry who may come to teach a course or more during a specified term. These usually have a term appointment (say, a semester or more) but could also be permanent adjunct faculty. These are recognized as bringing in special expertise from industry or excellent teaching skills. These help in meeting the teaching needs of the school. Their only role is to teach and develop teaching material.

iv. **Clinical faculty** is a group of faculty who has almost all the privileges of a regular faculty except that they have been selected on the basis of outstanding teaching skills. They are expected to develop new teaching methodologies and strengthen the teaching aspect of the school. This group is hired on a long term contract and may not have tenure. However, they have all the resources available to a regular faculty.

From the above discussion it is clear that the Faculty is the most critical resource and its availability is highly constrained. Yet, this resource is pulled in all directions: excessive (and often ill-focused) teaching, administration, resource generation, MDPs, in-company training programmes etc. All of this takes valuable time away from research. This is done because the resource pool of good teachers in the country is not large hence teachers are assigned excessive teaching of all kinds at many schools, because quality of administrative support is poor (even amongst good Indian schools), because the faculty has to generate additional compensation for itself as salary structure are not commensurate, because schools need to generate resources through faculty MDPs etc. Such a willful destruction of faculty resource must be stopped. Schools must not sacrifice research for teaching, must change the structure of its faculty (i.e., recognize good teachers and bring them as adjunct or clinical faculty), must insist that all regular faculty do research and teach, bring professional managers in administration and raise their capabilities so that administrative load on the faculty can be reduced (and they will have confidence that the administrative task will get done equally well if not better).

It is a fact the not much attention is paid to the profile of facilitators of management schools especially about their academic and professional qualifications of competencies to tackle the complexities of management education, though some guidelines have been put forth by the AICTE, yet it needs to be mentioned here that faculty with commerce and management background with high grades/marks would be better suited to be mentors of management students. Sadly, the problem in most B-Schools is that facilitators come from classical disciplines and are, therefore not familiar with dynamic and interactive methods of learning that are required for developing the knowledge, skills attitudes and values for effective management education. Since most of the students of such courses requires competency needed to face placement interview and group discussions, the faculty must themselves be proficient in such soft skills, which have received lesser attention, until recently, a conceptual framework, and a certain way of thinking on how to go about answering the questions that arise. Such confidence and know-how can be based only on sound educational background.

Experience can be acquired by management faculty with the years of services in the teaching profession. However, it has other dimension as well.

Experience can be said to be directly proportional to the amount of effort, initiative, creativity and innovation shown by a faculty in order to enrich him/her.

Experience is not an absolute, but a relative term. It maybe in the following forms:

- coordinating seminars, conference, workshop, panel discussion
- providing industry interaction forum
- organizing inter-institute competitions
- conducting research
- providing consultancy
- conducting corporate training
- supervising academic and corporate projects
- developing case study

The peripheral elements consist firstly of training. At the outset, it is desirable to make a statement about the significance of terms "education and training"

b. **Staff:** Most of the administrative functions are managed completely by well educated and trained staff in these schools. There is a separate career path for the non-academic staff. What was most interesting to observe is that administrative practices (including, for instance, the layout of offices from where academic support is delivered). The meaning of service appeared to be very well understood by all in administration. There was a clear recognition that their role was to facilitate the activities at the school. Each service group is regularly evaluated by the users of their services.

**MANAGEMENT FACULTY MUST UNDERTAKE THREE TYPES OF TRAINING COURSES**

1. Induction (orientation) training.
2. Subject specific (refresher) training.
3. Faculty Development Programmes (Specialized).

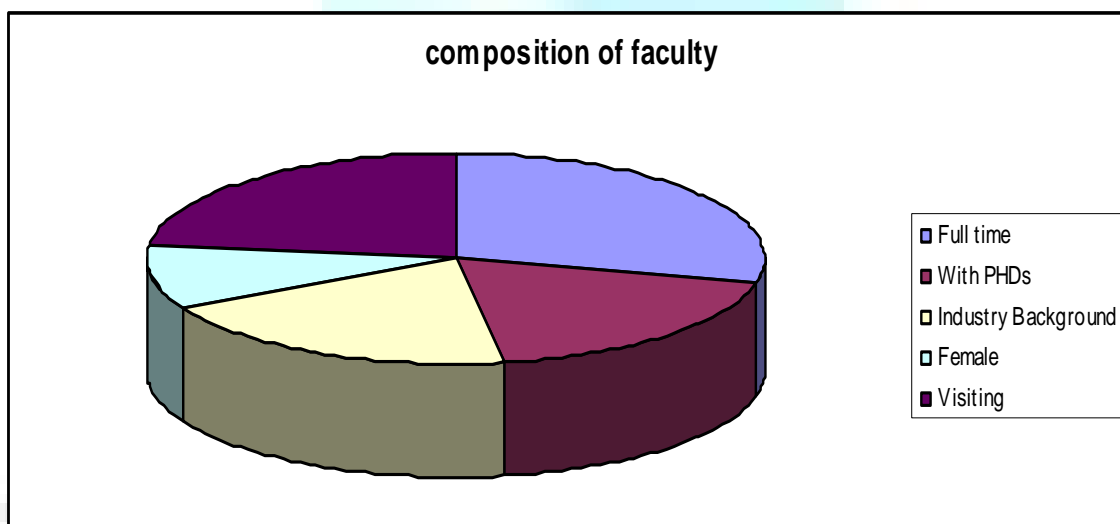
Another important point is that in India we need to develop good quality research through management faculty. Research is virtually non existence in management school today.

Research should be considered as an educational strategy. It keeps companies abreast with the latest thinking; it changes the very character of education, the involvement of students, and most importantly the involvement of the faculty. Further, as stated by **Charles Baden Fuller**, **"The mission of a good school in management is not just to educate and develop aspiring young manager. It is also to develop aspiring young managers. It is also to develop ideas, theories and evidence that will shape management practices in future."** In other words, good quality research and development of new ideas is critical for good quality education in management schools. If a faculty is not engaged in research and development of new ideas, he/she has hardly anything to contribute to bright student who has all information at click of a mouse. However, not all B-School can foster research due to the small size of 7/10/15 faculty members. The priority of any business school is to provide future leaders. But to achieve those objectives, the schools need to have an internal leader- the CEO or the director – who can as easily abandon those which are not yielding result. A self financed B-Schools typically has an effective director who chart out a clear growth strategy and makes sure that the faculty members internalize it and work as a team. At **MDI**, Gurgaon, for instance, the same HR practices that are taught to students are used to promote team work among faculty members. Every morning, the teachers meet over a cup of tea for 15 minutes to sort out the day to day coordination issues. These discussions also help in building stronger relationship between them. The faculty council meets every month to monitor implementation, and makes mid-course adjustments, if required. New ideas are debated and discussed, and achievement of faculty members is celebrated. The long-term strategic issues and vision are discussed in the annual retreats of the faculty. Obviously, such schools take steps to attract the best teaching talents. **IMT (Delhi) pay salaries that are over 35 percent more than what's prescribed by AICTE for IIMS and IITS.** The workload is restricted to four to five courses in a year, so that the teachers get ample time for other things like research. There are other incentives too – a payment of Rs.65,000/- if a paper is published in an international journal and Rs 1 lakh for authoring a book; a maximum of Rs. 1,50,000/- per teacher for attending international conference and seminars every alternate year; 60 per cent of the revenues that's earned from training and consulting project undertaken by a teacher. Although a majority of faculty in most Indian business schools do not have a Ph.D. A typical faculty member has only an MBA or equivalent degree, usually with several years of industry experience.

Following table-1 and Exhibit-1 shows the composition of faculty in management institution in India

Composition of Faculty in Management Institution In India		
Sr.No	Type	Number
01	Full time	2397
02	With PhDs	1591
03	Industry Background	1,668
04	Female	799
05	Visiting	1,949
06	Adjunct	802

EXHIBIT - 1



(Source: A. Thothathari Raman: "The Way to go" Business India, October-24-November 6, 2005, Pp72)

The survey conducted by Navjit Gill proves that faculty and research output is the key differentiator between the three tiers. On average, **tier-1 ("A" grade)** B-schools have 50 full time faculties, **tier –II ("B" grade)** have only 24 and the rest 17. This trend is faithfully mirrored in the average number of books published as well as the number of papers published in referred journals (see the Faculty Factor, given below)

S.No	Category	Full-time faculty	Avg. No of faculty	% of faculty with PHD	Avg. number of published books per school	Avg. number of published paper per school	Average MDP and consultancy revenue (Rs Lakh)
01	Top 25	755	50.33	72.85	11.53	35.00	312.84
02	Next 25	611	24.44	46.96	3.28	9.56	42.38
03	Rest 60	995	16.58	34.57	1.08	3.57	6.49
	Total	2,361	23.61	50.02	3.20	9.78	61.42

(Source: Navjit Gill, "Best in Class", Business World, 22<sup>nd</sup> September 2003, Pp-56)

EXHIBIT - 2: AVERAGE NUMBER OF PUBLISHED BOOKS PER SCHOOL

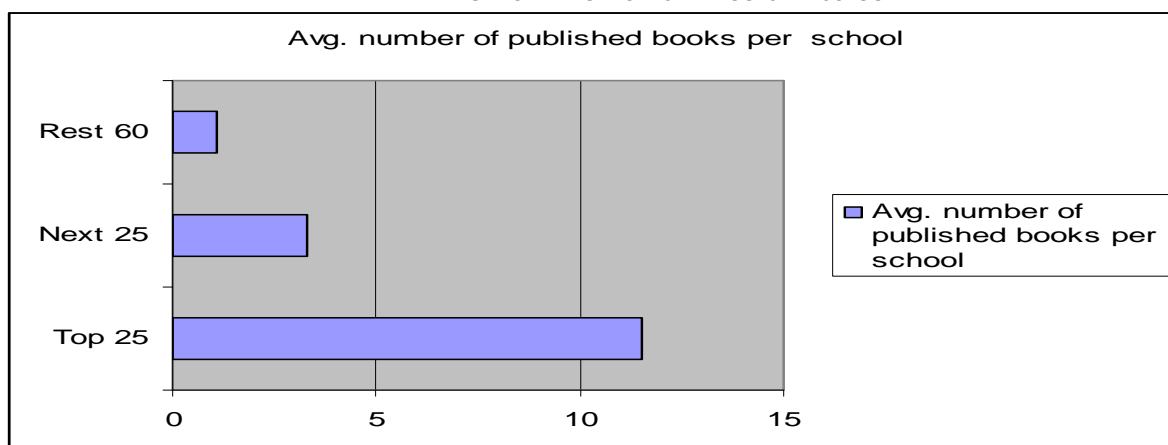


EXHIBIT - 3: AVERAGE NUMBER OF PUBLISHED PAPER PER SCHOOL

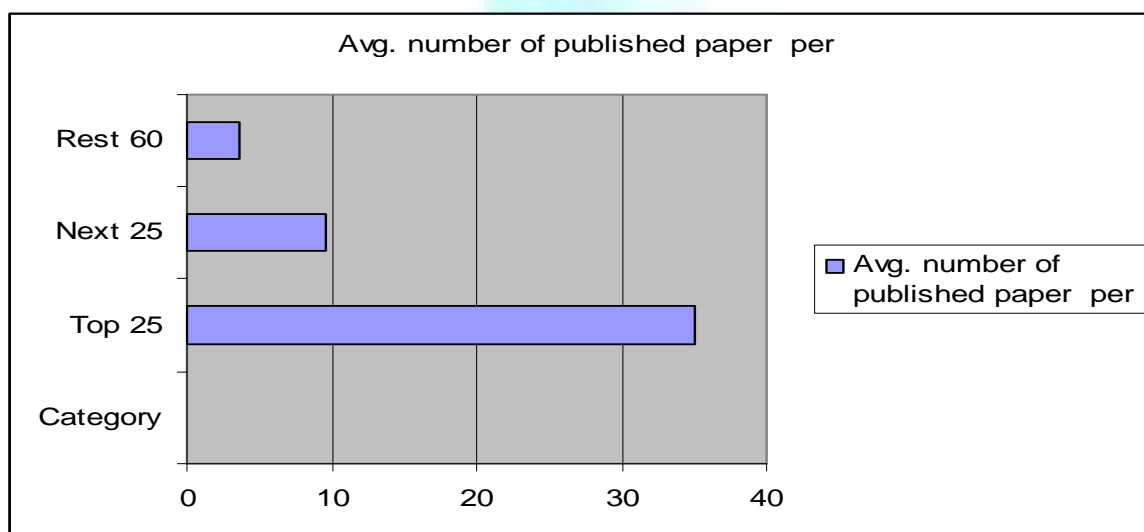
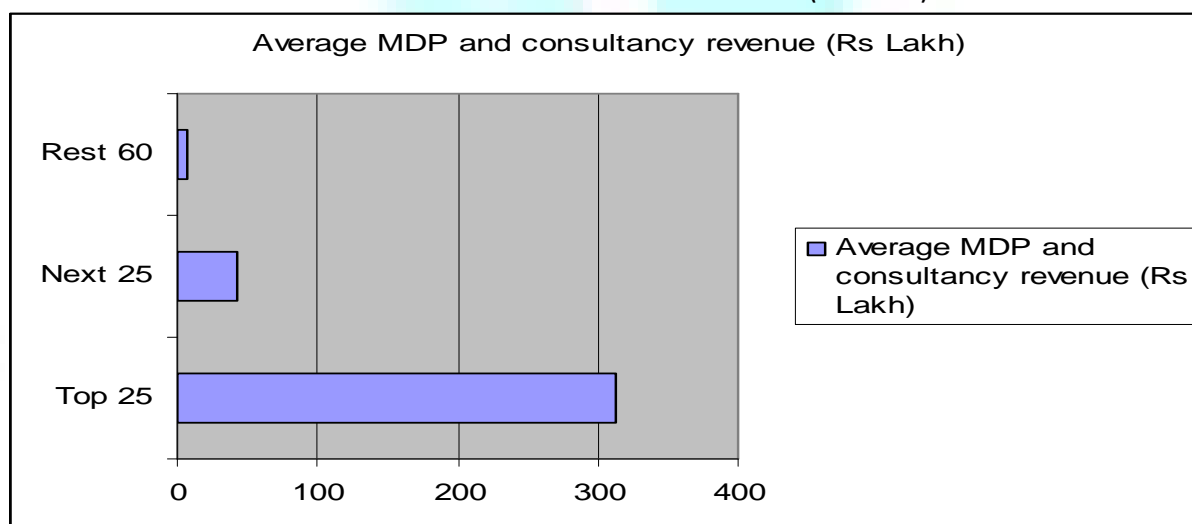


EXHIBIT - 4: AVERAGE MDP AND CONSULTANCY REVENUE (RS. IN LAKH)



Faculty member may be initiate interdisciplinary research, like finance faculty conducting research on entrepreneurship and micro credit. Unfortunately only funding for research comes from the government body. The industry too must create foundation for supporting research in management, like Rokerfeller or Ford Foundation. Further more, management faculty must delve in research focused on the problems confronting the country or emerging economics, so that it is meaningful and useful. Finally, a greater emphasis on field research will help faculty grow.

### CONSULTANCY

Consultancy is an activity closely related to research. Faculty may put their research finding to practice by providing consultancy to related industry. Alternatively, they can conduct research to provide consultancy to a corporate house on particular topic, for e.g. marketing strategy for retail or ago- potential in Madhya Pradesh. There is a need for changing the rules for faculty accepting consultancy assignment and sharing consultancy fees to make the same much liberal. Some other measures may be **attractive salary structure and benefits**, better promotional avenues, flexible timing for teaching, encouragement for



undertaking research based consultancy, etc. Providing consultancy to business will sharpen the faculty, infuse confidence and motivate them, there by improving there overall quality. Faculty of management must insist on structure that invites the support engagement with industry. It is very important point that we have developed very few good quality cases to support Indian context.

The changing perspectives in management education need to induce a paradigm shift in the vision of the institution and the role and objectives of faculty members. To suit the present demands, they may be considered as:

- Development of the ability to apply knowledge for solving the practical business problems.
- Improvement of analytical and diagnostic skills, diagnostic skills and development of decision making ability.
- Support the development of imaginative and innovative solution to deal with the real-life business solutions.
- To unearth students' potential to work as effective team members and leaders, to handle tough human problems
- To generate entrepreneurial interest and motivate the students towards self development.

These roles are listed in accordance with the demand of business and industry at present, and the prediction regarding the future of the economy. However, they are evolving in nature and have scope for further improvement, deliberation, debate and discussion.

## CONCLUSION

Effective and efficient use of resources is not only depending upon its availability, facility, constraints but also depend upon the quality of human resources. In the era of globalization it is not war between the big and small and it is the war between fast and slow. Organization may fail even if it does not have physical resource constraints but it will surely fail if it has talent constraints. The importance of human resources gets multiplied, when services is being offered to the consumers, the human agents plays very crucial role in delivery of service. The quality organization is being reflected in the attitude and aptitude of the human resources is being taken care of. So far as the B-Schools are concerned human resource or intellectual property includes Faculty members, Administrative staff and students. People are considered to be input and the out (i.e. quality of placement) is depend upon the quality of input. Therefore it can be concluded that the quality of people gives better growth prospect and sustainability to service industry in general and management institute / education sector in particular.

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## INTERNATIONAL SMALL - SCALE FOREST CARBON SEQUESTRATION PROGRAM AND ITS IMPACT ON THE LIVELIHOOD OF LOCAL PEOPLE: EVIDENCES FROM CENTRAL KENYA

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### ABSTRACT

*The objective of the study was to investigate the impacts of the International Small Group and Tree Planting Program (TIST) upon the livelihood of the local people. The findings of the study revealed that the small-scale forest carbon sequestration program has brought considerable livelihood supports (in terms of owning better number of trees, improved food security, housing, financial incentives, i.e. 'carbon payments', improved awareness on environmental protection and agroforestry knowledge, and potentially expected further carbon payments). The major challenges, however, are blurred greenhouse gas (GhG) contract, asymmetry of interest between the program owners and the local people with regard to selecting tree species to be planted, high opportunity cost of land, and community's lack of confidence over program's sustainability. So, it is safe to conclude that the long-term sustainability of the small-scale carbon sequestration program is under question. When small-scale forest carbon sequestration projects are considered as options of storing carbon, their impact over the livelihood of local communities need to be considered especially the opportunity cost of using land to plant trees (than using it to produce crops) should be determined. Therefore, the Government of Kenya can play a role between local communities and the carbon projects so that both forests and local people thrive. To this end, there is a need for appropriate institutional and administrative framework to enhance program sustainability and increase the contractual capacity of powerless local community groups.*

### KEYWORDS

Carbon Projects, Carbon Sequestration, Climate Change Forest Carbon Sequestration, Greenhouse gas (GhG) contract, Kenya.

### INTRODUCTION

#### CARBON SEQUESTRATION: WHAT IS IT?

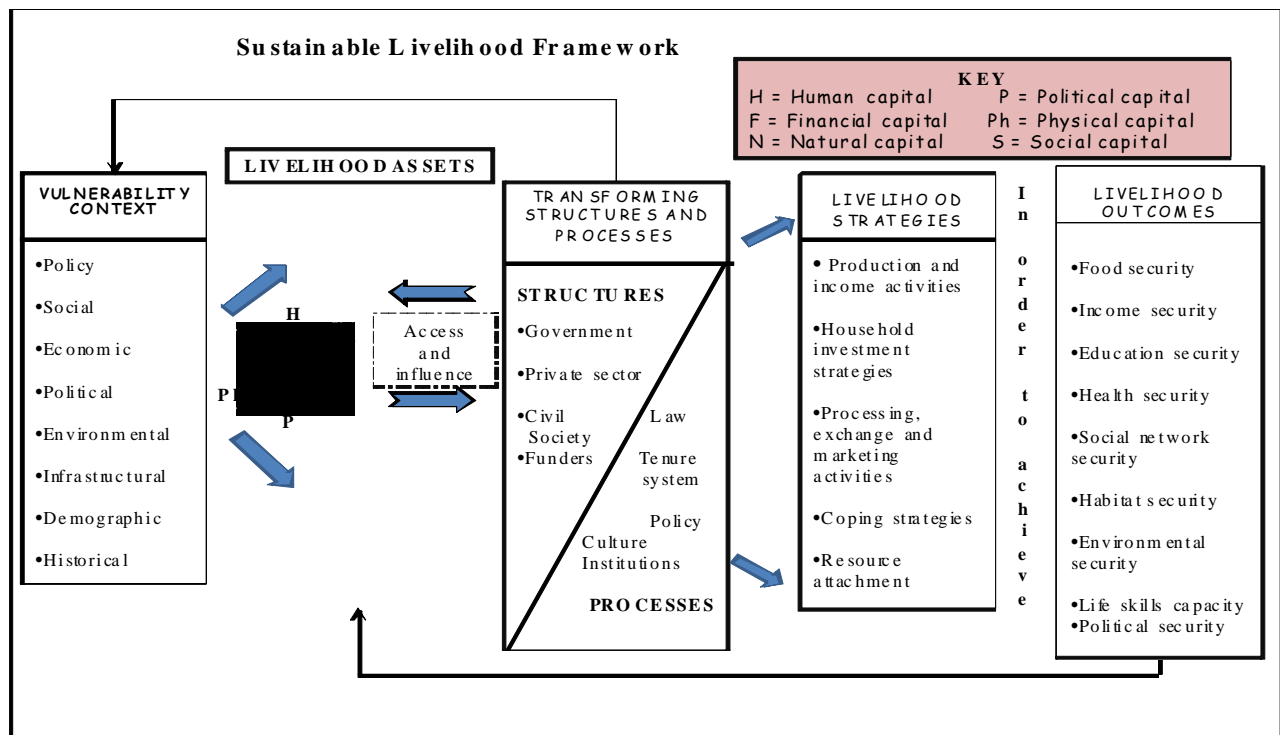
The emission of greenhouse gases such as carbon dioxide, methane and nitrous oxide is mainly due to anthropogenic pressures resulting from burning of fossil fuels, deforestation and related land use changes. Atmospheric levels of greenhouse gases are getting higher than any other time in the recent past (Siegenthaler et al., 2005). Carbon sequestration is a method or process through which atmospheric carbon dioxide is taken up by reservoirs which would otherwise be released or permanently emitted into the atmosphere and accelerate global warming (IPCC, 2001). Carbon sequestration is also defined as the process of removing excess carbon dioxide from the atmosphere (Jindal et al, 2008; Jindal, 2006). In simple terms; carbon sequestration is the removal and storage of carbon from the atmosphere in to carbon sinks such as forests, oceans, and soils through physical or biological processes such as photosynthesis. According to the successive assessment reports of the Intergovernmental Panel on Climate Change (IPCC), forests, agricultural lands, and related terrestrial ecosystems have significant potential of sequestering carbon (IPCC, 2008; IPCC, 2003; IPCC, 2001). While forests themselves serve as net carbon sinks, deforestation in the tropics is one of the challenges contributing to global emissions of carbon dioxide (CO<sub>2</sub>). Although data related to the level of tropical deforestation have been subject to debate, it contributes between 17 and 20% of the total greenhouse gas emissions (Lovera, 2009; Angelsen, 2008; IPCC, 2007; Gullison et al, 2007; Asner et al, 2005). If deforestation is not addressed, predictions indicate that the global economic cost of climate change resulting from deforestation could reach \$1 trillion US Dollar annually by 2100 (Eliasch, 2008). According to the Stern Review (2006), reducing deforestation is the single largest opportunity for the immediate and cost-effective reductions of carbon emissions. Moreover, by directing funds from developed to developing countries, forest-based carbon projects have the potential to support the economies of developing countries in the tropics where most deforestation is happening (IPCC, 2007; Govindasamy et al, 2003).

### SUSTAINABLE LIVELIHOOD FRAMEWORK AND FOREST CARBON PROJECTS

The survival of many rural communities is dependent on access and entitlements to ranges of assets and livelihood strategies that help sustain individual households through periodic shocks and stresses. Although the most widely used definition of livelihood was given by Chambers and Conway (1992), a number of modified explanations have been forwarded by a number of scholars with minor differences in defining the concept. A livelihood constitutes assets, capabilities, and activities necessary for a means of living, implying that livelihood will be sustainable when it can cope with and recover from stress, shocks and enhance or maintain its assets and capabilities both in current and future times (Carney, 1998). A livelihood is sustainable if it does not undermine the natural base of the people (Scoones, 1998). On the other hand, Ellis (2000) excluded 'capabilities' and 'sustainability' in his definition of livelihood and emphasized on 'access' to assets and activities that are influenced by institutions and social relations such as class, gender, belief systems, kinship, etc.

If the impact of any development project or intervention is to be analyzed from sustainability perspective, the sustainable livelihood framework plays a significant role (DFID, 1999). However, the framework has been criticized for its complexity and over ambition in defining different spatio-temporal contexts. Such drawbacks of the Sustainable Livelihood Framework should be considered in order to adapt and use it to conceptualize livelihood systems in diverse contexts. Therefore, in order to investigate the impact of forest carbon projects on the livelihood of local people, DFID's Sustainable Livelihood Framework has been modified and supported with inputs from the household livelihood framework developed by CARE (2002).

FIGURE 1: A MODIFIED SUSTAINABLE LIVELIHOOD FRAMEWORK



(Adapted from CARE, 2002; and DFID, 1999)

Although forest carbon projects have a number of intended benefits, some projects bring risks of activity shifting leakages such as the displacement of communities which can again direct to clearing of adjacent lands, marginalization of local and indigenous populations, and widening local inequalities (Skutch, 2005; Boyd, 2002; World Rainforest Movement, 1999). Pilot forest carbon sequestration projects have tended to fall short of their sustainable development objectives by failing to address the needs of local communities so that poor communities in fact get poorer (Jindal et al, 2008; May et al, 2005; Brown et al, 2004).

The global demand for carbon credits is increasing steadily as the first commitment period under the Kyoto Protocol (2008- 2012) draws to an end, making tropical countries, such as Kenya, destinations for global forest carbon trade. For example, Kenya is one of the fourteen nations in the world to receive funds in the first round of the World Bank's Forest Carbon Partnership Facility, a scheme designed to kick-start new Reducing Emissions from Deforestation and forest Degradation (REDD) projects in developing nations (World Bank, 2008).

In Kenya, it is a common practice for carbon offset projects to be subjected to regular forest assessment practices such as inventorying carbon stocks and evaluating the restoration status of conservation schemes. However, it is not common to see evaluative assessments on the impact of carbon sequestration project on the livelihood of local people. The general objective of the study was to identify the impacts of the International Small Group and Tree Planting Program (TIST) over the livelihood of the local people and draw lessons on the environmental and economic role of small scale tree planting programs.

## METHODS USED

This paper is the result of qualitative and quantitative data collected from selected rural communities in Central Meru District, Kenya. The data collection time was the period beginning of May 2010 to end of June 2010.

### Description of the carbon sequestration Project: TIST

TIST is an abbreviation standing for "The International Small Group and Tree Planting Program" which is an environmental program developed by subsistence farmers of developing countries to sell carbon for the international carbon market. TIST was established in 1999 in Mpwapwa, Tanzania, by the Clean Air Action Corporation (CAAC) - a US based company founded by Mr. Ben Henneke who is currently the president of the company. As part of its establishment process, CAAC sponsored a seminar for representatives of small groups in Tanzania where the groups identified lack of trees, food security, and disease as the leading difficulties for their communities. Following that they decided to start doing something to tackle those challenges. With a joint effort between Tanzanian farmers, US and UK support staff, a pilot project was initiated to improve the degraded environment while contributing for greenhouse gas reductions. CAAC is a registered legal entity that got certificate of incorporation from the government of in January, 2005.

Currently, TIST operates in Tanzania, Uganda, India, and Kenya with over 60,000 farmers, over eight million trees growing and averagely 5,000 trees being planted each day. CAAC is TIST's parent company, owning and operating the local TIST companies. CAAC specializes in 'low cost strategies so as to clean up the air' through control technology and carbon sequestration (using TIST). It was also stated that TIST has been selected for the BioCarbon Fund of the World Bank (TIST, 2010).

## DESCRIPTION OF THE STUDY AREA

The study is conducted in Central Meru District which is one of the thirteen districts that form the Kenyan Eastern Province. Geographically, the district is located almost at the equator between 0° 20' 15" N – 0° 32' 00" N latitudes and 37° 6' 40" E – 37° 52' 00" E longitudes which signifies that the district is located five miles north of the equator. The district is situated to the northeast of Mount Kenya whose peak cuts in the southwest border of the district where it shares borders with Tharaka District to the east, Laikipia District to the West, Nyeri, Kirinyaga and Meru South Districts to the south, and Meru North and Isiolo Districts to the north.

MAP 1: LOCATION OF MERU (MERU CENTRAL DISTRICT, KENYA)



### METHOD FOR DATA COLLECTION AND ANALYSIS

According to TIST's revised administrative system, a number of groups form a cluster which helps to facilitate communication, organization and minimize administrative costs. In the district where this study is conducted, there are 11 functioning clusters each constituting from 101 to 892 group and within each group there are 6 to 12 small-scale farmers. All the clusters are located within an approximate 2 to 65 km distance from the local coordinating office of the TIST program located in Meru town. The sample frame from which representative households are selected is set in table 1.

TABLE 1: LISTS OF TIST PROGRAM CLUSTERS UNDER MERU COORDINATION OFFICE

S.N	Cluster name	Number of groups in the cluster	Year of cluster establishment
1	Chugu	744	2005
2	Kirimaara	614	2005
3	Tharaka	331	2008
4	Igembe	220	2008
5	Kirinyaga	283	2008
6	Timau	217	2006
7	North Imenti	327	2008
8	Kithurine	101	2009
9	Wendo	605	2005
10	Kinyaritha	728	2005
11	Ntugi	892	2005

(Source: TIST program office: June 2010, Meru, Kenya)

As it is seen from table 1, five of the clusters constitute TIST groups functioning since 2005 while majority of the remaining groups are functioning since 2008. Every group in each cluster is registered and coded. For example, groups located in one of the villages under Chugu cluster are coded as 2005KE278, 2005KE294, 2005KE296 where 2005 indicates year of group establishment, KE refers to Kenya implying that the group is located in Kenya, and the number following KE implies the group number.

Based on the stated research objective and local expertise opinion, investigation of the impacts of the program activities over the livelihood of the local people requires longer period of operation and households' involvement in the program. Therefore, households who were sampled for the study were from those groups who joined the program in 2005. Purposive random sampling was used to select a total of 90 households used in the study of which 50 were participant households and 40 are non-participant households. Participatory Rural Appraisal (RRA) which constitutes a series of observations supported with key informant discussions was used to decide sample size and select sampled cluster areas. Based on the outcomes of RRA, the structure, functioning and overall livelihood system of local households of the study area was so homogenous. Therefore, 90 households were determined to be a representative sample size for addressing the objectives of the study. Initially, both participant and non-participant households where those clusters formed in 2005 are located. Once the clusters were purposively identified, TIST groups were selected randomly and from each randomly selected group a household (one of the 6 – 12 group members) was selected for detailed livelihood investigation. A maximum of 2 households were chosen from a group constituting 6-12 households.

### DATA COLLECTION

Due to lack of organized secondary data, the largest data set collected was through detailed and semi-structured questionnaire and focus group discussion (FGD) administered to rural households in the six TIST cluster areas.

TABLE 2: NUMBER OF SAMPLED GROUPS AND HOUSEHOLDS

Cluster Name	Number of groups selected	Number of participant households selected	Number of non-participant households selected
Chugu	7	9	7
Kirimaara	6	8	7
Wendo	4	7	6
Kinyaritha	7	10	8
Ntugi	7	11	7
Timau	3	5	5
Total	34	50	40

Primary data was generated from local stakeholders, mainly from small-scale households that can provide relevant information about the program and its impacts on local people. The socio-economic consequences of forest carbon sequestration projects such as tree planting programs like TIST are expected to be reflected both at the community and household levels. Therefore, individual households were the major units of analysis in the study. Furthermore, impact of the project over groups and the community as a whole was investigated. Project design documents, auditor or certifier reports, and consecutive internal reports by project management team were reviewed from the standpoint of fulfilling the stated research objectives and triangulating information were generated from primary sources. To gather primary data from the six cluster areas, key informant interviews, semi-structured household interviews (conducted using household

questionnaire), focus group discussion (FGD) and expertise opinion were used. Semi-structured household questionnaire, FGD guidelines, and interview questions were part of the tools applied.

#### DATA ANALYSIS AND PRESENTATION

Data was analyzed both qualitatively and quantitatively. The 'before-after project' scenario was used to analyze the data generated on the relationship between the program activities and the livelihood components of the local households before and after project. Extraneous factors (i.e., other factors or interventions other than the forest carbon project that might cause changes over local peoples' assets and lifestyles) were tried to be controlled and verification was given whenever necessary.

As part of the triangulation and verification process of the facts collected, in the analyses it was tried to incorporate the 'with and with-out the project' scenarios through investigating the data collected from non-participant households and asking 'recall' questions to participant households addressing specific livelihood issues. Comparison was made between participants and non-participants of the project as well as the changes in the livelihood of those participants through time, i.e., since they joined the program.

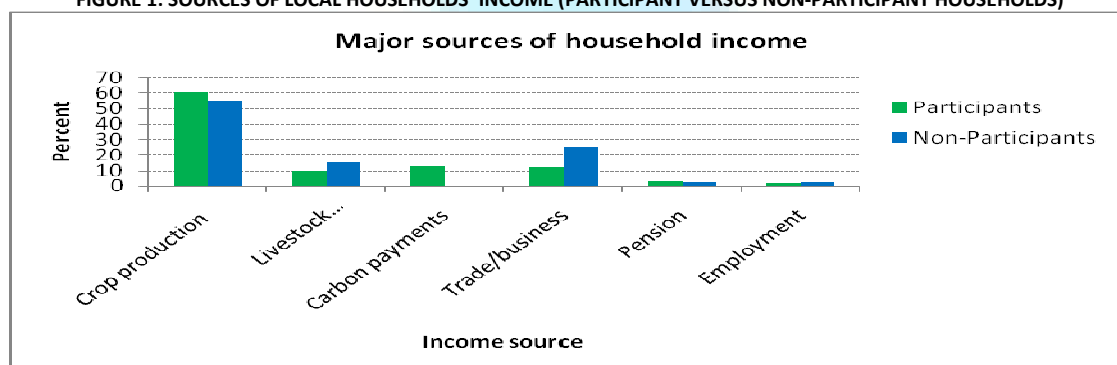
Descriptive statistical values were computed in order to see the impacts of the small scale forest carbon project over the livelihood of the local households in general and the local community groups in particular. In due course, comparison was made between those households who joined the tree planting program and those who have not yet joined. The comparison was made from the perspectives of i) changes in household tree ownership, ii) household income, iii) household food and fuel security, iv) training and capacity building, v) carbon payments, vi) household housing, vii) households' overall living conditions and the like. Descriptive statistics was used to explain those comparables. Besides the "with- project and with-out project" scenarios, the "before-project and after-project" livelihoods of households are compared. Qualitative explanations which were the results from Focus Group Discussions (FGDs) and expert opinion were given whenever necessary. Data have been presented using tables, graphs, charts, preference ranking charts and the like. Two important statistical soft-wares (EXCEL and SPSS) were applied to get quantitative values, develop charts and graphs, and support the data analysis process.

## RESULTS AND DISCUSSION

### LIVELIHOOD OF THE LOCAL PEOPLE

The life of the households in the area is predominantly dependent on subsistence agriculture whereby traditional agricultural systems are used both to cultivate crops and rear animals. Farmers harvest twice a year using two rainy seasons: May – April of the spring season and July – September of summer season. The major crop types produced in the area are maize, beans, pigeon peas, sorghum, sweet potatoes, green grams, and other groups of local food crops. The common cash crop enterprises in the district constitute tea, coffee, bananas, horticulture, wheat, potatoes, cotton, sunflower, pyrethrum and macadamia. Dairy cattle, dairy goats, local cattle, sheep and poultry are the main livestock enterprises.

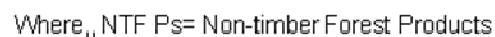
FIGURE 1: SOURCES OF LOCAL HOUSEHOLDS' INCOME (PARTICIPANT VERSUS NON-PARTICIPANT HOUSEHOLDS)



Crop production is the leading source of household income followed by trade/business activities and livestock production for household categories, participants and non-participants. As it is seen from figure 1, unlike non-participant households, participant households get additional income from carbon payments despite the relative magnitude of the income from it is comparably low.

As it is indicated by figure 2, both the husband and wife are the key players when we consider the livelihood of the local people. The major land use systems are farmer's coffee garden, home garden, and hill forests. The major income sources for the household are coffee, sale of crops, cattle rearing, tobacco and tea farming, and carbon payments.

*A simplified livelihood and land-use diagram in a typical Kimeru family, Central Meru District, Kenya*



Income sources for a household

Lands used for households

Cattle reared for households

Produce from using a land

Financial inflow in to a household

Labor inflow to a household

Seasonal movement of cattle

Intermittent labor inflow

The percentage value indicates the percentage of households in the stated range of number of trees. The ranges like 0-100, 101- 200, etc indicates the number of trees owned by households before 4 -5 years.



FIGURE 3: HOUSEHOLD LEVEL TREE OWNERSHIP BEFORE 4-5 YEARS AGO

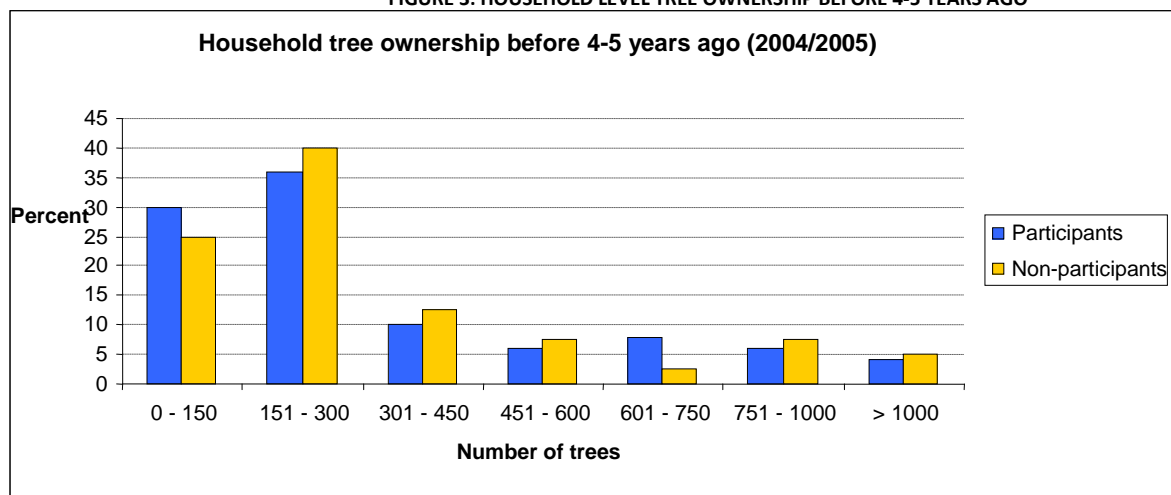
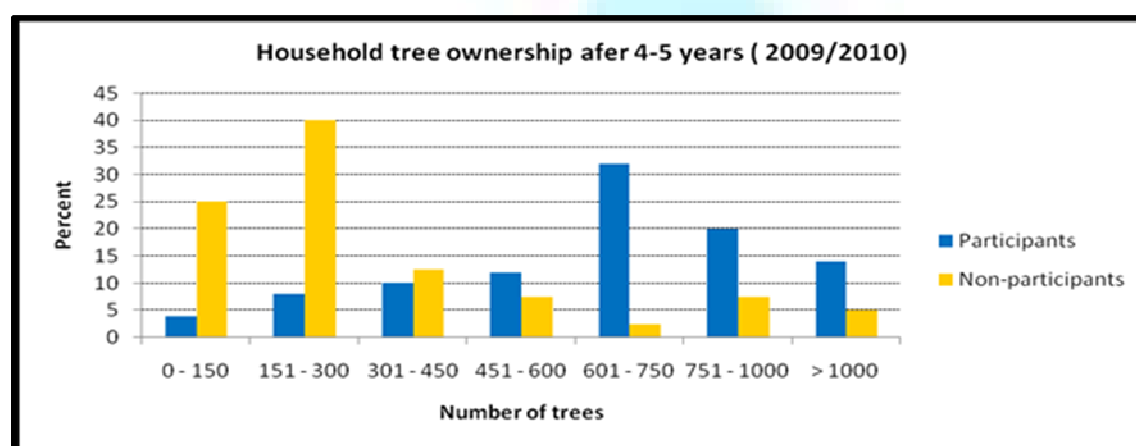


FIGURE 4: HOUSEHOLD LEVEL TREE OWNERSHIP AFTER 4-5 YEARS AGO.



As depicted in figure 3 and figure 4, participation in the International Small Group and Tree Planting Program (TIST) has brought a greater difference in terms of owning trees where participant households have greater number of trees after joining the program than non-participant households. Significant numbers of participants have success in increasing the number of trees in their land during their 4-5 years participation in TIST. This shift towards owning more trees has implications over the cash inflow for households in the form of payments for carbon. For example, a household who make a move in owning trees from 150 to 700 gets carbon payments for 550 live trees, which means  $\text{KES } 1.50 \times 550 = \text{KES } 825.00$  (equivalent to USD 11.00) annually. During the data collection process in the field visit, participant households have expressed that they have a significant move in terms of improving their live through securing fuel, fodder, timber, and food ( example introducing fruit and nut bearing trees). In the *Kimeru Community*, it was also described that having greater number of trees is one of the dimensions considered to label a household as rich, medium, or poor. To conclude, the Small Group and Tree Planting Program ( TIST) has positively contributed through encouraging and incentivizing small scale households to plant more trees which are of both useful from the perspectives of sequestering carbon and providing immediate economic return to the local households.

#### b) Maintenance of on-farm and off-farm tree diversity

TIST has played a role in conserving diverse species of trees (both indigenous and exotic) through its successive awareness creation and support in supplying seeds. For example, Meru Oak (*Vitex keniensis*), an important indigenous tree species was significantly reducing in the area some years ago. However, due to the introduction of TIST, the availability of such indigenous tree species is getting increased and its management is also getting improved. Similarly, Mweria (*Prunus africana*), a very important medicinal<sup>1</sup> plant used by local communities in Meru is getting improved and which was once approached to total disappearance in the district, except in those trust lands and arks found around the area. Moreover, participant households are encouraged and supported for the introduction and management of multipurpose exotic species, such as Grevillia (*Grevillea robusta*). It was discovered that 65% of the households who participate in TIST have tree nurseries which are used not only for multiplying seeds for themselves but also bringing the seedlings to the local markets and selling them to other community members which are mainly non-participant households.

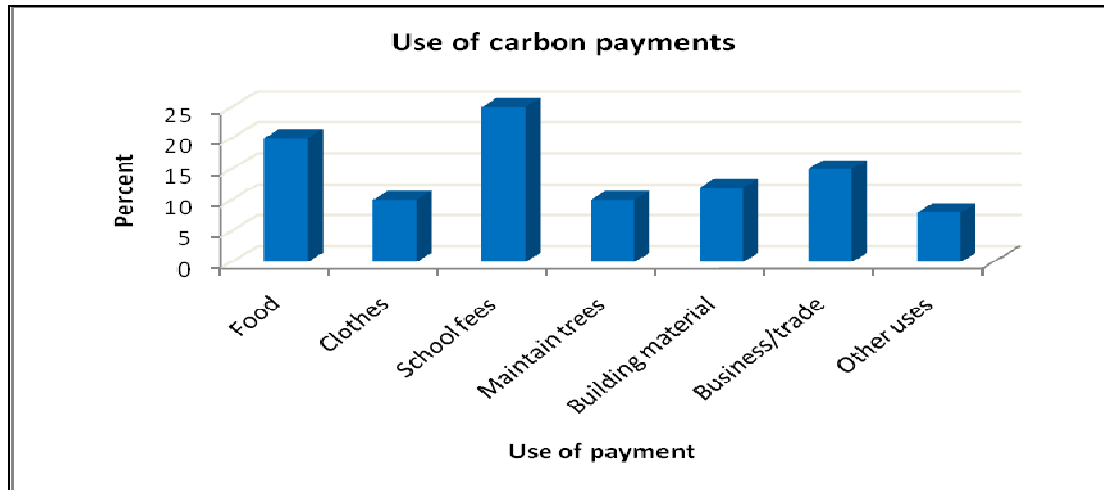
During Focus Group Discussions (FGDs) that were made in the sampled clusters, participant households have listed those trees planted through the support and encouragement they got from TIST. Further successive discussions were made in ranking or prioritizing trees according to their order of importance. Fortunately, consensus was reached on the prioritized or ranked trees as rank as first Grevillia (*Grevillea robusta*) the most preferred, *Cordia africana* the second most preferred, mango (*Mangifera indica*) the third most preferred, and the like. Muteratu (*Vepris nobilis*), Muteru (*Olea europaea*), and Muthigiu (*Rhus vulgaris*) are among the least preferred tree species by the local households . *Grevillea robusta* is the most preferred tree species for the households because it has a relatively better multipurpose tree species which is also fast growing, good timber value, nitrogen fixing which is beneficial for adopting sustainable agroforestry system (tree-crop interaction). On the other hand, there are tree species which are not favored by TIST though local households may not perfectly agree with their preference. For example, the proportion of Eucalyptus (*Eucalyptus spp.*) should not be more than 33% of the overall tree species found on farmer's land so as to be eligible for carbon payments

<sup>1</sup> *Prunus africana* locally named *Mweria* is used by the local communities for curing different reproductive diseases and according to some local old fathers in the area, the bark of plant is an effective medicine for curing cancer. Similarly, its leaves is used us cure male reproductive diseases that occur in old ages.

### c) Improved food security status of participant households

The International Small Group and Tree Planting Programme (TIST) has direct and indirect contribution in terms of improving the food-security status of households. Directly, the program plays a role by paying cash incentives for farmers, KES<sup>2</sup> 1.50 (equivalent to USD 0.02 per each live tree annually). Indirectly, the program has contributed towards the development of agroforestry systems and introduction of improved multipurpose tree species which are of both indigenous and exotic in origin. Many of the trees promoted by the program have multipurpose function such as fuel-wood, fruit, nut, timber, pods, fodder, shelter and boundary belts, medicinal use, improvement of soil fertility, and other ecosystem services as it was subsequently mentioned by local key informants and focus group discussants. Many of the participant households have explained that they purchase food crops from the market as compared to non-participant households. A question is forwarded to the respondent household heads regarding for how many months of a year are their households dependent on food crops purchased from the market. Majority of participant households (26 % and 38% of participant households) purchase food for 1-2 and 3-4 months of a year respectively.

FIGURE 5: USE OF CARBON PAYMENTS FOR HOUSEHOLDS

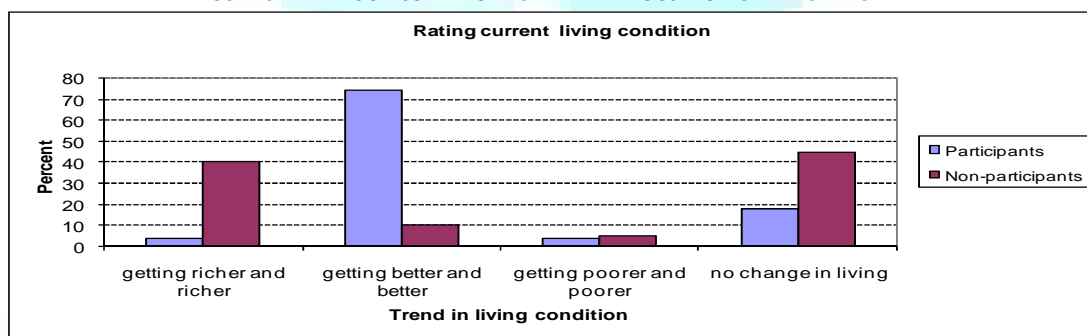


Participant households use their carbon payments received from the Clean Air Action Corporation (CAAC) for schooling fees, food, establishment of businesses, purchase of building materials, clothing, and related purposes respectively. In addition to the aforementioned sources of income and economic activities, participant households are on a move towards the begging and development of alternative income sources. For example, more than 50% of the participant households engage in growing fruits such as banana, oranges, pumpkin, and the like. In addition to enhancing agroforestry practices, TIST has trained participant households from the perspective of developing additional alternative income sources such bee keeping, fish farming (using small ponds on individual household basis), dairy production, silk-worm farming, and improved coffee growing especially in terms of post harvest situations.

### d) Improved overall living condition of participant households

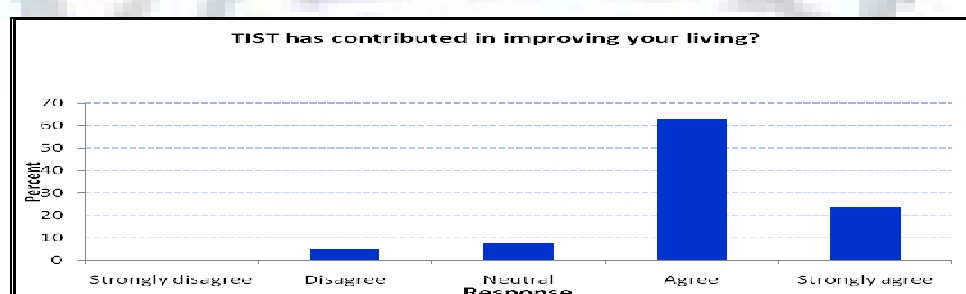
Both participant and non-participant households are asked to evaluate their current living condition (economic status) and hence the trend in their living condition is indicated the following figure.

FIGURE 6: LIVELIHOOD CONDITION AS RATED BY HOUSEHOLDS THEMSELVES



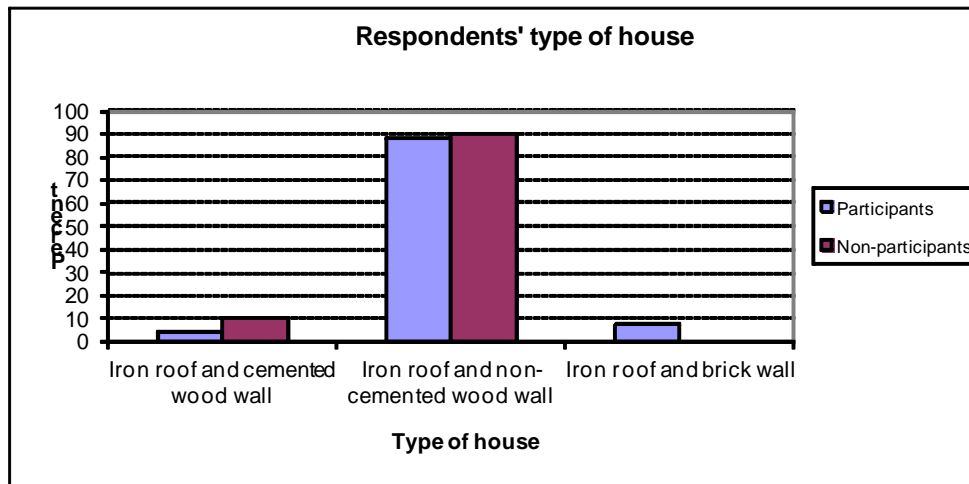
Furthermore, participant households are asked about the role of TIST in improving their living condition. For the statement "TIST has contributed in improving your living condition" which is forwarded to the households, significant number of the respondents are either agreed or strongly agreed that TIST has contributed in improving their living (figure 7). For example, compared to non-participant households, those participant households are on a move from their ordinary houses which are of iron roof and non-cemented wood wall towards iron roof and brick wall which is of better housing categories (figure 8).

FIGURE 7: CONTRIBUTION OF TIST IN IMPROVING HOUSEHOLDS' LIVING CONDITION



<sup>2</sup> KES = Kenyan Shillings

FIGURE 8: TYPE OF HOUSEHOLDS' HOUSE CONSTRUCTED



#### e) Participatory tree selection and Conservation Farming

In addition to the previously stated positive contribution of TIST for local households, significant numbers of tree species planted on participants' households land are selected either by the household and TIST technical staffs or the household itself. There are also minor cases where participant household groups plant trees using the advice they got from TIST agroforestry experts and others (colleagues and relatives of household heads).

Besides, there are households who practice conservation farming (CF), which is one of the poverty reduction sub-programs initiated and promoted by the International Small Groups and Tree Planting Program (TIST). It was discovered by the study that 18% of those households who participate in TIST have started practicing conservation farming. Those respondents who participate in CF explained that CF provides greater productivity yet the practice is so labor intensive and the relative marginal benefit is not rewarding. However, they also stated that practicing CF is better than the usual farming practices though the reward from it is not up to expectation. Moreover, other important steps are initiated by TIST such as the introduction of fuel-efficient stoves, locally called named *jicko*.

#### f) Community-wide benefits of the program

The International Small Groups and Tree Planting program (TIST) by its nature has a working philosophy of 'success in group' and program values it promotes: honesty, accuracy, transparency, being servant to each other, mutually accountable to each other, and low budget/big results. It was positively raised during the focus group discussion sessions that the program has brought improved community cohesion, cooperation, and sound local community organizations among overall communities. This was also practically observed and sensed during the field visit that the program has greatly contributed in terms of bringing communities together for working cohesively and solving community problems together which paves the way for effective community mobilization required for further local development and conservation efforts. It has also brought social changes and facilitates community-based problem solutions, for example, solving conflicts locally/ without going to courts.

The International Small Groups and Tree Planting program (TIST) has also wider level positive impacts especially in terms of improved knowledge and practices of agroforestry and environmental protection. For example, the program has a monthly newsletter called (*Mazingira Bora*, meaning *Environmental Newsletter* in Kiswahili) which is distributed monthly for those households who participate in the program. Besides, TIST supports and educates communities in other cross-cutting socio-economic program activities such as anti HIV-AIDS clubs, empowerment program of women and subsistence farmers, youth development sub-programs and related thematic issues relevant to the local communities.

## LIVELIHOOD CHALLENGES AND OPPORTUNITIES OF TIST

### Challenges

- **Blurred Greenhouse Gas (GhG) contract:** The function of TIST is mainly encouraging farmers to plant more trees hoping that farmers will get better payments for the carbon they will sequester. The GhG contract is signed between participant groups and the Clean Air Action Corporation (CAAC), an international broker for carbon markets. According to TIST staffs and coordination office, those payments that are currently made for farmers are considered as costs of the program which will be deducted from the expected revenue generated from the international carbon market. How farmers are sure that the amount of money deducted is for program development (cumulative costs of TIST Kenya)? Moreover, unlike other markets, market for carbon is very unpredictable; issues such as who will determine the price of carbon? How farmers know and trust that they will really get 70% of the project revenue or not? The Kyoto Protocol is going to be expired soon (2012), so under what mechanism are small-scale local households become beneficiary from the carbon they sequester in the trees they planted?
- **Disparity of interest:** Local households who participate in the project are interested to plant trees which are of fast growing and trees that can be harvested shortly, where as the International Small Group and Tree Planting Program (TIST) insist farmers to plant those trees that grow slowly and stay longer before they reach maturity. This disparity of interest originates from the perspective of maximizing one's own benefit: farmers are interested for short-term economic returns and tree uses while TIST is interested on the carbon that will be sequestered throughout the agreed period of time, 60 years. For example, farmers are interested on planting much of Australian Oak (*Grevillea robusta*) which is a fast growing exotic species yet reaches maturity with in shorter years and hence fails to store carbon for the agreed number of years, 60 years whereas TIST is much interested on those indigenous species such as Meru Oak (*Vitex keniensis*) which can store carbon as the age of the tree is getting longer.
- **High opportunity cost of land:** Land for crop production vis-à-vis land for planting trees and getting carbon payments? It is known that Meru Central District is one of the agriculturally high potential areas where almost all types of crops found in the Kenya are produced. The land in the district is also much suitable for cash crops such as coffee and tea. On the other hand, significant numbers of households are given promises that they shall get comparable amount of income from carbon sales. In short, what is the optimal combination of land use for producing crops and land use for planting trees to get carbon payments?
- **Lack of trust and confidence over the program:** Participant households have explained that they have due suspicion on the program as to whether it can last for 60 years. Moreover, significant numbers of participant households do not know where the money they received from TIST is coming. Their suspicion reaches to the extent that the tree they planted and/or their land may forcibly be snatched.

### Opportunities

Majority of the benefits of the project elucidated under section 4.3 of this report can be considered as opportunities of TIST if they are conducted on long-term basis. Furthermore, the tree planting program has the following conditioned potential opportunities:

- Planting trees has benefits beyond getting paid for the carbon sequestered by the trees. Local households can enjoy the benefits of trees which are manifested in the form of various ecosystem and economic benefits.

- Though the demand for carbon in the international market is sporadic, the overall trend indicates that there is an increasing demand for carbon sequestered in developing countries. Therefore, households engaged in sequestering carbon such as those Kenyan TIST groups may have greater market opportunity for the carbon they have stored in their groves.
- If conditions are supportive enough, TIST can be the bridge that links the Kenyan small-scale farmer households with the international communities working for clean energy and environmental.

### SUMMARY AND CONCLUDING REMARKS

The International Small Group and Tree Planting Program (TIST) as a small scale forest carbon sequestration project play a role in improving the livelihood of local participant households in Central Meru, Kenya. The small-scale forest carbon sequestration program has brought considerable livelihood supports (owning better number of trees, improved food security, financial incentives, i.e. 'carbon payments', better awareness on environmental protection and agroforestry knowledge, and prospective further carbon payments). However, the program has blurred greenhouse gas (GhG) contract, asymmetry of interest between the program owners and the local people with regard to selecting tree species to be planted, high opportunity cost of land, and community's lack of confidence over program's sustainability. Therefore, when small-scale forest carbon sequestration projects are considered as options of storing carbon, their impact over the livelihood of local communities need to be considered especially the opportunity cost of using land to plant trees (than using it to produce crops) should be determined. Furthermore, the contracts made between the local people and the forest carbon sequestering programs should consider the capacity and limitations of local people in understanding contracts which have a long-term impact over their livelihood. To this end, the Government of Kenya should play a role and closely follow the contracts made between local communities and carbon projects that affect local people. The governments should have appropriate institutional and administrative framework to enhance program sustainability and increase the contractual capacity of powerless local community groups.

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## ANALYSIS OF MARKET AND COMPETITORS TO IDENTIFY TRENDS FOR STRATEGIC MARKETING

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### ABSTRACT

Remarkable changes are occurring in today's strategic marketing to reduce uncertainty in business and tackle competition. Therefore, effective marketing is becoming more and more critical to remain in competition. The systematic process for analysis of market, competitors and important trends will help to ensure that the right decisions are taken at the right time by various industries. The research combines data collection and careful analysis of major and minor information that has helped in understanding the fundamentals of marketing, identifying special characteristics of customers/consumers, interplay of marketing mixed variables and enhancing the marketing plan to formulate the Strategic Marketing Plan. The research on "Strategic Marketing" summarizes sequential theories that can help the organization to grow new businesses with anticipated success.

### KEYWORDS

Strategic Marketing, Market Analysis, Competitor Analysis.

### INTRODUCTION

As suggested by Philip Kotler<sup>1</sup> (2005), marketing is "a societal process by which individuals and groups obtain what they need and want through creating, offering and freely exchanging products and services of value with others".

The marketing concept of building an organization around the cost-effective satisfaction of the customer needs has helped firms to achieve success in growing in moderately competitive markets.

### BROAD VIEW OF THE GENERAL RESEARCH AREA

As argued by Mackie<sup>25</sup> (2004), he adopted inductive approach for the research which consists of major steps as follows-

- Define the problem and the decision to be made;
- Determine which information is relevant and organize it into separate issues;
- Analyze each issue;
- Formulate viable alternatives;
- Evaluate the alternatives;
- Make a decision.

Through the use of research, various business problems will be analyzed with the help of Strategic Marketing tools and techniques for Indian auto component manufacturers.

### LITERATURE REVIEW

#### ESSENCE OF GOOD MARKETING STRATEGY

"Those that cannot remember the past are condemned to repeat it"....George Santayano, American philosopher.

As argued by Charles Graham,<sup>6</sup> (2008), the success of an organization depends on today's business environment, which is changing faster than ever, and the stream of new products available is becoming a torrent. European auto component manufacturer firms have opened and they have increased sales by 25% and on an average price of the product is 18.5% as per the *Annual Reports 2007-2008 of SKF and FAG*<sup>7,8</sup>.

It shows a great essence of good marketing strategy for Indian auto component manufacturers to capture business shares at a higher price globally.

#### UNINTERRUPTED REVIEW & AUGMENTATION OF BUSINESS & MARKETING STRATEGIES

As argued by Michael E<sup>9</sup> (2007), uninterrupted review & augmentation is required in order to assess the strengths and weaknesses of business and its marketing strategies and also to identify trends, monitoring the process for continuous improvement in strategies.

#### TO IDENTIFY THE BEST CUSTOMER IN ORDER TO MAINTAIN LEADERSHIP

As suggested by Clayton M. Christensen and Michale E Raynor<sup>10</sup> (2003) it is important to locate customers who are likely to become rigid, the foundation upon which the organization can build the pillars of a successful business and how to approach them. The process elements are as under-

- a) Customers who are trying to get inexpensive solution.
- b) The performance hurdle required to delight such new markets as stated by Clayton M. Christensen and Michale E Raynor<sup>10</sup> (2003). Customers will look for a disruptive product to have nothing at all and will still be eager to buy it even if it may not be as good as other products available at high prices to the current user with deeper expertise in the original value network.
- c) Expensive technology enables the purchase and usage of products that are simple, convenient and foolproof. This is nothing but "foolproofedness" that creates new growth with less money and training based on an argument of Jose M. Labeaga<sup>11</sup> (June 2005).

#### TO OVERCOME STRONG COMPETITION

As suggested by H. James Harrington and James S. Harrington<sup>12</sup> (n.d.p.4) for fast acceleration of turnover, on time compression NPD, cost reduction, improvement of quality is essential. It is essential to select the competitor for various reasons-

- To know the business plan, marketing strategy and product reliability.
- Type of input that they capture for Product benchmark, Product assumption, Design goal, Quality goal to create a road map for new product introduction.



Virtue of good strategy as argued by Dr. Robert G. Cooper<sup>13</sup> (2001 p. 194-195) is for increasing the utilization of present production facility in order to increase the share of business.

Data for presenting case to the management can be formulated as shown in below table.

TABLE -1 STRATEGY MATRIX TO OVERCOME STRONG COMPETITOR

Description of Assumption	Product Features/Business features	To be Utilized as input as under
SOB[Share of business]	Based on volume/quantity check share for organization.	Ensure availability of capacity to supply.
Target price	Cost of customer	To carry product and process engineering to meet target
Product assumption	Purpose of application and past warranty data of competitor.	Technical risk assessment in APQP [Advanced product quality planning].
Design goal	Dimensions, geometrical tolerances, product language and messages.	Technical risk assessment in APQP.
Quality Goal	PPM level (Part per million), Warranty given by competitor.	Technical risk assessment in APQP.
Development cost	Cost of competitor	Check will customer pay or action to amortize
Actual price of competitor	Cost of competitor	Commercial risk assessment
New Technology	Collection of application data	Can think to reduce cost and increase life

#### IDENTIFICATION OF THE TYPE OF PRODUCT CUSTOMER WANTS

Circumstances identify products not customers as argued by Clayton M. Christensen and Michale E Raynor<sup>10</sup> (2003, p.75). It is also believed that segmenting the market along demographic or psychographic lines indeed provides information on individual customers. For increasing sale, it is important to locate application for the usage of product based on demographic or psychographic lines to sell an entire range of product group.

#### DEVELOPMENT OF FRAMEWORK FOR STRATEGIC MARKETING

##### GRADIENT FOR FORMULATION OF MARKETING STRATEGY

*"You have the right to perform your prescribed duty, but you are not entitled to the fruits of your action. Never consider yourself the cause of the results of your activities, and never be attached to not doing your duty" ...Lord Krishna.*

The first part of this statement talks about concentration required for execution of an activity which is possible only by detachment. Second part encourages one to overcome failures in the process of innovation for a new black box solution.

The Various gradients for formulation of marketing strategy are – (Please specify the gradients)

##### COMPETITORS TRIGGER IDEAS

As suggested by Robert G. Cooper<sup>13</sup> (2001p.174-177) 'virtue is not to adopt concept of competitor's ideas and systems but to gain ideas for new and improved product position in the market. Obtain a sample and undertake a detailed study, arrange for an internal brain storming session and try to find cost aimed to improve on competition and create a better product.

- Time compression NPD and cost reduction.
- Product reliability and probable forecast.
- For Product benchmark, Design goal and Quality goal.
- Variety of new products for same and new applications.

##### PROSPECTING VERSUS TESTING

As argued by Robert Spence<sup>20</sup> (1998), this is a premature stage where the product has yet not been developed and the purpose of this is to see it heads in the right direction. This is the time where there is minimum written description of the product and its benefits, features, performance characteristics and likely price is taken into consideration.

##### ANTICIPATE THE REACTIONS OF COMPETITORS AND LOOK AT A LONGER TIME HORIZON

As suggested by Gerald B. White and Wen-fei L. Uva<sup>21</sup> (2000) the operating marketing plan focuses on the tactical decisions needed to carry out the strategic marketing plan.

To Anticipate the Reactions of Competitors-A proactive strategy attempts to influence rather than simply react as competitors change their policies or strategies.

To look at a Longer Time Horizon-Strategic planning is usually long-range planning. The planning process typically involves projecting sales, costs, and technology into the future using data and experience from the past. The time frame can cover three, five, or ten years, depending on the context. Given today's fast changing market and economy, any time frame over five years is probably unrealistic.

##### FORECASTING

For success in marketing strategy, forecasting is an important tool and the below elucidation shows the utilization of forecasting technique to meet the customers demand as suggested by James W. Martin<sup>22</sup> (2007, p.101-109).

It is possible to calculate sales forecast after the time series has been predicted and the demand for the corresponding forecasted time period has occurred.

Mean absolute percentage error (MAPE) and root mean square error (RMSE). [MAPE-Mean Absolute Error Percentage, RMSE-Root Mean Square Error]

## CALCULATING FORECASTING ERROR

$$\text{Error}_t = \text{Forecast}_t - \text{Actual}_t$$

$$\text{Percent Error}_t = \frac{\text{Forecast}_t - \text{Actual}_t}{\text{Actual}_t} \times 100$$

$$\text{Root Mean Squared Error} = \sqrt{\frac{\sum_{t=1}^n (\text{F}_t - \text{A}_t)^2}{n}}$$

Where in  $\text{F}_t = \text{Forecast}$ ,  $\text{A}_t = \text{Actual Forecast}$

FORECAST BENCHMARKS	
Corporate Forecast	2%-5%
Product Group Forecast	5%-15%
Product Line Forecast	10%-20%
Product Forecast	10%-25%

The above guideline shows organizational level and the magnitude of forecasting error.

## HYPOTHESIS

Present growth Strategy of Automotive component manufacturer:

**"In war, there is no second prize for runner-up" ...Omar Bradley, U. S. General**

By and large Indian auto component manufacturer are considering following aspects-

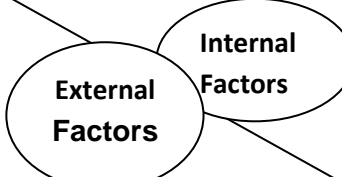
- Growth targeted through OEM [Original Equipment Manufacturer] Focus.
- Ramping key export clients and adding new ones include Europe, SAARC countries, US & SE Asia.
- Global focus on core products having strong technology back-up, Segment such as [Two wheeler, three wheeler, Car segment, Truck segment], commitment of significant resources towards R&D.

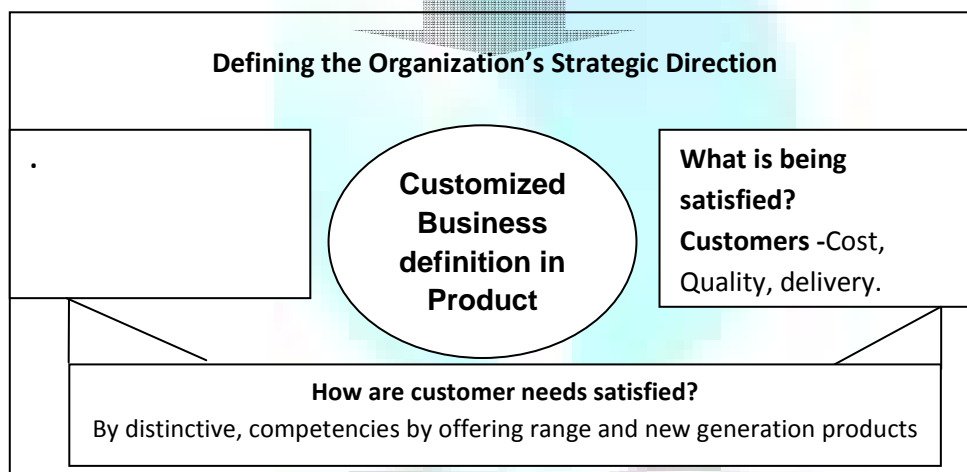
## RESEARCH DESIGN

## SWOT ANALYSIS AND BUSINESS DEFINITION

Identification of good marketing strategy for cylindrical roller bearing again is verified from the perspective of customers and SWOT technique as suggested by Mr. Andrew Young, <sup>16</sup> (2008) and Heinz Weihrich, <sup>17</sup> (2006).

FIG-1 Application of SWOT Analysis

	<b><u>Internal Strengths:</u></b> 1. Strong R & D and engineering 2. Broad knowledge at crosses functional team.	<b><u>Internal Weaknesses:</u></b> 1. Poor global awareness about product range. 2. Rising Costs in India
<b><u>External Opportunities:</u></b> (Also Consider Risks) Growing Affluent Market Demands high-end technical product with high warranty,	<b><u>SO:</u></b> 1. Develop and Produce Multiproduct Line with Many Options 2. Build Assembly Plant Using process R & D, and Automation Experience	<b><u>WO:</u></b> Develop Compatible products for Different Price Levels
<b><u>External Threats:</u></b> 1. Exchange Rate: Devaluation of Dollar in Relation to Euro/Ponds 2. Raw material, fuel, electricity Shortage and Price.	<b><u>ST:</u></b> 1. Reduce Effect of Exchange Rate by Building a low cost product Plant s. 2. Meet Competition with Advanced Design & Technology.	<b><u>WT:</u></b> Reduce Threat of Competition by Developing Flexible Product Line and launch total product range.



<sup>3, 4, 5</sup> [Source: NRB Corporate presentation to customer, November, 2008, Finance report, Dec, 2008, and Engineering data as on 5<sup>th</sup> Dec, 2008].

## RESULT AND DISCUSSION

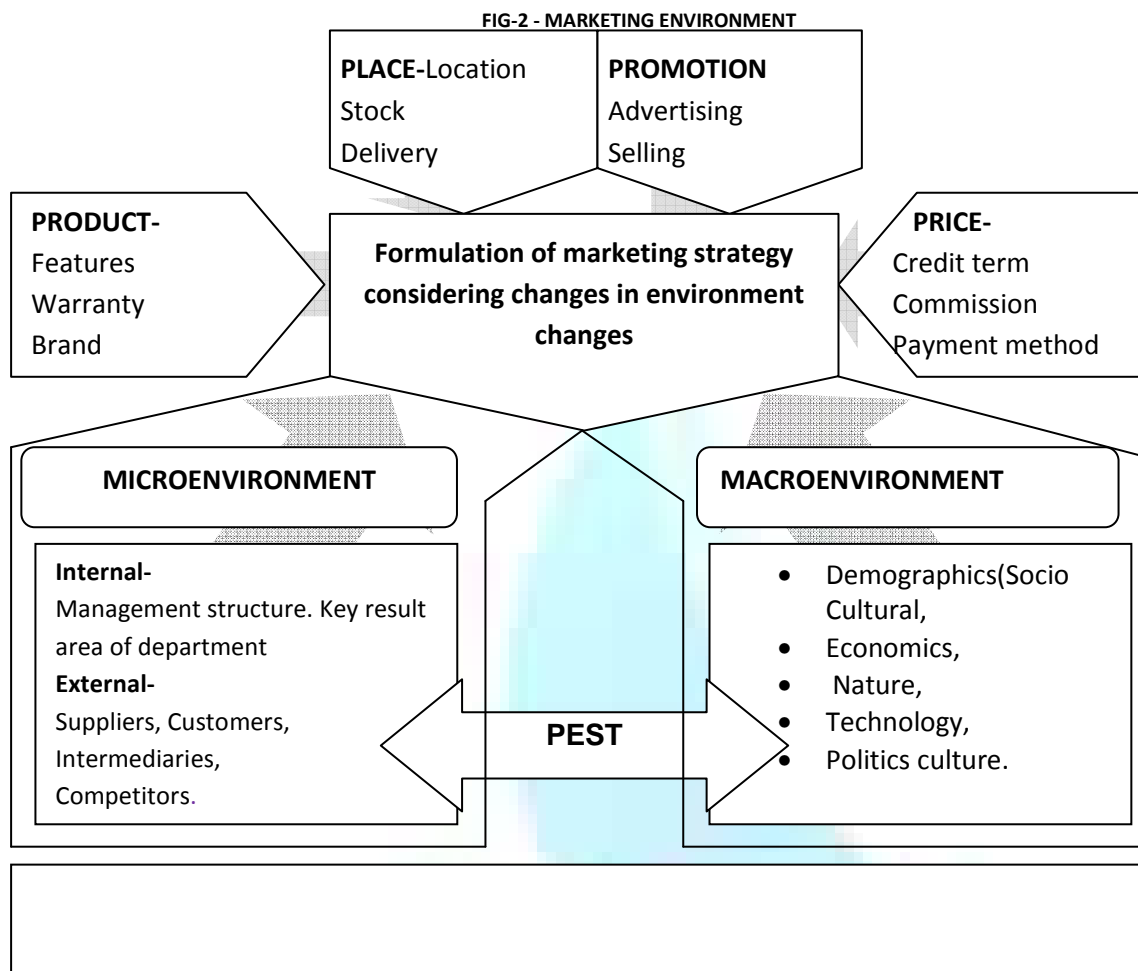
### TYPES OF CHANGES IN MARKETING ENVIRONMENT:

*"I am the master of my fate; I am the captain of my soul" ...W. E. Henley, Invicts*

As suggested by Kotler, P.<sup>18</sup> (1991), the environmental factors such as the 4P's, 'Microenvironment' and 'Macro Environment' affect the marketing activities of organizations.

### TYPES OF ENVIRONMENT

Currently the organization interacts with two types of environment; one is 'Micro Environment' and second is the 'Macro Environment'.



[Source:-Author 5th Nov, 08]

**PEST** –Analysis is applicable for ‘micro environment’ and ‘macro environment’ because certain external factors [uncontrollable, changeable] have an affect on both.

For example, input cost of materials, electricity, rents of various locations and high attrition and matching cost of the company to the competitors are affecting both environments.

#### IMPACT OF 4P'S

Marketing decisions generally fall into the following four controllable categories: Product, Price, Place (distribution) and Promotion.

<sup>19</sup> [Source: - NRB Bearings Ltd (NRB), *Annual Report 2008-43<sup>rd</sup>*, NRB Marketing report, 15th December, 2008 and NRB Engineering data as on 5<sup>th</sup> Dec, 2008, proprietary data of NRB]

**TABLE-2 FOUR P's IMPACT**

THE FOUR P'S	CHANGES IN ENVIRONMENT	INPUT FOR FORMULATION OF MARKETING STRATEGY
PRODUCT	Features-Demand for total range of product.	Search market for entire range of product and scope to expand, demand for after market and industrial segment.
	Warranty-Increased by customer from 100,000KM to 10, 00,000KM or 12 to 60 months.	Revise warrant policy of company.
	Brand and competitors are continuously upgrading product to be market leader.	Plan for creation of a new product plat form and technology road map for new generation designs.
PRICE	Credit term-Duration changed for OEM and aftermarket.	Credit limits for OEM, Industrial market and after market need to reduce in order to reduce outstanding.
	Product cost- Raw material price is increased and Competitive Price flexibility, possible to amortize development.	Profit margin must be on product feature, product life cycle and price criteria needs to be flexible.
PLACE	Increase Distribution channels	Increase of distribution channels for OEM, Industrial segment and replacement market globally.
	Reduce inventory.	Reduction of inventory cost.
PROMOTION	Promotional strategy -Involve manufacture at design concept stage with principle designers at Europe/USA/Japan.	Become partners for creation of knowhow to customer; try to become solution providers or develop quick validation process to start supplies of product.
	Advertising-Television advertisement, addition of product details and application software on website to select products.	Launching of product data on website and TV advertisement to create awareness at rural areas.

#### OUTCOME OF 4'P IMPACT

Changes in the 4P's - Product, Price, Place, and Promotion as well as ‘Micro Environment’ and ‘Macro Environment’ act together in the marketing environment. Often, decisions on one element will influence the choices available in other external environments.

#### ELIMINATION -COMMODITIZATION

Steps for de-commoditization arrived with reference



1. Killing our own product and offer a better design.
2. Make the customer feel guilty for not owning our product. Here again the power of brand and the long term relation with the supplier and the customer are very important.
3. Design tailor made, propriety product before the next cycle of commoditization.
4. Constantly work on improving the brand image.

<sup>14, 15</sup> [Source: NRB Marketing report, 15th December, 2008, International business development report, Dec, 2008]

## CONCLUSION

- Product selection is the first and of utmost importance for right analysis in the prospect of creation of an ideal marketing strategy.
- Need of a good marketing strategy for the success of a product is based on uninterrupted review & augmentation of business & marketing strategies. Moreover the identification of best customers, capability to overcome on strong competitors, potential of elimination of commoditization, importance of product range are important parameters to drive towards a vision defined by the organization.
- Good marketing strategies again evaluated through SWOT for Core competency will develop and exploit differentiation, for the essence of a good market strategy.
- Identified changes taking place in the marketing environment should be taken in perspective of four P's, 'micro environment' and 'macro environment' and recommendation given for formulation of new business strategy.
- Formulation of marketing strategy based on Customer, Corporation and Competition. These three Cs satisfy customer needs in a given environment.

## FURTHER WORKS

Many multinational have set up automotive plant in India, they are consuming bearings so market will be vast, competitive & challenging. Research on Strategic Marketing adopted at these MNCs will help to ensure that the right decisions are taken at the right time.

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## BIO DEGRADABLE SOLID WASTE MANAGEMENT IN BANGALORE CITY

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### ABSTRACT

Rapid growth of population and industrialization degrades urban environment and places serious stress on natural resources, which undermines equitable and sustainable development. Inefficient management, utilization and disposal of solid waste are an obvious cause for degradation of environment in India. The foregoing analysis indicates that about 62.50 per cent of households belong to the age group of 45-55 years and about 28.50 per cent of the households are working in MNCs and belong to the monthly income group of Rs. 20001-30000. The results show that about 54.00 per cent of households dispose waste twice a week and about 60.50 per cent of households use plastic bucket with lid for disposing waste. It is apparent that about 86.00 per cent of households sort waste before disposing an about 45.00 per cent of households dispose domestic waste through transport to remote places. The impact on aesthetic of the environment, water pollution, bad odour are very high, while, flooding, water stagnation, human health, availability of trained personal and social effects are high and they are neutral with drainage and vested interest as perceived by households. The law does, however, provide for mechanisms to help local governments meet this waste diversion target, one of which is the mandatory waste segregation at source more efficiently. This provision is intended to directly support and promote waste management practices that reduce the volume of wastes brought to final disposal sites. Some of these practices include waste minimization, reusing, recycling and composting.

### KEYWORDS

Factor Analysis, Households, Waste Disposal, Waste Management.

### INTRODUCTION

 Solid waste generation is an inevitable consequence of production and consumption activities in any economy. Generally, it is positively related to the level of income and urbanization with higher income and more urbanized economies generating higher levels of solid wastes per capita. Metropolitan cities in developing countries are usually beset with solid waste management-related problems such as flooding, uncollected garbage and inadequate or inappropriate disposal sites.

Rapid growth of population and industrialization degrades urban environment and places serious stress on natural resources, which undermines equitable and sustainable development. Inefficient management, utilization and disposal of solid waste are an obvious cause for degradation of environment in India. Improper disposal of this waste leads to spread of communicable diseases, causes obnoxious conditions and spoils the biosphere as a whole. Cleanliness is a major factor that influences development of any nation, which is otherwise hampered due to improper disposal of solid waste.

Waste segregation at the household level is not widely practiced and waste recycling is minimal. Past efforts to promote waste segregation at source have failed despite the issuance of city and municipal ordinances providing for sanctions and penalties for non-compliance. Some reasons that have been cited for the non-compliance include indifference of local residents to participate in community waste management-related activities, local government collection services' non-allowance for segregated waste collection, residents' attitude that government has the sole responsibility over garbage management and lack of information and education campaigns.

With the background explained above, the present study aims to better understanding of household waste management behaviour. More specifically, it analyzes the factors that affecting solid waste generation and effects of solid waste in Bangalore City with the following objectives.

### OBJECTIVES

1. To examine the socio-economic characteristics of households of biodegradable solid waste management.
2. To study the level of awareness of the management of biodegradable solid waste.
3. To identify the factors affecting biodegradable solid waste generation.
4. To analyze the problems in biodegradable solid waste management and the effects of biodegradable solid waste.
5. To assess various application problems and suggest appropriate management strategies for improvement of biodegradable solid waste management systems.

### LITERATURE REVIEW

The review of related literature is carried out mainly to

1. Prevent duplicating the work that has already been done
2. Know what others have learned and reported about the problem
3. Get good background knowledge about the problem and
4. Become more familiar with the types of methodologies applied to such problem

The literature review is done under the following sub-headings on the work carried out by various researchers spread over a period of more than 20 years (from 1991 to 2010).

#### BIODEGRADABLE SOLID WASTE MANAGEMENT

Cole and Mwanza (1991) declared that when plastic was thrown out to sea, it caused the deaths of up to two million sea birds each year and as many as 100000 marine species<sup>1</sup>.

Swarup *et. al.*, (1992) postulated the growing use of packing materials as the major source of household waste. The use of paperboard has been growing at an annual rate of 4.50 per cent<sup>2</sup>.

Ishwaran (1993) found that international tourism and global environmental awareness have both grown significantly during the last three decades. Between 1970 and 1990, tourism grew by nearly 300 per cent and the industry now employs about seven per cent of the workers of the world. Environment's role in sustaining the growth of tourism was better appreciated now than any time in the past<sup>3</sup>.

#### FACTORS AFFECTING BIODEGRADABLE SOLID WASTE GENERATION

A study by World Bank (1993) found that solid waste management policies, regulations and enforcements of law, environmental education and awareness and charges for waste collections were the major elements in solid waste generation in low income countries<sup>4</sup>.

Beede and Bloom (1994) found that as economic prosperity increased, the amount of solid waste produced consists mostly of luxury waste such as paper, cardboard, plastic and heavier organic materials<sup>5</sup>.

### PROBLEMS IN BIODEGRADABLE SOLID WASTE MANAGEMENT

According to ILO (1995) found that higher service charges for waste collection, franchises, non-availability of separate dust bins and poor planning were the major problems in solid waste collection in less income countries<sup>6</sup>.

Schubeler, (1996) found that in developing countries, informal solid waste handling was frequently done by disadvantaged social groups. This was because a fast growing low income residential community was comprised of diversity of social and ethnic groups<sup>7</sup>.

### EFFECTS OF BIODEGRADABLE SOLID WASTE

Yu (1997) found that the methane emission from the solid wastes created air pollution, environmental degradation and affected the food chain that led to health issues among the urban households of China<sup>8</sup>.

Thappa(1998) identified the indiscriminate disposal of solid wastes created water and air pollution, reduced the aesthetic value of the environment, bad odour and it has huge impact of health of the households lived nearby dumping places in Kathmandu<sup>9</sup>.

### OPERATIONAL OPTIONS FOR BIODEGRADABLE SOLID WASTE COLLECTION

Silke and Zurbrugg (2009) found that recycling was the most environmentally consciousness and cost - effective method of waste disposal (Nas and Jaffe, 2004) Recycling not only improved waste management process but also brought economic benefit to those involved in it<sup>10</sup>.

Abul(2010) found that the major models of disposal of solid waste were land filling or dumping and incineration. People wanted their refuse taken away and did not want it disposed of near their habitat, or at least not so they can see or smell it<sup>11</sup>.

### METHODOLOGY

Among the metropolitan cities in India, Bangalore has been purposively selected for the present study. The data and information were collected from 200 households by adopting random sampling technique through personal interview method by using a pre-tested, well-structured schedule. The data pertained to the year 2009-10. The frequency and percentage analyses were carried out to draw meaningful interpretations for to understand the socio-economic characteristics of households, waste disposal pattern and methods. The weighted means score was worked out to understand the perceptions of households about effects of solid waste.

In order to study the factors affecting solid waste generation, the factor analysis has been employed with principal component extraction with varimax rotation. The factor analysis can be expressed as:

$$Z_{ij} = a_1 f_{1j} + a_2 f_{2j} + \dots + a_m f_{mj} + e_{ij}$$

Where as,

Z = Solid Waste Generation

a = Factor Loadings

f = Factor Score

e = Residual term accounting for Errors or other Source of Variation.

### RESULTS AND DISCUSSION

The socio-economic characteristics of households were analyzed and the results are presented in **Table 1**. The results show that about 62.50 per cent of households belong to the age group of 45-55 years followed by 36-45 years (15.00 per cent), less than 35 years (12.50 per cent) and more than 55 years (10.00 per cent). The results indicate that about 28.50 per cent of the households are working in MNC followed by State Government (22.00 per cent), private (18.00 per cent), business (17.00 per cent) and Central Government (14.50 per cent).

The majority of households are undergraduates (44.00 per cent) followed by post graduation (36.00 per cent), higher secondary (18.50 per cent) and diploma (1.50 per cent) undergraduates (39.00 per cent) followed by post graduates (36.00 per cent), diploma (13.00 per cent) and higher secondary (12.00 per cent) education.

The results also indicate that about 45.00 per cent of the households belong to the monthly income group of Rs. 20001-30000 followed by less than Rs. 20000(27.00 per cent), Rs. 30001-40000(15.50 per cent), and more than Rs. 40000(12.50 per cent). The majority (72.50 per cent) of the households belong to the nuclear family and the rest of 27.50 per cent belong to the joint family and 65.00 per cent of the households has the family size of less than four followed by four to six (27.50 per cent) and more than six(7.50 per cent) members.

**TABLE – 1: SOCIO-ECONOMIC CHARACTERISTICS OF HOUSEHOLDS**

Variables with Category	Households(N=200)		Variables with Category	Households(N=200)	
	Number	Per Cent		Number	Per Cent
<b>Age(Years)</b>			<b>Monthly Income(Rs)</b>		
<35	25	12.50	<20000	54	27.00
36-45	30	15.00	20001-30000	90	45.00
45-55	125	62.50	30001-40000	31	15.50
>55	20	10.00	>40000	25	12.50
<b>Occupation</b>			<b>Size of Family</b>		
Business	34	17.00	<4	130	65.00
Central Government	29	14.50	4-6	55	27.50
State Government	44	22.00	>6	15	7.50
MNC	57	28.50			
Private	36	18.00			
<b>Educational Qualification</b>			<b>Type of Family</b>		
PG	72	36.00	Joint	55	27.50
UG	88	44.00	Nuclear	145	72.50
Diploma	3	1.50			
Higher Secondary	37	18.50			

The time of disposing waste by the households was analyzed and the results are presented in **Table 2**. From the results, it is observed that about 54.00 per cent of households dispose waste twice a week followed by evening (30.00 per cent) and once a week (16.00 per cent).

**TABLE – 2: TIME OF DISPOSING WASTE**

Time of Disposing Waste	Frequency	Per Cent
Evening	60	30.00
Twice a Week	108	54.00
Once a Week	32	16.00
<b>Total</b>	<b>200</b>	<b>100.00</b>

The container for disposing waste was analyzed and the results are presented in **Table 3**. The results show that about 60.50 per cent of households use plastic bucket with lid for disposing waste followed by nylon basket (32.00 per cent), plastic bucket without lid (5.50 per cent) and sack bags (2.00 per cent).

**TABLE - 3: CONTAINER FOR DISPOSING WASTE**

Container for Disposing Waste	Frequency	Per Cent
Nylon Basket	64	32.00
Sack Bags	4	2.00
Plastic Bucket with Lid	121	60.50
Plastic Bucket without Lid	11	5.50
<b>Total</b>	<b>200</b>	<b>100.00</b>

The sorting of waste before disposing was analyzed and the results are presented in **Table 4**. From the table, it is clear that about 86.00 per cent of households sort waste before disposing while about 14.00 per cent do not sort waste before disposing.

**TABLE - 4: SORTING OF WASTE BEFORE DISPOSING**

Sorting of Waste	Frequency	Per Cent
Yes	172	86.00
No	28	14.00
<b>Total</b>	<b>200</b>	<b>100.00</b>

The methods of disposing waste were analyzed and the results are presented in **Table 5**. The results indicate that about 45.00 per cent of households dispose domestic waste through transport to remote places followed by open burning( 34.50 per cent), open dumping( 14.50 per cent), dumping on undeveloped land( 5.50 per cent) and dumping in a water ways(0.50 per cent).

**TABLE - 5: METHODS OF DISPOSING WASTE**

Methods of Disposing Waste	Frequency	Per Cent
Transport to Remote Places	90	45.00
Open Burning	69	34.50
Open Dumping	29	14.50
Dumping in a Water Ways	1	0.50
Dumping on Undeveloped Land	11	5.50
<b>Total</b>	<b>200</b>	<b>100.00</b>

In order to study the factors affecting solid waste generation, the factor analysis has been employed. The principal component method of factor analysis was carried out with Eigen values greater than one through varimax rotation and the results obtained through rotated component matrix are presented in **Table 6**. There are three independent groups were extracted which account for a total of 68.17 per cent of variations on the seven variables. The each of three factors contributes 23.95 per cent, 23.74 per cent and 20.48 per cent respectively.

**TABLE - 6: FACTOR ANALYSIS FOR SOLID WASTE GENERATION**

Solid Waste Generation	Rotated Factor Loadings on		
	Factor I	Factor II	Factor III
Lack of Advanced Technology		.63	
Facility for Separation at Source	.74		
Strength of Solid Waste Management Policy and Enforcement			.77
Environmental Education and Awareness	.85		
Social Status		.79	
Amount Charged for Waste Collection			.84
Quantity of Solid Waste	.73		
Eigen Value	1.99	1.66	1.13
% of Variance	23.95	23.74	20.48
Cumulative % of Variance	23.95	47.69	68.17

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 4 iterations.

Factor-I: From the table, it is inferred that out of seven solid waste generation variables, three variables have their high, relatively tightly grouped factor loadings on factor-I.

This factor consists of:

- Facility for Separation at Source (0.74)
- Environmental Education and Awareness (0.85)
- Quantity of Solid Waste(0.73)

Hence, this factor is named as "**ACCURACY**".

Factor-II: is formed with:

- Lack of Advanced Technology (0.63)
- Social Status(0.79)

These variables are named as "**STATUS**".

Factor-III: This factor includes:

- Strength of Solid Waste Management Policy and Enforcement (0.77)
- Amount Charged for Waste Collection (0.84)

These three variables are named as "**MANAGEMENT**".

The solid waste generation was measured using a five point scale and the reliability coefficient is presented in **Table 7**.



TABLE – 7: CRONBACH'S ALPHA RELIABILITY COEFFICIENT

Variables	No. of Items	Cronbach Alpha
Solid Waste Generation	7	0.94

The Cronbach's alpha of the scale was 0.94 indicating that each measure demonstrated acceptable internal consistency.

The effects of solid waste were analyzed by working out weighted mean and the results are presented in Table 8. The results show that impact on aesthetic of the environment, water pollution, bad odour are very high, while, flooding, water stagnation, human health, availability of trained personal and social effects are high and they are neutral with drainage and vested interest as perceived by households.

TABLE – 8: EFFECTS OF SOLID WASTE

Effects	Weighted Mean Score	Status
Impact on Aesthetic of the Environment	4.68	Very High
Water Pollution	4.74	Very High
Flooding	3.98	High
Water Stagnation	3.84	High
Human Health	4.12	High
Bad Odour	4.84	Very High
Drainage	3.24	Neutral
Vested Interest	3.10	Neutral
Availability of Trained Personnel	3.78	High
Social Effects	4.02	High

## CONCLUSION AND RECOMMENDATIONS

The foregoing analysis indicates that about 62.50 per cent of households belong to the age group of 45-55 years and about 28.50 per cent of the households are working in MNCs.

The majority of households are undergraduates (44.00 per cent) and about 45.00 per cent of the households belong to the monthly income group of Rs. 20001-30000. The majority (72.50 per cent) of the households belongs to the nuclear family and 65.00 per cent of the households have the family size of less than four. The results show that about 54.00 per cent of households dispose waste twice a week and about 60.50 per cent of households use plastic bucket with lid for disposing waste. It is apparent that about 86.00 per cent of households sort waste before disposing an about 45.00 per cent of households dispose domestic waste through transport to remote places.

The impact on aesthetic of the environment, water pollution, bad odour are very high, while, flooding, water stagnation, human health, availability of trained personal and social effects are high and they are neutral with drainage and vested interest as perceived by households.

The directive will require the Local Government Units (LGUs) to undertake very aggressive resource recovery and recycling programme in Bangalore. The law does, however, provide for mechanisms to help local governments meet this waste diversion target, one of which is the mandatory waste segregation at source more efficiently. This provision is intended to directly support and promote waste management practices that reduce the volume of wastes brought to final disposal sites. Some of these practices include waste minimization, reusing, recycling and composting.

The provision on mandatory waste segregation at source, however, is a difficult task for the local governments (who are mandated to enforce it) as well as to the households (who are mandated to implement it). Various ordinances at the local level have been issued in the past by the local government units in Bangalore requiring households and businesses to implement waste segregation. So far these ordinances have not been implemented for one reason or another.

The survey results of the present study indicate that mandating households to segregate their wastes through local ordinances are important to promote compliance. In addition, it is necessary that the community residents are made aware of the benefits of waste segregation for them to engage in a waste management programme. It is important too, that the problems in implementing waste segregation and resource recovery are considered when designing community programmes. A major obstacle to the proper implementation of waste segregation is the unreliable and inappropriate garbage collection services provided by the LGUs. Segregated wastes are collected and dumped in the same garbage truck with all other wastes.

The new law puts the greater burden of improved solid waste management on to the local level. Thus, local government units, particularly at the corporation municipality levels, need to provide the leadership in their solid waste management projects. Many civic-minded middle-income communities believe that garbage management is the joint responsibility of the government and waste generators. Many households are willing to shoulder this responsibility by paying for collection services. Local governments need to consider this valuable attitude of the communities in their designs of solid waste plans and programmes for sustainability.

## NOTES

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**ATTITUDE TOWARDS THE ENVIRONMENT AND GREEN PRODUCTS: AN EMPIRICAL STUDY****DR. D S CHAUBEY****DIRECTOR****UTTRANCHAL INSTITUTE OF BUSINESS STUDIES****ARCADIA GRANT, P.O. CHANDANWARI, PREM NAGAR, DEHRADUN – 248 007****SIDHESWAR PATRA****ASST. PROFESSOR****TRINITY COLLEGE****DHOOLKOT, CHAKRATA ROAD, DEHRADUN****DR. SAURABH JOSHI****ASSOCIATE PROFESSOR****UTTRANCHAL INSTITUTE OF MANAGEMENT****ARCADIA GRANT, P.O. CHANDANWARI, PREM NAGAR, DEHRADUN – 248 007****ABSTRACT**

*In today's business world environmental issues play vital role in marketing decisions. The environmental degradation and its impact on human life have emerged as one of the burning issues drawing attention of academicians, industrialists and research scholars all across the world. The current rapid growth in the economies and the change in consumers' behavior and consumption patterns worldwide are the main cause of environmental deterioration. As the environment continues to worsen, it has become a persistent public concern in the developed countries and has recently awakened the developing countries to the green movement. All most all the governments around the world are concerned about green marketing activities that they have attempted to influence customers about environmental issues and motivating customers for greater participation in building awareness and increase green product uses. This paper is an attempt to explore the consumer attitude towards the environment and green products and to investigate the relationship between attitude towards the environment and green products. Results from the independent sample shows that there are significant differences between genders in their environmental attitudes and attitudes on green products. Analysis results reveal that, consumers' understanding on the government's role in this regard and their personal norm towards the environment, contribute significantly to their attitude on green product. Further, investigation reveals that personal norms are the most important contributor to the attitude towards green product. Study reveals that almost nine out of ten (88.6%) of the respondents consider individuals to be responsible must take appropriate initiatives to protect the environment. Some important issues related to protection of our environment by decelerating the consumption of non green productions and simultaneously by encouraging the various alternatives like environment friendly products, Bio-Degradable Products, Recycling Products, Energy Efficient Products and Promoting Recycled Products has been emerged from the study. Study also indicates that there is a positive inclination towards using green products and green products among the respondents.*

**KEYWORDS**

Environment Studies, Green Product, Recycled Products, Bio-Degradable Products.

**INTRODUCTION**

Over many centuries, the issue of environmental preservation has been on the top of the agenda of global and international concerns as one of the most important issues at both the national and international levels (MSEA, 2005). Man has limited resources on the earth, with which she/he must attempt to provide for the world's unlimited wants. There is extensive debate as to whether the earth is a resource at man's disposal. In market societies where there is "freedom of choice", it has generally been accepted that individuals and organizations have the right to attempt to have their wants satisfied. As firms face limited natural resources, they must develop new or alternative ways of satisfying these unlimited wants. Ultimately green marketing looks at how marketing activities utilize these limited resources, while satisfying consumers' wants, both of individuals and industry, without sacrificing the business objectives.

The past decades are witness to the rapid economic growth through increasing consumers' consumption worldwide. This in turn causes environmental deterioration through over-consumption and utilization of natural resources. The consequences of environmental degradation are global warming, depletion of stratospheric ozone layer, pollution of sea and rivers, noise and light pollution, acid rain and desertification (Ramlogan, 1997). Grunert (1993) reported that about 40% of environmental degradation has been brought about by the consumption activities of private households. As the environment continues to worsen, it has become a persistent public concern in developed countries. Furthermore it has also awakened developing countries to the green movement for preservation of the environment.

Creating customer satisfaction and building long-term profitable customer relationship are some of the primary objectives firms try to achieve to sustain their businesses in the competitive business world. With an increased in the social and political pressures, many firms embraced green marketing strategies and exploited these environmental issues as a source of competitive advantage. Profit driven firms are usually motivated to adopt the concept of green marketing in their businesses provided that consumers demonstrate a high degree of environmental attitude and hence translate this into environmental friendly purchasing commitment. Hence many companies started to be more socially responsive in addressing pollution and waste disposal by developing environmentally friendly packaging and putting in numerous efforts to keep in-step with the environmental movement. However, some of the greatest challenges faced by these firms are changes in consumer preferences, suspicion of green advertising claim, unfavorable consumer perception of green products and the high cost invested in developing green products. As a result, it is vital to explore how consumers view the environmental issues, and how they behave, especially in their attitudes towards green products or environmental friendly products. It is widely accepted that the development of such awareness and attitude can be possible through environmental education. Education is an important social instrument and means, which act as a catalyst in improvement of different aspects of life. Knowledge, awareness, skills, values and attitudes acquired through education help one to lead a desired quality of life. Present study is an attempt to explore the consumers' attitude towards the environment and green products. Accessibility to the consumers of Uttarakhand has been the key motivation to select them as the sample of the proposed study.

## LITERATURE REVIEW

As the problems as the consequence of exploitation of the Mother Nature is increasing, all types of consumers, both individual and industrial are becoming more concerned and aware about the natural environment. In a 1992 study of 16 countries, more than 50% of consumers in each country, other than Singapore, indicated they were concerned about the environment. A 1994 study in Australia found that 84.6% of the sample believed all individuals had a responsibility to care for the environment. A further 80% of this sample indicated that they had modified their behavior, including their purchasing behavior, due to environmental reasons. The current rapid growth in the economy and the patterns of consumers' consumption and behavior worldwide are the main cause of environmental deterioration. As the environment continues to worsen, it has become a persistent public concern in the developed countries and has recently awakens developing countries to the green movement. In Indian context central and state govern are trying their best to promote and educated consumers about green environment and green product at different level. It can be assumed that firms marketing goods with environmental characteristics will have a competitive advantage over firms marketing non-environmentally responsible alternatives. Developing country like India faced great challenges in ensuring a balance between development and environmental sustainability. Urban air and river quality, deforestation, household waste and hazardous waste are some of the serious and worrying environmental problems faced by the country. It is anticipated that if the current trend of economic growth and irresponsible consumption pattern continues, the environment degradation would worsen. Therefore, a shift towards more sustainable consumption patterns is required.

### GREEN MARKETING

Over the last few years, the concept of green marketing has emerged as one of the most important issue and has attracted large number of researcher into this field. Green marketing is considered one of the major trends in modern business (Kassaye, 2001; McDaniel and Rylander, 1993; Pujari and Wright, 1996). Soonthonsmai (2007) defined green marketing as the activities taken by firms that are concern about the environment or green problems by delivering the environmentally sound goods or services to create consumers and society's satisfaction. Harrison (1993) proposed green marketing strategy by firms through positioning the environmental benefits of green products to consumers' mindset to influence their purchasing decision. Peattie (1995) and Welford (2000) defined green marketing as the management process responsible for identifying, anticipating and satisfying the requirements of customers and society in a profitable and sustainable way. In reality, companies that pursue green marketing encounter numerous challenges mainly from the variability of demand, unfavorable consumer perception and high cost (Gurau and Ranchhod, 2005). The key concern lies in an understanding of green consumers and their characteristics to enable firms to develop a new target and segmentation strategies (D'Souza et al., 2007).

### GREEN CONSUMERS AND GREEN PRODUCTS

In general, green product is known as an ecological product or environmental friendly product. Shamdasami et al., (1993) defined green product as the product that will not pollute the earth or deplete natural resources, and can be recycled or conserved. Krause (1993), in his research found that consumers were becoming more concerned about their everyday habits and the impact on the environment. The outcome of this is that some of the consumers translated their environmental concern into actively purchasing green products commitment. Consumers who are aware of and interested in environmental issues are called green consumers. These green consumers usually organized petitions, boycotted manufacturers and retailers and actively promote the preservation of the planet (Fergus, 1991). Ottman (1992) reported that consumers accepted green products when their primary need for performance, quality, convenience, and affordability were met, and when they understood how a green product could help to solve environmental problems. The knowledge gap on the uses and values of green products prevents consumers in committing themselves to any purchase decisions.

### ENVIRONMENTAL ATTITUDES

There is a general belief among the researchers and environmental activists that through purchasing environmentally friendly products or green products, products with recyclable packaging or properly disposing of non-biodegradable garbage, consumers can contribute significantly to improve the quality of the environment. The quality of the environment depends critically on the level of knowledge, attitudes, values and practices of consumers (Mansaray and Abijoye, 1998). Attitudes are the most consistent explanatory factor in predicting consumers' willingness to pay for green products (Chyong et al., 2006). This means that price is not the main factor in preventing consumers from purchasing green products if they are pro-environment. Allport (1935) defined attitude as: "A mental and neural state of readiness, which exerts a directing, influence upon the individual's response to all objects and situations with which it is related". According to Schultz and Zelezny (2000), "attitudes of environmental concern are rooted in a person's concept of self and the degree to which an individual perceives him or herself to be an integral part of the natural environment". In conclusion, attitude represents what consumers like and dislike and consumers' product purchasing decisions are often based on their environmental attitudes.

The governments also play important roles in environmental protection in deed. To educate and foster environmental awareness and concern among the public, the Indian government opted for social advertising. The most significant factor affecting nature was not the official government policy but the public awareness on the environmental problems. Many people have high ecological concern but have the sentiment that the preservation of the environment is the prime responsibility of the government (Chyong et al., 2006). Straughan and Roberts (1999) segmented college students based upon ecologically conscious consumer behavior and stated that the younger individuals were likely to be more sensitive to environmental issues. The result of their study indicates that the demographic variables such as age and sex are significantly correlated with ecologically conscious consumer behavior when considered individually; and that income lacks significance. Green purchase intention correlates positively with every age and income except for education (Soonthonsmai, 2001). Many studies have shown significant differences between men and women in environmental attitudes (Brown and Harris, 1992; Tikka et al., 2000) with men having more negative attitudes towards the environment compared to women (Eagly, 1987; Tikka et al., 2000). Women were more likely to buy green product because they believe the product was better for the environment (Mainieri et al., 1997).

## OBJECTIVES AND METHODOLOGY

This paper is essentially exploratory in nature and is focused on three main objectives. The first objective is to study the relationship between the gender and the attitudes towards the environment and green products. The second objective is to investigate the consumers' attitude towards the environment and green products. The third objective is to know the consumers sensitiveness towards green product and environment and their willingness to pay extra premium for eco friendly product.

Based on the previously cited theoretical and empirical literatures, the following hypotheses referring to the attitudes towards the environment and green products were proposed.

**Hypothesis 1:** There is a significant difference between male and female in their environmental attitudes on green product.

**Hypothesis 2:** The different factors influencing customers towards green product and environment do not differ significantly across their occupation and education levels.

**Hypothesis 3:** Customers' willingness to pay extra for eco-friendly products does not differ significantly across the education level of respondents.

**Hypothesis 4:** The mean of different factors building perception and attitude towards green product and environment does not differ significantly across gender category, level of education and occupational category of respondents.

To assess the consumer perception and attitude towards green environment and their purchase pattern for green product, the study was restricted to four district i.e. Dehradun, Haridwar, Haldwani and Srinagar of Uttarakhand state. A sample of 385 respondents was taken and respondents were interviewed individually. Data was collected with the help of a structured, non-disguised questionnaire. The collected information was systematically arranged, tabulated and appropriate analysis was carried out. To measure the intensity of parameters, open ended and close ended questionnaires were used. In order to test the hypotheses; Factor Analysis, Mean, Standard deviation, ANOVA and  $\chi^2$  tests were applied.



TABLE 1: DEMOGRAPHIC CHARACTERISTIC OF RESPONDENTS

	Categories	Count	Percentage
Age	20-30 Years	246	63.9
	30-40 Years	60	15.6
	40 to 50 Years	55	14.3
	50-60 Years	22	5.7
	Above 60 Years	2	.5
Gender	Male	318	82.6
	Female	67	17.4
Education Level	Intermediate	20	5.2
	Graduate	160	41.6
	Post Graduate	205	53.2
Monthly Income	Up to Rs.10000 PM	6	1.6
	Rs.10000 to Rs.15000PM	33	8.6
	Rs.15000 to Rs.20 000 PM	66	17.1
	Rs.20000 to Rs.25000PM	92	23.9
	Above Rs.25000PM	188	48.8
Profession	Service	226	58.7
	Business	21	5.5
	Professional	24	6.2
	Any other	114	29.6

Demographic information presented in the above table reveals that sample is dominated by young aged person ranging from 20 to 30 years belonging to male category. It is evident that majority of respondents are well educated as 92% respondent are either graduated or having post graduation degrees to their credit. Income profile of the respondents reveals that most of the respondents fall in the income group of Rs.20000 and above. Also sample is dominated by service class people as this class contributes approximately 59% in the survey.

TABLE 2: AWARENESS ABOUT IMPACT OF AGGRESSIVE CONSUMPTION ON ENVIRONMENT

Sl. No	Response	No. of respondents	Percentage
A	Yes	198	51.4
B	No	30	7.8
C	Can't Say	157	40.8
D	Total	385	100.0

Today's consumption is undermining the environmental resource base by its myopic pattern. It is exacerbating the inequalities. And the dynamics of the consumption-poverty-inequality-environment nexus are accelerating. The impacts of consumerism, positive and negative are very significant to all aspects of our lives, as well as our planet. But equally important to bear in mind in discussing consumption patterns is the underlying system that promotes certain types of consumption and not other types. Taking this into consideration an attempt was made whether the respondents are aware about the aggressive consumption and its impact on environment. The survey has disclosed that, little more than half of the respondents (51.4%) shown their awareness. In comparison to this, 7.8% respondent has shown disagreement on the same. Where as a significant amount of respondents (40.8%) has shown their unawareness about this issue.

TABLE 3: MANUFACTURING INDUSTRIES AS MAIN SOURCE OF POLLUTION

Sl. No	Response	No. of respondents	Percentage
A	Yes	304	79.0
B	No	27	7.0
C	Can't Say	54	14.0
D	Total	385	100.0

Industrialization is one of the main sources of livelihood to the large portion of population in the country. However aggressive industrialization has posed many environmental issues. Apart from the industry there are many other sources spreading pollution in the society. The question was posed to the respondent to their opinion whether manufacturing industry are the main source of pollution. It is evident that more than three fourth respondent are in the support of the concept. Seven percent respondents don't seem to support the statement. 14% respondents shown their unawareness and were not ready to comment on it. .

TABLE 4: DIFFERENT IMPACT OF POLLUTION AS PERCEIVED BY RESPONDENTS

Sl. No.	Description	No. of Respondents	Percentage
1	Global warming	340	88.3%
2	Unknown diseases and disorders	204	53.0%
3	Imbalance in the ecosystem	307	79.7%
4	Mass destruction of flora and fauna	279	72.5%
5	Threat to human existence	180	46.8%
6	Change in weather and rain pattern	268	69.6%
7	Melting of glaciers and raise in sea level	341	88.6%
8	Frequent natural calamities	225	58.4%

It is a fact that the environmental pollution attacks the environment multidirectional. Many scientific researches on the environmental issues has envisaged the devastating impact of pollution level causing mass extinction of various species to a critical imbalance in the ecosystem and the intensity is causing cascading

destructive effects globally. It is significant to understand from the empirical study on the subject, which depicts that there is a clear-cut uneven understanding about the impact among the respondents. This may lead to the incomplete understanding of the importance of environmental protection by using environmental friendly products depending on their awareness and perception related to the contribution of a particular pollutant causing environmental degradation and harm to individuals. It is worthwhile to know that majority of respondents (88.3%) of the sample find "Global warming" and "Melting of glaciers and raise in sea level" (88.6%) (Which is a derived impact of global warming) are caused by pollution and a similar response (79.7%) is observed in the case of "Imbalance in the Ecosystem" caused by pollution followed by "Mass destruction of flora and fauna" identified by 72.5% respondents. Respondents (about half) seem to be least concerned in seeing pollution as a threat to human existence and various new diseases emerging because of pollution.

**TABLE 5: RESPONSIBILITY TOWARDS ENVIRONMENTAL PROTECTION**

Sl. No	Description	No. of Respondents	Percentage
a)	Central Government	236	61.3%
b)	State Government	196	50.9%
c)	Manufacturer/ Producer	258	67.0%
d)	Intellectuals	142	36.9%
e)	Customers	195	50.6%
f)	Individual	341	88.6%

All the components of the society are interdependent not only biologically but are on economic ground too. All sectors enjoy the benefits of natural resources depending on the requirements and demand towards sustenance and growth. Thus every sector should take proportionate responsibility in protecting the environment and restoration of its natural balance which is disturbed by the exploitation of the natural resources in fulfillment of the ever increasing demand. Thus it is important to note that almost nine out of ten (88.6%) of the respondents consider individuals to be responsible and a significant number of respondents (61.3%) are under the impression that it is the Governments at the central level must take appropriate initiatives to protect the environment. This also indicates that for respondents (only supported by 50.9%) when it comes to environmental protection state govt. is not as responsible as the central govt. On the other hand there are 36.9% respondents showing their belief that the efforts of the intellectuals educating the mass and developing solution techniques alone can help.

**TABLE 6: AWARENESS OF ENVIRONMENT PROTECTION MEASURES**

Sl. No	Description	No. of Respondents	Percentage
1	Environment friendly products	279	72.5%
2	Bio-degradable packaging	259	67.3%
3	Recycling of wastes	264	68.6%
4	Energy efficient appliances	261	67.8%
5	Recycled product	291	75.6%

The environmental friendly production and uses pattern of green products can be made effective if there is a good deal of awareness about different means available to promote green environment and products available in the market. Protection of our environment by decelerating the consumption of non green productions and simultaneously by encouraging the following alternatives i.e., Environment friendly products, Bio-Degradable Products, Recycling Products, Energy Efficient Products and Promoting Recycled Products. Multiple response data was processed with SPSS-15 software and presented in the table above. This reveals that, 75.6% customer are aware with uses of recycled product and 72.5% respondent were aware with the environment friendly product. Bio-Degradable Product, Recycling Product, Energy Efficient Product were having awareness in 67.3%, 68.6% and 67.8% respondents respectively. This indicates though there is a good awareness about environment protection but a lot of efforts are required make every consumer aware about green environment and green product in order to achieve a distinctive success in safe guarding our environment.

**TABLE 7: CUSTOMER AWARENESS ABOUT IMPACT OF DIFFERENT MEASURES ON ENVIRONMENTAL PROTECTION**

Measure	N	Mean	Std. Deviation
Use of green products	385	4.1766	1.31695
Educating people about environmental conservation	385	3.8208	1.18435
Less use of non biodegradable products	385	3.2286	1.45047
More use of recycled products	385	3.4909	1.35806
Generating less waste materials	385	3.4805	1.14803
Banning of plastic carry bags	385	3.987	1.25097
Using only energy efficient appliances and machines	385	3.5039	1.32312
Valid N (list wise)	385		

Without the environmental protection our environment would look much worse than it looks today, and we certainly must look for more ways to protect our environment. Many countries have different organizations and other bodies devoted to environmental protection. There are even some international environmental protection organizations, for instance the United Nations Environment Programme. This means that something is still being done for our environment, though this something is far from being enough. Here the respondents were asked to rate the following means that help protecting the environment like, Use of green products, Educating people about environmental conservation, Less use of non biodegradable products, More use of recycled products, Generating less waste materials, Banning of plastic carry bags, and Using only energy efficient appliances and machines. Mean and standard deviation are calculated. The results indicate that respondents have rated "use of green products" as most suitable technique to protect environment. It may be interpreted that there is a positive inclination towards using green products and green products should be promoted consistently to get better results as it scored highest mean (4.1766). However highest standard deviation of 1.45047 of variable like less use of non biodegradable products indicates that customer view on this issue is heterogeneous.

TABLE 8: PROTECTION MEASURES ACROSS THE LEVEL OF EDUCATION OF RESPONDENTS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.024	2	4.012	7.170	.001
Within Groups	213.727	382	.559		
Total	221.751	384			

Further One way ANOVA was carried out to analyze the customer awareness about different environment protection measures across the level of education of respondents. From the table it is clear that calculated value of F is greater than the tabulated value of F (2.37) at ( $p < 0.05$ ) level of significance. Thus rejection of null hypothesis indicates that there is significant difference in the awareness mean of different factors across the different level of education of the respondents.

## FACTOR ANALYSIS

Understanding consumer perception and attitude towards environment and green product has been of a major interest for government and society at different levels. The perceptions of customer are affected by exogenous factors such as economy condition and government policies, and market interaction among the major players like consumer, manufacturer and government. The empirical study indicates that consumers perception are based on their own personal attributes such as age and education, as well as product price and positioning strategies opted by the government as well as manufacturers engaged in green product. Government influences the process by means of increasing or decreasing taxes and creating new policies for promoting green product as well as green environment. Exogenous factors such as product prices may also impact both consumer purchase decisions and manufacturer decisions. These components are viewed together since they are highly interdependent and together represent forces that influence how the consumer will react to the object. Taking these into consideration, an attempt was made to identify the influencing factors in their purchase decisions. For this respondent were asked to rate their views on the following statements such as "I trust that companies producing environmentally friendly products are really providing environmentally safe products", "Environmental issues are very important to me", "I plan to switch to products and services that are advertised as being green", "I would pay more for products or services that were advertised as being green", "I prefer products with eco-labeled packages", "Purchasing green product is a good idea", "The government should enforce environmental rules and regulations", "We should pay a considerable amount of money to preserve our environment", "If all of us, individually make a contribution to environmental protection, it will have a significant effect", "The government should take responsibility for environmental protection", "Preserving and protecting the environment should be one of our priorities", "We should recognize the need to protect the environment today so that future generations will not suffer the consequences", "The benefits of protecting the environment do not justify the expense involved", "The environment is one of the most important issues facing the Indian society today", "Firms should provide a wide array of green products in the market", "Citizens should recycle their household waste", "The increasing deterioration of the environment is a serious problem", "Most of the green products available today don't provide value for money", "My personal benefits are more important than the environmental issues", "I would like to use green products only if they are economical", "I always look for a green version of a product to buy", "I tend to be more loyal to products from companies that practice green advertising", "Personally, I have economic concerns which I consider more important than preserving the environment", "Recycling should be another option for waste disposal other than the garbage bin", "A wide range of various products available in market are green in nature". The response to these statements was recorded on a scale of 1 to 5 in order of their preference. The exploratory factor analysis is used in order to identify the motivational factors influencing customer in favour of green environment and use of green products. Principal Component analysis was employed for extracting factors and orthogonal rotation with Varimax is applied. As latent root criterion is used for extraction of factors, only the factors having latent roots or Eigen values greater than one are considered significant; all other factors with latent roots less than one are considered insignificant and disregarded. The extracted factors along with their Eigen values are shown in table 6. The factors have been given appropriate names on the basis of the group representation of the variables. The statements that are asked for rating, the labels and factor loading and the names of the factors have been summarized in Tables 6. The KMO measure of sampling adequacy for the items is 0.510 (that is,  $> 0.5$ ), indicating sufficient inter-correlations of the Bartlett's Test of Sphericity, which is found to be significant (Chi-square = 15272.4?  $< 0.005$ ). Thus, the sample size of 385 was adequate and satisfactory in this study. The cronbach alpha for each factor is 0.859. Cronbach alpha for all the factors are greater than 0.6 which means that the scale scores for each of the dimensions are reasonably reliable (Hair et al., 1998). There are seven factors each having Eigen value exceeding one for motivational factors. Eigen values for seven factors are 8.765, 4.365, 2.248, 2.075, 1.541, 1.148, and 1.092, respectively. The index for the present solution accounts for 84.932% of the total variations for the motivational factors. It is a pretty good extraction because we are able to economize on the number of choice factors (from 25 to 7 underlying factors), we lost 15.068 % of information content for choice of variables. The percentages of variance explained by factors one to seven are 35.059%, 17.459%, 8.990%, 8.299%, 6.164%, 4.593%, and 4.368%, respectively. Large communalities indicate that a large number of variance has been accounted for by the factor solutions. Varimax rotated factor analysis results for motivational factors are shown in table which indicates that, after 7 factors are extracted and retained the communality is 0.923 for variable1, 0.874 for variable 2, 0.898 for variable 3 and so on. It means that approximately 84.932% of the variance of variable1 is being captured by extracted factors together. The proportion of the variance in any one of the original variable which is being captured by the extracted factors is known as communality (Nargundkar, 2002).

TABLE 9: PRINCIPAL COMPONENT ANALYSIS WITH ROTATED COMPONENT AND ASSOCIATE VARIABLE

	Component							Communality
	Media	Policy Initiatives and Commitment	Sustainability	Value for Money	Loyalty	Economic	Differentiation	
I trust that companies producing environmentally friendly products are really providing environmentally safe products.	.901							.923
Environmental issues are very important to me.	.821							.874
I plan to switch to products and services that are advertised as being green.	.772							.898
I would pay more for products or services that were advertised as being green.	.755							.787
I prefer products with eco-labeled packages.	.731							.848
Purchasing green product is a good idea.	.646							.734
The government should enforce environmental rules and regulations.		.906						.898
We should pay a considerable amount of money to preserve our environment.		.847						.854
If all of us, individually, make a contribution to environmental protection, it will have a significant effect.		.812						.877
The government should take responsibility for environmental protection.		.714						.897
Preserving and protecting the environment should be one of our priorities.		.644						.851
We should recognize the need to protect the environment today so that future generations will not suffer the consequences.			.896					.901
The benefits of protecting the environment do not justify the expense involved.			.821					.913
The environment is one of the most important issues facing the Indian society today.			.771					.797
Firms should provide a wide array of green products in the market.			.731					.710
Citizens should recycle their household waste.			.693					.811
The increasing deterioration of the environment is a serious problem.			.476					.817
Most of the green products available today don't provide value for money.				.855				.818
My personal benefits are more important than the environmental issues.				.780				.832
I would like to use green products only if they are economical.				.719				.852
I always look for a green version of a product to buy.					.877			.929
I tend to be more loyal to products from companies that practice green advertising.					.662			.858
Personally, I have economic concerns which I consider more important than preserving the environment.						.753		.797
Recycling should be another option for waste disposal other than the garbage bin.						.730		.906
A wide range of various products available in market are green in nature.							.832	.851
<i>Eigen Values</i>	8.765	4.365	2.248	2.075	1.541	1.148	1.092	
% of Variation	35.059	17.459	8.990	8.299	6.164	4.593	4.368	
Cumulative % of Variation	35.059	52.518	61.509	69.807	75.971	80.564	84.932	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

A Rotation converged in 12 iterations.

Principal components & associated Variables indicate that the first factor "Media" shows the role of media which is the combination of the variables, i.e. "I trust that companies producing environmentally friendly products are really providing environmentally safe products", "Environmental issues are very important to me", "I plan to switch to products and services that are advertised as being green", "I would pay more for products or services that were advertised as being green", "I prefer products with eco-labeled packages", "Purchasing green product is a good idea" and accounts 35.059% variance of the total variances. The

second factor is "Policy Initiatives and Commitment"; is the combination of variable like, "The government should enforce environmental rules and regulations", "We should pay a considerable amount of money to preserve our environment", "If all of us, individually, make a contribution to environmental protection, it will have a significant effect", "The government should take responsibility for environmental protection", "Preserving and protecting the environment should be one of our priorities" and accounts 17.459% variance of the total variances. The third factor is the Sustainability factor which is the combination of variables; "We should recognize the need to protect the environment today so that future generations will not suffer the consequences", "The benefits of protecting the environment do not justify the expense involved", "The environment is one of the most important issues facing the Indian society today", "Firms should provide a wide array of green products in the market", "Citizens should recycle their household waste", "The increasing deterioration of the environment is a serious problem" and this factor accounts for 8.990% of total variance. Fourth factor is the Value for Money which is the combination of variables; "Most of the green products available today don't provide value for money", "My personal benefits are more important than the environmental issues", "I would like to use green products only if they are economical" and is accounted for 8.299% of total variance. The fifth factor is the Loyalty of customer towards the products and is the association of variables i.e., "I always look for a green version of a product to buy", "I tend to be more loyal to products from companies that practice green advertising", and is accounted for 6.164% of total variances. Sixth factor is the Economic consideration which is the combination of variables like "Personally, I have economic concerns which I consider more important than preserving the environment", "Recycling should be another option for waste disposal other than the garbage bin" and accounts for 4.593% of total variance. The seventh factor is the Differentiation factor which takes into consideration "A wide range of various products available in market are green in nature" as the only variable and accounts to 4.368% of total variance.

**TABLE 10: WILLING TO PAY EXTRA FOR ECO-FRIENDLY PRODUCTS**

Sl. No.	Description	No. of Respondents	Percentage
a)	NO extra	141	36.6
b)	Upto 5%	148	38.4
c)	UPto10%	42	10.9
d)	Upto 20%	43	11.2
e)	More than 20%	11	2.9
f)	Total	385	100.0

In order to understand the magnitude of consumers' contribution motive towards environmental protection, the extent of their willingness to pay extra in purchasing green products and protecting this attempt is made. The analysis signifies that more than one third respondents (36.6%) have not shown any interest in taking economic load for eco friendly products. In contrast 38.4% respondents seem eager to pay a premium up to 5% for eco friendly products as their contribution in this noble deed. 10.9 percent respondent in the sample were ready pay extra premium up to 10%, 11.2% respondent in the sample are ready to pay up to 20% extra price as compared to the similar product yet non eco-friendly in nature. It is significant to note that almost one fourth (24.93%) respondents in the sample are ready to pay extra premium more than 10% for eco friendly products.

The findings of the study of the degree of association of willingness to pay extra premium for green products by the customers and their demographic profiles are depicted as under.

**TABLE 11: DEGREE OF ASSOCIATION OF CUSTOMERS' WILLINGNESS TO PAY EXTRA FOR ECO FRIENDLY PRODUCT ACROSS THE LEVEL OF EDUCATION**

Education level	Willing to pay extra for Eco friendly product					Total
	NO extra	Up to 5%	Up to10%	Up to 20%	More than 20%	
Intermediate	0	20	0	0	0	20
Graduate	61	87	2	10	0	160
Post Graduate	80	41	40	33	11	205
Total	141	148	42	43	11	385
Pearson Chi-Square	105.755(a)	8				

The null hypothesis formulated earlier i.e. the consumer willingness to pay extra premium does not differs significantly across their level of education; the obtained value of chi square is much higher than the tabulated value (15.5073.) at 5 percent level of significance and 8 degree of freedom hence null hypothesis is rejected. The conclusion may be drawn as it's a clear-cut indication that consumer's willingness to pay extra premium varies significantly across their level of education.

**TABLE 12: DEGREE OF ASSOCIATION OF CUSTOMERS' WILLINGNESS TO PAY EXTRA FOR ECO FRIENDLY PRODUCT ACROSS THE GENDER CATEGORY**

		Willing to pay extra for Ecofriendly product					Total
		NO extra	Upto 5%	UPto10%	Upto 20%	More than 20%	
Sex Category	Male	141	122	34	16	5	318
	Female	0	26	8	27	6	67
Total		141	148	42	43	11	385
Pearson Chi-Square		101.974(a)	4	.000			

Also, null hypothesis formulated earlier i.e. the consumer willingness to pay extra premium does not differs significantly across gender category; the obtained value of chi square is much higher than the tabulated value (9.48773) at 5 percent level of significance and 4 degree of freedom hence null hypothesis is rejected. The conclusion may be drawn as it's a clear-cut indication that consumer's willingness to pay extra premium varies significantly across gender category.

## DISCUSSION

The principle purpose of the study was to investigate the consumer attitude and awareness towards the environment and the green products. Using factor analysis the factors that upholding the customers for the purchase and consumption of green products and influencing them to contribute environmental protection are explored. The important factors emerged as Media, Policy Initiatives and Commitment, Sustainability, Value for Money, Loyalty, Economic and Differentiation. Subsequently One way ANOVA is carried out to assess the variability of means of different factors influencing customers in favour of green product across the professional categories. Analysis indicates that among all the factors identified; policy initiative by government toward green environment and green product are rated highest by the respondents of service category. One way ANOVA across occupational status to verify the hypothesis that there is no



significance difference in the mean of different factors motivating respondents in favour of green environment and green product among different occupation of respondents reveals that, the calculated value of F is greater than the tabulated value of F (2.37) At ( $p < 0.05$ ) level of significance. Thus the rejection of the hypothesis indicates, there are significant differences in the mean of different factors across the different occupational categories of respondents. Also, there is significant difference between gender in their environmental attitudes and their attitudes on green products. This result supports the other studies carried out earlier that have shown the significant differences between men and women in environmental attitudes (Brown and Harris, 1992; Tikka et al. 2000) and in overall green purchase attitudes (Mostafa, 2007). However, in a Canadian study, Eagles and Muffiti (1990) found no differences between the genders in environmental attitudes. Samdahl and Robertson (1989) found the relationship not to be significant in the case of ecologically attitudes and genders. Moreover, D'Souza et al. (2007) has indicated no differences with respect to gender in the respondents' attitude towards green labels. A large number of studies found little or no relationship between demographic characteristics and environmental attitudes and behavior as the demographic variables have less explanatory power than the psychographic variables (Schwepker and Cornwell, 1991). Thus results from gender-based investigations are still far from conclusive (Getzner and Krauter, 2003) and seem to warrant more future research. However it is noteworthy that, economic concern has been observed among both the gender categories. Even though it is seen that consumer willingness to pay extra premium differs significantly across their level of education.

## CONCLUSION

The concept of green marketing, its awareness, its acceptability and adaptability has increased substantially over the last few years. Several non government organizations, manufacturers and governments both at centre and state have joined their hands in building consciousness about green products and the ill impact of organic products on human life and on environment as a whole. The study indicates that majority of consumers are aware of the green marketing to some extent or the other. As a result of this, they are willing to purchase eco friendly products and ready to pay extra to make the environment healthy and sustainable. It is evident from the study that as gender, occupation and education level of consumers play substantial role and influence the purchase decisions; a lot to do in the promotion and awareness building movements to obtain sizable amount of result in environmental protection. Also, policy and law makers are expected to take all sorts of initiative to bring uniformity in understanding this global issue and to encourage all round participation of this society in this regard. The lack of information and sense of responsibility should be well taken care of through continuous efforts by not only the manufacturers and governing bodies but also by intellectuals, educationists and by individuals for the betterment of this planet. Above all since, personal benefit and economic orientation of individuals are surfaced in the study as crucial in purchase and consumption behavior, the marketers and manufacturers should develop proper roadmap to make green products economical or to price them at par with the non-green ones in same product categories. The governments must provide sufficient financial support for R&D in developing cheaper eco-friendly products and also may provide subsidy to encourage green consumption.

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**CORPORATE GOVERNANCE AND BUSINESS ETHICS**

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**ABSTRACT**

*The present paper provides a brief account of Indian corporate governance, corporate governance Codes, guidelines, Business Ethics, benefits of Business Ethics and various Scams which are detrimental for corporate health. This article analyses the codes of corporate governance in India to determine how the relationship between corporate governance and business ethics is being perceived. It also explores the relation between them by looking at various aspects of corporate governance that might have an impact on how business ethics is being perceived and practiced. This discussion touches on stakeholder identification and engagement, the role of business ethics within these corporate governance models, as well as the way in which the ethical performance of corporations are governed in terms of these models. Finally new corporate governance developments that potentially might have an impact on the prominence and practice of business ethics are reviewed.*

**KEYWORDS**

Business Ethics and Frauds, Corporate Governance, Codes, Stakeholders.

**INTRODUCTION**

The word 'Corporate Governance' (CG) has become a buzzword these days due to various corporate failures world over in recent past. The Corporate Governance represents the value framework, the ethical framework and the moral framework under which business decisions are taken. In other words, when investment takes place across national borders, the investors want to be sure that not only their capital handled effectively and adds to the creation of wealth, but the business decisions are also taken in a manner which is not illegal or does not involve moral hazards (S.k verma & Suman gupta, 2004). The Corporate Governance basically denoted the rule of law, transparency, accountability and protection of public interest in the management of a company's affairs in the prevailing global and competitive market milieu. It called for an enlightened investing community and strict regulatory regimes to protect the rights of the investors and companies to improve productivity and profitability without recourse to any means which would offend the moral, ethical and regulatory framework of business.

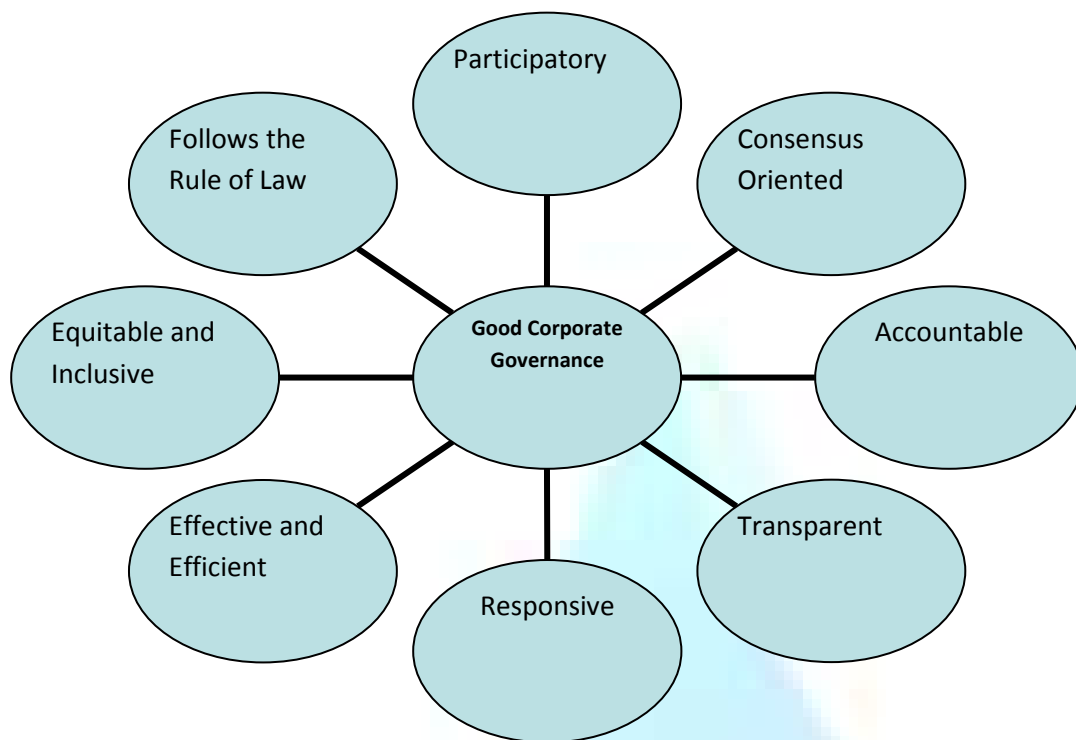
The 1992 stock market scam was another big reason to bring the issue of Corporate Governance to the center stage-to protects the interest of shareholders and to build the confidence of foreign financial institutions in the Indian capital market. Various committees and commissions, and legal framework were adopted/amended towards designing good Corporate Governance in India. Corporate Governance depends upon two factors. First the commitment of the management to the principle of integrity and transparency in business operations. Second legal and the administrative framework created by the government. If public governance is weak, we cannot expect good Corporate Governance and hence good governance in all respects is dire necessity in the present global context.

**ESSENTIALS OF GOOD CORPORATE GOVERNANCE**

Good Corporate Governance is a formal system of Accountability and Control of ethical and socially responsible decisions and use of resources. The following are the chief characteristics of Good Corporate Governance: it is

1. Participatory
2. Consensus Oriented
3. Accountable
4. Transparent
5. Responsive
6. Effective and Efficient
7. Equitable and Inclusive and
8. Follows the Rule of Law.

These are shown in the following Figure.



## ORIGIN

The concept of Corporate Governance has its origin in the “agency problem in a company, which contributed not only to the birth of dispersed equity ownership but also gave rise to the practice of management enjoying control rights disproportionately greater than their stock ownership. The turn towards socialism in the decades after Independence, marked by the 1951 Industries (Development and Regulation) Act and the 1956 Industrial Policy Resolution, put in place a regime and culture of licensing, protection and widespread red-tapism that bred-corruption and tilted the growth of the corporate sector. The situation worsened in subsequent decades. The corruption, nepotism, and inefficiency became the hallmarks of Indian Corporate Sector since then. Exorbitant tax rates encouraged creative accounting practices and gave firms incentives to develop complicated emolument structures.

In the absence of a Stock Market capability of raising equity capital efficiently, the three all India development finance institutions (IFCI, IDBI, ICICI) became the main providers of long-term credit to companies, together with the state financial corporations, along with the government owned mutual fund, the Unit Trust of India. These institutions are also held large block of shares of the companies to which they lent and invariably had representation on their boards though they traditionally played a very passive role in the board room. Through financial disclosure norms In India have traditionally been superior to most Asian Countries, non compliance with disclosure norms is rampant and even the failure of auditor’s reports to conform to the law attracts nominal fines and little positive action. The Institute of Chartered Accountants of India (ICAI) almost never takes action against erring auditors.

## DEVELOPMENT OF CORPORATE GOVERNANCE IN INDIA

In India, the need for Corporate Governance has become highlighted by the scams brought high almost as an annual feature ever since the liberalization of the economy in 1991, To cite a few Harshad Metha, ketan Parikh scam, UTI scam, the vanishing company scam, the Bhansali scam and so on(Omkar Goswami,2002). Lessons should be learning from the countries like USA and UK where companies exposed to lot of hardships and failures due to misgovernance and unethical business practices. The Errors issue was examined by number of committees at different levels in the U.S and at the end of all these examinations, they came with a better model. In the Indian corporate scenario, it is imperative to induct good global standards so that at least the scope for scams should be minimized. The single most Important development in the field of Corporate Governance and Investor protection in India has been the establishment of the Securities and Exchange Board of India in 1992 and its gradual empowerment since the time it was established primarily to regulate and monitor stock trading, it has played a crucial role in establishing the basic minimum ground rules of corporate conduct in the country. Concerns about corporate governance in India were, however, largely triggered off by a spate of crises in the early 1990’s as already noted. This concerns about Corporate Governance stemming from the several corporate scandals, coupled with a perceived need to open up to the forces of competition and globalization, gave rise to several investigations into ways to fix the Corporate Governance situation in India.

One of the first such endeavours was the confederation of Indian Industry (CII) code for Desirable Corporate Governance, developed by a committee chaired by Rahul Bajaj, this committee was formed in 1996 and submitted its code in April 1998. Later the Securities and Exchange Board of India (SEBI) constituted two committees to look into the issue of Corporate Governance. The first was chaired by KumarMangalam Birla, which submitted it’s report in early 2000, and the second by Narayana Murthy, which submitted it’s report three years later. These two committees have been Instrumental in bringing about for reaching changes in Corporate Governance in India through the formulation of clause 49 of listing Agreements. Concurrent with these Initiatives by the SEBI, the Department of Company Affairs, the Ministry of Finance of the Government of India also began contemplating Improvements in Corporate Governance. These efforts include the establishment of a study group to operationalize the Birla Committee recommendations in 2000, the Naresh Chandra Committee on Corporate Audit and Governance in 2002, and the expert committee on Corporate Law (The J.J.Irani Committee) in late 2004. All these efforts were aimed at reforming the existing Companies Act of 1956 still forms the backbone of Corporate law in India.

## GUIDELINES AND CODES OF CORPORATE GOVERNANCE

The Implementation of Corporate Governance depends upon laying down explicit codes, which enterprises and the organizations are supposed to observe. The Cadbury was the starting point in the United kingdom, which led to a number of other codes, In India itself the several Committees already mentioned have came up with several codes. In particular in their reports provided guidelines for corporate governance, keeping in view developments the corporate sector especially in the USA. Ultimately effective corporate governance depends upon the commitment of people in respective Organizations. The several suggestions made by these committees are briefly described in the following pages, each committee emphasizing a few guidelines.

## CII CODE OF CORPORATE GOVERNANCE

In December 1995, the CII set up a committee under the chairmanship of the Industrialist Rahul Bajaj to prepare a comprehensive voluntary code of corporate governance for listed companies. In its final report which was released in April, 1998. The committee recommended that key information to be reported, listed companies to have audit committees, corporate to give a statement of the value addition, consolidation of accounts to be optional. The main emphasis was on transparency, as stated by Shekar Datta, the President of CII, in the foreword to the Report:

Corporate Governance is a phase which implies transparency of management systems in business and industry, be they of private or public sector all of which being corporate entities. Just as industry seeks transparency in government policies and procedures, so, corporate governance seeks transparency in corporate sector.

## UTI CODE OF CORPORATE GOVERNANCE

In the year 1999, the Unit Trust of India (UTI) also formulated a code of Corporate Governance. This was followed by professional bodies like the "Institute of Company Secretaries of India" (ICSI) to focus attention on the Indian Corporate Sector, on the norms of governance and it also setup a National award for Excellence in Corporate Governance.

## BIRLA COMMITTEE REPORT ON CORPORATE GOVERNANCE

The Securities and Exchange Board of India (SEBI) constituted a committee in May 1999 on corporate governance with as many as 18 members, under the chairmanship of Kumar Mangalam Birla, to promote and raise the standards of corporate governance in respect of listed companies. This committee, after a good deal of deliberations with industrial association and professional bodies, submitted its report on 25<sup>th</sup> January, 2000, and recommended various new norms of corporate governance. The SEBI accepted the recommendations which culminated in the introduction of clause 49 in the standard listing agreement for implementation by all stock exchanges for all listed companies, within a time-frame of three years commencing from the financial year 2000-2001. The main recommendations of this committee related to the composition of the board including independent directors, constitution of audit committee in certain sized companies to look into the financial aspects of a company, remuneration of directors, directors report to include management discussion and analysis report, better disclosure norms to the shareholders through annual report etc.,

Based on these recommendations, the Companies (Amendment) Act 2000 introduced many provisions relating to corporate governance including:

- (a) Additional ground of disqualification of directors in certain cases,
- (b) Setting up of audit committee,
- (c) Introduction of postal ballot for transacting certain items of business in the general meeting, and
- (d) Enforcement of accounting standards.

## NARESH CHANDRA COMMITTEE REPORT ON CORPORATE AUDIT AND GOVERNANCE

The Enron debacle in July 2002, involving the hand-in-glove relationship between the auditor and the corporate client and various other scams in the United States, and the consequent enactment of the stringent Sarbanes – Oxley Act in the United States were some important factors which led the Indian government to wake up. The Department of Company Affairs in the Ministry of Finance on 21<sup>st</sup> August 2002, appointed a high level committee, popularly known as the Naresh Chandra Committee, to examine various corporate governance issues and to recommend changes in the diverse areas involving the auditor-client relationships and the role of independent directors. The committee submitted its report on 23<sup>rd</sup> December, 2002, in which it commented on

- (a) The poor structure and composition of the board of directors of Indian companies,
- (b) Scant fiduciary responsibility,
- (c) Poor disclosures and transparency,
- (d) Inadequate accounting and auditing standards, and
- (e) The need for experts to go through the minutes details of transactions among companies, banks and financial institutions, capital markets etc.,

On the auditor company relationship, the committee recommended that the propriety of auditors rendering non-audit services is a complex area which needs to be carefully dealt with. The recommendations of this committee are more or less in line with the rules framed by the Securities and Exchange Commission (SEC) in accordance with the provisions of the Sarbanes – Oxley Act 2002. The recommendations of the Naresh Chandra Committee are expected to play a vital role in strengthening the composition and effectiveness of the regulatory framework for good corporate governance.

## NARAYANA MURTHY COMMITTEE REPORT ON CORPORATE GOVERNANCE

In the year 2002 the SEBI analysed the statistics of compliance with clause 49 by listed companies and felt that there was a need to look beyond the mere systems and procedures, if corporate governance was to be made effective in protecting the interests of investors. The SEBI, therefore, constituted a committee under the chairmanship of N.R. Narayana Murthy, chairman of Infosys Technologies Ltd., to review the performance of corporate governance in India and make appropriate recommendations. The committee included representatives from the stock exchanges, chambers of commerce and industry, investor associations and professional bodies. The Narayana Murthy committee submitted its report on 8<sup>th</sup> February, 2003.

In the meantime many of the recommendations of the Naresh Chandra Committee had found their acceptance in the form of the Companies (Amendment) Bill of 2003, which was introduced in the parliament in May, 2003, but now had been withdrawn. The mandatory recommendations of the committee relate to:

- (a) The role and functions of the Audit Committee,
- (b) Risk management and minimization procedures,
- (c) Uses and the application of funds received from the initial public offers. (IPO),
- (d) Code of conduct for the board,
- (e) Nominee directors and independent directors, (Narayan Murthy committee, report, 2003)

## CONCEPT OF CORPORATE EXCELLENCE

Corporate excellence is a way ahead of corporate governance. The Department of Company Affairs (DCA) in 2000 appointed a study group under the chairmanship of Dr. P. L. Sanjeeva Reddy, secretary DCA, to suggest ways and means of achieving corporate excellence and to explore the possibility of putting in place an implementable system and develop first infrastructure. The study group constituted a task force under the chairmanship of S. Rajagopalan, former chairman, Mahanagar Telephone Nigam Limited (MTNL). This task force interacted with the delegates of Commonwealth Secretariat on Centre for Corporate Governance, various chambers of commerce and professional bodies.

The following are the key recommendations of the study group:-

- (a) Setting up an independent autonomous centre for corporate excellences with a view to according accreditation to promote policy research and studies, training and education awards etc., in the field of corporate excellence through improved Corporate Governance.
- (b) Introducing measures for greater shareholders participation, through multiple location meetings, and electronic media etc,
- (c) Introducing recognition of corporate social responsibility with triple-bottomline accounting and reporting.
- (d) Highlighting director's commitment and accountability through fewer and more focused board and committee membership, tighter independence criteria and minimization of interest-conflict potential.



(e) Suggesting application of Corporate Governance principles to public sectors undertaking both in the listed and unlisted companies and upgrading their board with independence directors. (S.K.Varma and Suman Guptha (2004),p.25-26).

### STAKEHOLDER IDENTIFICATION

The way in which a company treats its stakeholders reflects its ethical standards. It is therefore to be expected that companies for whom ethics is a priority will be sensitive to its stakeholders. This moral sensitivity will be reflected in the Identification of stakeholders as well as in the manner in which they are being engaged by the company.

The Inclusive model of corporate governance opted in cell national codes of corporate governance in Indian imposes an obligation on the board of directors not only be accountable to their shareholders but also to be responsible to all their other stakeholders. This reality is very clearly reflected in the range of stakeholders identified in the various reports. Besides, the obvious and conventional relation with shareholders, a range of other stakeholders is also identified. These include contractual stakeholders such as employees, customers, suppliers, bankers' and creditors, and non contractual stakeholders such as the media, special Interest groups, and local communities, society at large, professional bodies, the state and government of the day. It is, however, evident that certain stakeholders, besides shareholders, enjoy distinct prominence. It is especially the local communities and society that are being singled out as prominent stakeholders, and the social responsibility of companies toward society is consequently emphasized. In some countries, it is also clear that other specific stakeholders enjoy an enhanced status. In the Malawian code, for example, employees as a group enjoy a privileged status as stakeholders and the responsibilities towards employees and the need for allowing them the opportunity to participate in decision making is strongly emphasized. (Corporate Governance Task Force, 2001, p.7)

### STAKEHOLDER ENGAGEMENT

The content of stakeholder engagement is generally described as an obligation to inform stakeholders about company's performance. Although not much clarity is provided on the context of what should be communicated, it is clear that information on the financial and non-financial performance of companies should be disclosed. It is however widely emphasized that such communication and disclosure should be prompt, open, relevant, and transparent. Although the emphasis on stakeholder's engagement is pervasive in all above reports, it lacks rigor and discipline; there are however, a number of notable expectations. In the Kenyan code, reference is made to establishing mechanisms for ensuring performance enhancing stakeholder participation (PSCGT,1999., p.20), In the case of non shareholding stakeholders, more or less all reports proper an outline of what stakeholder engagement should entail. The process should commence with the Identification of stakeholders, and then policy should be formulated for how a company will engage with its stakeholders. The Zimbabwean code goes even further and recommends that a code of conduct should be developed for stakeholder engagement that will ensure that the rights of stakeholders are protected (Principles of Corporate Governance in Zimbabwe, nd. p.11).

### CORPORATE GOVERNANCE AND BUSINESS ETHICS

The national codes all emphasize the ethical nature of good corporate governance. Special emphasis is placed on the fact that good governance is based on a number of cardinal ethical values. Topping the list of the values that should be adhered to in good governance are the values of Transparency, accountability, responsibility and probability. These values should permeate all aspects of governance and be displayed in all actions and decisions of the board. The various aspects of governance, such as board complication and functioning reporting, disclosure and risk management, are seen as instrumental in realizing these cardinal values of good governance

Besides these underlying values of Corporate Governance mention is also made of specific moral obligations that the board of directors and the company abide by. Prominent among these ethical obligations are ensuring that the company act on high ethical standards so that the reputation of the company will be protected as well as respecting the rights of all shareholders (G. J. Rossouw, 2005) p.101.). A well defined and enforced corporate governance provides a Structure that, at least in theory, works for the benefit of everyone concerned by ensuring that the enterprises adheres to accepted ethical standards and best practices as well as to formal laws. To that end, organizations have been formed at the regional, national and global level.

In recent years, Corporate Governance has received increased attention because of high profile scandals involving abuse of corporate power and, in some cases, alleged criminal activity by corporate officers. An Integral part of an effective Corporate Governance regime Includes provisions for civil or criminal prosecution of individuals who conduct unethical or illegal acts in the name of organizations. In all the national codes of corporate governance and in India for the need for actively managing the ethical performance of companies is emphasized. The levels of detail with which these codes deal with the active management of ethics do, however, differ drastically. All the codes recommend that the board of directors should ensure that a code of ethics is developed and that it is endorsed by the board. Most Corporate Governance codes also provide some guidance on the process of developing a code of ethics by either making reference to issues or topics that typically should be addressed in a code or by outlining a process that could be followed in the process of code design or review. Few codes go further to take the lead in venturing deeper into what the governing of ethical performances entails beyond developing a code of ethics. The most comprehensive recommendations on the ethics of governance are to be found in the Narayana Murthy Committee report on Corporate Governance.

### BENEFITS OF GOOD BUSINESS ETHICS

Benefits of good Business Ethics cannot be expressed in quantitative terms, but in qualitative terms, and the benefits are enormous. The benefits can be summarized as follows-

1. Improved Social Welfare.
2. Presenting a Strong and Positive Corporate image to the Public.
3. Maintaining Consistency in Actions.
4. Strong Motivation and Performance.
5. Better to incur the cost of mechanisms to ensure Ethical parties than to incur costs of litigation later.
6. Organising and gaining the confidence to deal with complex work situations.
7. Identification of Ethical issues and Violations.
8. Aligning Organisational-Behaviour with those values for Total Quantity Management (TQM) purposes.
9. Basis of a sound ethics management programme.
10. *Managing Ethical Values in Business*
  - (a) Legitimizes managerial actions.
  - (b) Strengthens the Coherence and Balance of Organisation Culture.
  - (c) Improves trust in relationships between Individuals and Groups.
  - (d) Supports Greater Consistency in Standard and Quality of Product.
  - (e) Greater Sensitivity to the impact of the Enterprises-Values and Messages.

### INTER-RELATIONSHIPS BETWEEN CORPORATE GOVERNANCE AND BUSINESS ETHICS

In order to establishing the essential interrelationship between Corporate Governance and Business Ethics, We will firm lay the conceptual foundations of organizational culture and Corporate Governance, after which we will analyse how they both can be used to achieve a set of desirable ethical values that can be shared by the members of a firm. As far organisational culture, instead of analysing various definitions of this expression, it makes much more sense to describe



its essential characteristics. Thus, 'it has a guiding role that helps to know which activities suit best the firm's personality' (Brinkman, R.L. (199), Cacioppe, R. (1998) and Ghobadian, A and O'regan, N. (2002)) 'its existence is associated with the idea of sharing intentions' (McDermott, C. M. and Stock, G. N. (1999), Sadri, G and Lees, B. (2001), Silvester, J. Anderson, N.R. and Patterson, F. (1999) 'it is due to an empirical need to solve managerial problems' (Cray, D. and Mallory, G. (1998), Hodges, S. P. and Hernandez, M. (1999), Rowden, R. W. (2002) and finally 'it is specific to each firm' (Juechter, W. M., Fisher, C. and Alford, R. (1998), Ogbor, J. O. (2001) and Schneider, M. J. (1998).

From all these distinctive features associated with the term organisational 'culture', we propose the following comprehensive definition: organisational 'culture' is a set of values, symbols and rituals shared by the members of a specific organisation, which describe the way things are done in order to solve managerial problems, both internal ones and those related to clients, suppliers and the business environment. It must be emphasised that these values can only have a life of their own if we make sure that they are shared by the vast majority of corporate members (Ogbonna, E. and Harris, L. C. (2002) and Sorensen, J. B. (2002). In other words, these values cannot be in the mind of a single executive or a small group of executives; they must be assumed by the rest of people in the organisation. From this perspective, corporate governance appears as a function that can largely help to consolidate organisational behaviour patterns.

Problems may arise if the above aim is not achieved. If the senior management decides to formulate a strategy without the involvement of middle managers and others, it will have a difficult time espousing a collegial flow of authority and influence (Young, D. W. (2000). At this point, having in mind different definitions of corporate governance (Bonn, I. and Fisher, J. (2005) Keenan, J. and Aggestam, M. (2001) Monks, R. A. (2002) Weimer, J. and Pape, J. (1999), we may understand corporate governance as the processes by which organizations are directed in a framework of legal, institutional, cultural and social factors that require balancing the interests of various stakeholders and society.

In other words (Turnbull, S. (1997), the complexity of corporate governance is such that no one theory or model of society is likely to be sufficient for understanding, evaluating or designing governance structures. In a similar way, it can be said that there is little consensus on what good corporate governance entails (Demise, N. (2005). For these reasons, if managers want to implement or carry out corporate governance, not only do they have to know the problems related to staff expectations but they also must provide solutions to those problems, which in turn will progressively consolidate their managerial position. In this sense, the fl air for communication then reveals itself as essential to perform this leadership task (Birk, T. A. And Burk, J. E. (2000) and Hayes, J. T. And Kuseski, B. K. (2001).

Another aspect to have in mind is that corporate governance is not a panacea for the resolution of group or individual problems within the firm. In this respect, no leadership style can solve alone all the situations in which a manager might find himself. Emphasis will have to be laid on one aspect or another depending on the specific department or individual concerned. An essential quality for those who have to develop this function lies in being able to diagnose the specific situation and knowing which of the possible ways or styles to deal with it is the best and therefore should be chosen.

In short, leadership by corporate governance goes beyond management, since it also includes the concepts of encouragement, help and service to others with the purpose of carrying out the organizational mission through ethically correct work (Kotelnikov, V. (2005). By relating all the above to ethics, we can provide an initial approach to the study of relationships between culture and ethics that consists in analyzing how the cultural model of a specific society can make firms located in diverse geographical areas and created according to different socio-economic postulates, share similar ethical beliefs. Interesting contributions in this respect are made by (Armstrong, R. W. (1996) Gundling, E. (1991) Herndon, N. C., Fraedrich, J. P. and Yeh, Q. J. (2001) Puffer, S. M. and McCarthy, D. J. (1995) Robertson, C. and Fadil, A. (1999).

It is, however, in corporate culture studies that we can best deepen our understanding of possible ways to improve organisational ethical behaviour. In this sense, cultural research not only includes theoretical and epistemological issues, but also ethical ones (Deetz, S. (1985); culture is more powerful than anything else in the organisation (Schneider, W. E. (2000). We can go even further to say that organisational ethical culture or, more specifically, the ethical environment within the firm created through management practices and espoused values, may be the most important deterrent to unethical behaviour (Douglas, P. C. Davidson, R. A. and Schwartz, B. N. (2001), or also point out that behaving ethically depends on the ability to recognise that ethical issues exist, to see things from an ethical point of view. This ability to see and respond ethically may be related rather to attributes of organizational culture than to attributes of individual employees (Chen, A.Y.S. Sawyers, R. B. and Williams, P. F. (1997).

At this stage, we should clarify something important: all firms have cultures, although it cannot be inferred from this that the actions of all firms are ethically correct. There are cultures where ethical issues are denied, ignored or removed (Dalla Costa, J. (1998). Furthermore, trusting, admiring and respecting a leader do not necessarily mean that followers will behave with integrity. (Kanungo, R. N. and Mendonca, M. (1996), Parry, K. W. and Proctor-Thomson, S.B. (2002).

In parallel, since we are talking about ethical culture, these values must necessarily be shared with firm members and should not be only in the mind of a manager who is responsible for 'ethical issues'. Under this point of view, the ethical culture of an organisation would be reflected in the beliefs about the ethics of an organisation which are shared by its members (Key, S. (1999). We can easily understand from these arguments why the literature concerned gives so much importance to employee involvement in ethical issues related to the firm, because at the end it is a cultural matter (Donaldson, T. and Werhane, P. (1993), Sashkin, M. (1984) and Sinclair, A. (1993).

From this perspective, we can say that the ethics component of organisational culture is composed of a complex interplay of formal and informal systems that can support either ethical or unethical behaviour. The formal systems include leadership, structure, policies, reward systems, orientation and training programmes, and decision-making processes. Informal systems include norms, heroes, rituals, language, myths, sagas and stories (Trevino, L. K. (1990). As I see it, Corporate Governance is nothing but the moral or ethical or value framework under which corporate decisions are taken. It is quite possible that in the effort at arriving the best possible financial results or business results there could be attempts at doing things which are verging on the illegal or even illegal. There is also the possibility of a grey area where an act is not illegal but considered unethical. These raise moral issues.

An ethical problem cannot be resolved unless it is first recognized as a Dilemma. "Reward or Punishment to ethical integrity and moral courage decide the act of an individual". The existence of rules, policies, job descriptions and cultural norms will discourage individuals from unethical behaviour even if they have a feeble moral sense. But, in the presence of an unethical organizational culture and structure, even highly moral individuals may become corrupt. The need to strengthen corporate governance has been highlighted by a number of high-profile business failures in various parts of the world such as those of Enron in the USA and Satyam in India.etc. These scams are briefly explained below:

## ENRON SCAMS

The Enron Corporation was an American Energy Company based in Houston, Texas. It was named as "American Most Innovative Company" by Fortune magazines for six consecutive years from 1996 to 2001. It was one of the 100 Best Companies to Work for in America listed in 2000. The Enron traded in more than 30 products, including Oil, Petrochemicals, Power, and Plastics etc. It achieved bad reputation at the end of 2001 when it was revealed that its *Reported Financial Condition* was sustained mostly by Institutionalized, Systematic, and Creatively Planned Accounting Fraud.

Many of Enrons recorded assets and profits were inflated or even wholly fraudulent and non-existent, by putting debts and losses into entities formed "Offshore" that were not consolidated with the company's financial transactions and in addition, by the use of other Sophisticated and deep Financial Transactions between Enron and related companies formed to take unprofitable entities off the company's books. Arthur Andersen, who was auditors of Enron, was also consultants of Enron. The *Result* was that many of Enron's debts and the losses that it suffered were not reported in its financial statements.

## COLLAPSE OF ENRON

After a series of Scandals involving irregular accounting procedures bordering on fraud, involving Enron and its accounting firm Arthur Andersen were revealed, it stood at the verge of undergoing the largest bankruptcy in history by mid-November 2001. The lawsuit against Enrons directors, following the Scandal, was notable in that the directors settled the suit by paying very significant amounts of money personally. The Scandal caused the dissolution of the Auditors of Enron – Arthur Andersen, leaving only Four Big International Accounting Firms.

Enron's collapse also contributed to the creation of the U.S. Sarbanes-Oxley Act (SOX), signed into on July 30, 2002. Other countries have also adopted new Corporate Governance legislation. This law provides stronger penalties for fraud and among other things, requires public companies to avoid making loans to management, to report more controversially, to report on and have audited their financial internal control procedures (V.S. Datey. (2007).

### SATYAM SCAM

Satyam Computer Services, Ltd. was a rising star in the Indian outsourced IT services industry. The company was formed in 1987 in Hyderabad, India by B. Ramalinga Raju. The firm which began with twenty employees, grew rapidly as a Global Business. It and its executive management won several coveted Popular Awards, such as Golden Peacock Award for Corporate Governance under Risk Management and Compliance Issues, SAP Pinnacle Award, E & Y Entrepreneur Award etc. In April, 2008 Satyam became the first Indian company to publish International Financial Reporting Standards (IFRS) Audited Financials.

The Satyam Scandal is a classic case of negligence of fiduciary duties, total collapse of ethical standards, and an lack of corporate social responsibility. It was basically human greed that led to the enormous fraud. Greed overshadowing the responsibility to meet fiduciary duties. Fierce competition and the stock market; low ethical and moral standards by top management; and, great and undue emphasis on short-term performance, all contributed to it. Greed for money, power, competition, success and prestige compelled Mr. Raju to "ride the tiger", which led to the violation of all duties imposed on him and his company as fiduciaries – the duty of care, the duty of negligence, the duty of loyalty, the duty of disclosure towards the stakeholders. According to the CBI, the Indian Crime Investigation Agency, the company Fraudulence activity dates back April 1999, when the company embarked on a road to double-digit annual growth. As of December 2008, Satyam had a total market Capitalization of \$3.2 Billion.

On a Quarterly basis, Satyam's earnings grew. Raju admitted during the inquiry that the fraud which he committed amounted to nearly \$276 million. In the process, Satyam grossly violated all rules of Corporate Governance. The Satyam Scam is an irrefutable the example for following poor governance practices. It had failed to show good relation with its shareholders and employees. The governance issue at Satyam arose because of non fulfillment of obligation of the company towards its various stakeholders. Of specific interest are the following: distinguishing the roles of board and management; separation of the roles of the CEO and chairman; appointment to the board; directors and executives compensation; protection of shareholders rights and their executives.

The Culture at Satyam, especially dominated by the board, symbolized such an unethical culture. In the case of. Raju, Satyam, as the smallest of the Big Four Players, was under pressure to show extraordinary results in order to survive. Apart from that there was greed, perhaps reckless greed, causing the brothers to indulge in illegal and unethical activities. The Board connived with his actions and stood as a Blind Spectator. The lure of Big Compensation to Members further encouraged such behaviour. But, in the end, truth was sought and those violating the legal, ethical, and societal norms were taken to task. The Fraud finally had to end and its implications were far reaching. The public confession of fraud by Ramalinga Raju speaks of integrity still left in him as an individual. His acceptance of guilt and blame for the whole fiasco shows a bright spot of an otherwise tampered character. The Victims of the Satyam Fraud are Employees, Clients, Shareholders, Bankers and Indian Government.

### SATYAM, ENRON ALMOST ALIKE

Satyam's disaster dubbed as the "Indian Enron", here are some similarities between the two scams of the worst kind that shook the corporate world equally

Basix	Similarities between the collapse of Enron and Satyam
<b>Starting of business</b>	Enron started business as an energy supplier in 1985. Two years later i.e. in 1987, Satyam set up company to provide IT and computers services to clients abroad.
<b>Substantial increase in size and profits</b>	By 2000 Enron claimed that its profits tripled in just two years. By then, in India, Satyam had grown to become the country's fourth largest software exporter.
<b>Fudging of accounts and books</b>	Enron hide its debts to make growth look impressive, Satyam founder Ramalinga Raju too inflated cash and bank balances, reported accrued interest that was non-exist, understated liabilities and over-stated debtors.
<b>Role of the watchdogs</b>	Even when it was close to collapsing, Enron came across as the 7 <sup>th</sup> largest high-growth company, the company declared bankruptcy when it was rated investment grade by all the credit rating agencies even four days before its bankruptcy, Satyam too was ranked one amongst the big four IT companies not only by the media world over but also the watchdogs rated it as a high-growth company.

To prevent any recurrence of Satyam-like frauds, regulators and the authorities like the Ministry of Corporate Affairs (MCA), the Securities and Exchange Board of India (SEBI), The Institute of Company Secretaries of India (ICSI), the Institute of Chartered Accountants of India (ICAI) and the Institute of Cost and Works Accountants of India (ICWA), have undertaken a number of corporate governance initiatives.

### RECOMMENDATIONS

There is a range of initiatives being taken in the field of corporate governance that bears the potential of affecting positively the improvements of corporate governance standards in general. Some of these corporate governance reform initiatives are on a national level. On a national level, various corporate governance initiatives have been taken that have a direct bearing on business ethics. The outcome of this initiative is a greater awareness of the need for adherence to strong ethical standards in the private and public sectors. Some of these programmes have distinct business ethics components in which students in under – and postgraduate level as well as in extracurricular programmes receive formal training in business ethics.

In addition, the Business Declaration on Corporate Social Responsibility was adopted that emphasizes the need for positive stakeholder relationships based on integrity as well as the protection of human right. It can be expected that through these various initiatives the tide of corporate governance will rise. Business ethics as an integral part of corporate governance can expect to benefit from this rising tide and to gain in prominence as a result.

### CONCLUSION

The genesis of corporate governance lies in business scams and corporate failures. The concept of corporate governance hinges on total transparency, integrity and accountability of the management. Corporate governance is a process to ensure that company is managed to suit the best interests of all stakeholders, yet the maximization of shareholder's wealth is the corner stone of good corporate governance. It is about commitment to values and ethical business conduct. The best practices of corporate governance should include – a definition of practices that define good governance; a code of best practices covering the constitution of the board, its various committees, defining their goals and responsibilities, exploring preferential internal systems and disclosure requirements.

The state of Business Ethics within the context of Corporate Governance in India has made it clear that Business Ethics is or should be an Integral and Essential part of Good Corporate Governance. From the various National Codes of Corporate Governance that were analyzed, it is clear that standards of Good Governance are intimately intertwined with High Standards of Business Ethics.

The first aspect to consider is who can carry it out. In my opinion, it is a function of the corporate governance board in general and of the CEO in particular, since the system of symbols transmitted through their ethical conduct will be a reference point for the other organisational members. An ethical culture exists when a set of ethical values is shared by the firm members and is not only in the mind of some manager responsible for organisational 'ethical issues. This can help us to understand corporate governance ethical behaviour. The delegation of ethical management by the firm's corporate governance cannot have a strong cultural effect, as it is the senior management that must be responsible for ethical issues. The aim we seek is to strengthen an ethical culture, and not merely the technical aspects of ethical management, since the success of those programmes will depend on their symbolic management. We are thus firmly convinced that corporate governance ethical culture must necessarily include the conversion of the CEO.

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**PERFORMANCE MANAGEMENT SYSTEM FOR EMPLOYEES OF IT SECTOR IN CHENNAI**

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**ABSTRACT**

*Performance Measurement Systems (PMS) plays a key role for business organizations. PMS aims to implement a strategy for the organization. Many managers have shown that conventional financially based performance measurement systems have failed to measure and integrate all the factors critical to success of a business. Although performance measurement systems can play a key role in communicating, evaluating, and rewarding the achievement of strategic objectives, many managers feel that their existing measurement systems do not adequately fulfill these functions. The data and information have been collected from 300 employees from IT sector in Chennai by adopting multi-stage random sampling technique through pre-tested, structured interview schedule through direct interview method and pertain to the year 2009-2010. The foregoing analysis indicates that majority of the employees are males and half of them belong to the functional area of production. It is clear that more than half of the employees belong to the age group of 26-30 years and more than one third of employees belong to the income group of Rs. 35001-40000. Nearly one third of employees are M.Tech graduates and more than two-third of employees have the total experience of less than three years. The discriminant analysis shows that unit's business strategy is well understood by employees, performance measurement system has measures that are linked through driver-outcome relationships, business unit understands the potential driver-outcome relationships among individual measures and deviations from expected or planned results causes the business unit's management to question the unit's business strategy discriminate best among four functional areas. To understand value drivers, managers must have in place performance measurement systems designed to capture information on all aspects of the business, not just the financial results. When managers are faced with multiple tasks, their behavior will differ depending on whether the performance measurement system adopts a financial measure or includes mixed measures. Applying the implementation process, the dynamic changes and uncertainty environment are emerged. Some conflicts and complexity environment emerging force the stakeholders to produce some changing decision making or other alternatives ways to ensure the "right" decision.*

**KEYWORDS**

Discriminant Analysis, IT sector, Performance Measurement.

**INTRODUCTION**

 Organizations have to be able to manage rapid change. It is necessary to develop managerial navigation and measurement tools that guide and assess organizational performance. With the increasing pressure to achieve performance improvement, the need to implement highly effective efficient and integrated management systems is continuously increasing. There has been an emphasis on understanding how performance is created within the firm. To understand what drives performance, managers must have in place performance measurement systems designed to capture information on all aspects of the business.

Historically, organizations have always measured performance in some way through the financial performance, be this success by profit or failure through liquidation. However, traditional performance measures, based on cost accounting information, provide little to support organizations on their quality journey, because they do not map process performance and improvements seen by the customer. In a successful total quality organization, performance will be measured by the improvements seen by the customer as well as by the results delivered to other stakeholders.

Over the years management accounting has seemingly been reduced to a cost accounting exercise that focuses on measuring cost of goods sold and inventory on hand; financial figures that contribute little to the internal information needs of management particularly at the operational level. Further, it has become increasingly obvious that the performance measures generated by the old stove piped, functional accounting systems have serious flaws and can lead to numerous problems.

Performance Measurement Systems (PMS) plays a key role for business organizations. PMS aims to implement a strategy for the organization. Many managers have shown that conventional financially based performance measurement systems have failed to measure and integrate all the factors critical to success of a business. Although performance measurement systems can play a key role in communicating, evaluating, and rewarding the achievement of strategic objectives, many managers feel that their existing measurement systems do not adequately fulfill these functions.

In recent years, both practitioners and managers have emphasized the need to move beyond financial measures of operations and to incorporate a much wider variety of non financial metrics in an organization's performance reporting and reward systems. In today's complex competitive environment, firms need to be agile and flexible. As a result, availability of the information at the right time for both decision making and performance evaluation has become critical. By combining financial, customer business process and technology perspectives of, the balanced scorecard helps managers understand the interrelationships and tradeoffs between alternative performance dimensions and leads to improved decision making and problem solving.

With this background, the present study was attempted to examine the performance management system for employees of IT sector in Chennai.

**METHODOLOGY**

Among the different IT hubs in Tamil Nadu, the Chennai city has been purposively selected for the present study. The IT firms have been selected randomly followed by the employees from IT firms are again randomly selected for the present study by adopting multi-stage random sampling technique through pre-tested, structured interview schedule through direct interview method. The data and information have been collected from 300 employees from IT sector in Chennai and pertain to the year 2009-2010.

**STATISTICAL TECHNIQUES**

In order to understand the socio economic characteristics of employees of IT sector, the percentage analysis and frequency distribution were worked out. The balanced scorecard was constructed based on the financial, customer, internal process and learning and growth measures.

In order to discriminate the functional area of employees in IT sector based on performance management characteristics, the discriminant analysis has been employed and the functional form of discriminant function is:

$$D = b_1 X_1 + b_2 X_2 + \dots + b_n X_n + c$$

Where,

D = Discriminant (dependent) Variable (Functional Area)

$X_i$  = Discriminating (independent) Variables (Performance Management Characteristics)

$b_i$  = Discriminant coefficients;

c = Constant

## RESULTS AND DISCUSSIONS

### SOCIO-ECONOMIC CHARACTERISTICS OF EMPLOYEES OF IT SECTOR

The socio-economic characteristics of employees of IT sector were analyzed and the results are presented in **Table 1**.

The results indicated that about 54.33 per cent were males while the rest of 45.67 per cent were females and about 51.00 per cent of employees belonged to the functional area of production followed by marketing (38.30 per cent), human resource (7.00 per cent) and finance (3.70 per cent). The results showed that about 34.33 per cent of employees were junior executive followed by programmer (30.68 per cent), senior executive (20.33 per cent), HR executive (7.00 per cent), tester (4.00 per cent), finance executive (2.33 per cent) and accounting (1.33 per cent).

From the table, it was clear that about 58.00 per cent of employees belonged to the age group of 26-30 years followed by 31-35 years (25.67 per cent), 36-40 years (11.00 per cent), less than 25 years (3.00 per cent) and more than 40 years (2.33 per cent). It was apparent that about 42.67 per cent of employees belonged to the income group of Rs. 35001-40000 followed by Rs.30001-35000(24.67 per cent), less than Rs. 25000(18.00 per cent), Rs. 25001-30000(13.33 per cent) and more than Rs. 40000(1.33 per cent).

The results indicated that about 66.30 per cent were married while the rest of 33.70 per cent were unmarried and about 60.67 per cent of employees were permanent while the rest of 39.33 per cent were temporary. It was inferred that about 24.00 per cent of employees were M.Tech followed by B.Tech (21.70 per cent), BE (21.00 per cent), ME (17.00 per cent), MCA (11.00 per cent), CA (2.60 per cent), M.Com (1.70 per cent) and MBA (1.00 per cent). The educational qualification of the rest of employees was varying from Diploma (3.00 per cent) to CA (1.00 per cent).

The results showed that about 72.67 per cent of employees had the total experience of less than three years followed by 6.1-9.0 years (16.00 per cent), 3.1-6.0 years (7.67 per cent) and more than nine years (3.66 per cent). The results showed that about 59.67 per cent of employees had the family size of 3.1- 5.0 followed by less than three (39.33 per cent) and more than five (1.00 per cent).

**TABLE - 1: SOCIO-ECONOMIC CHARACTERISTICS OF EMPLOYEES OF IT SECTOR**

Variables with Category	Respondents(N=300)		Variables with Category	Respondents(N=300)	
	Number	Per Cent		Number	Per Cent
<b>Gender</b>			<b>Designation</b>		
Male	163	54.33	Accounting	4	1.33
Female	137	45.67	Junior Executive	103	34.33
<b>Functional Area</b>			Senior Executive	61	20.33
Finance	11	3.70	Programmer	92	30.68
Human Resource	21	7.00	Tester	12	4.00
Production	153	51.00	Finance Executive	7	2.33
Marketing	115	38.30	HR Executive	21	7.00
<b>Age(Years)</b>			<b>Monthly Income(Rs)</b>		
<25	9	3.00	< 25000	54	18.00
26-30	174	58.00	25001-30000	40	13.33
31-35	77	25.67	30001-35000	74	24.67
36-40	33	11.00	35001-40000	128	42.67
>40	7	2.33	>40000	4	1.33
<b>Marital Status</b>			<b>Nature of Employment</b>		
Married	199	66.30	Permanent	182	60.67
Unmarried	101	33.70	Temporary	118	39.33
<b>Educational Qualifications</b>			<b>Experience(Years)</b>		
B.Tech	65	21.70	<3	218	72.67
B.E.	63	21.00	3.1-6.0	23	7.67
CA	8	2.60	6.1-9.0	48	16.00
M.Com	5	1.70	>9.0	11	3.66
ME	51	17.00	<b>Family Size</b>		
M.Tech	72	24.00	<3	118	39.33
MCA	33	11.00	3.1-5.0	179	59.67
MBA	3	1.00	>5.0	3	1.00

### DISCRIMINANT ANALYSIS FOR PERFORMANCE MANAGEMENT SYSTEM

In order to discriminate the functional area based on performance management system characteristics, the discriminant analysis has been applied and the results are hereunder discussed.

#### SELECTION OF DISCRIMINATING VARIABLES

In order to determine the performance management characteristics which significantly contribute to the differentiation of functional area, F test is used for Wilks' Lambda. The ANOVA results are presented in **Table 2**. The F test is significant for five variables of unit's business strategy is well understood by employees, performance measurement system has measures that are linked through driver-outcome relationships, business unit understands the potential driver-outcome relationships among individual measures, deviations from expected or planned results causes the business unit's management to question the unit's business strategy and business unit's budgeting system is linked to the performance measurement system.

#### ESTIMATION OF DISCRIMINANT FUNCTION

In this study, the discriminant analysis is carried out for four functional and it results three discriminant functions and consequently first three eigen values and the results are presented in **Table 3**.

The highest value (0.45) corresponds to the first discriminant function, which shows that it has the strongest power of discrimination of the two functions. Also, the first function accounts in a ratio of 79.80 per cent for the dispersion of the group means, as compared to the second and third function account 13.30 and 6.90 per cent respectively.



The canonical correlation coefficient, measuring the relation between discriminant factorial coordinates and the grouping variable show that 79.75 i.e.  $(0.893)^2$  of the total variance accounts for the differences among the four functional areas through the first discriminant function.

TABLE - 2: TESTS OF EQUALITY OF GROUP MEANS

Performance Management Characteristics	Wilks' Lambda	F	df1	df2	Sig.
Our unit's business strategy is well defined	.997	.271	3	296	.846
Our unit's business strategy is well understood by employees	.989	1.096	3	296	.011
Our unit's business strategy is not influenced by corporate strategy	.997	.326	3	296	.806
Our business unit's performance measurement system is derived from the unit's business strategy	.998	.204	3	296	.894
We review and reassess the measures used by our performance measurement system whenever our unit's business strategy changes	.995	.504	3	296	.680
Our performance measurement system has measures that are linked through driver-outcome relationships	.985	1.482	3	296	.012
Our business unit understands the potential driver-outcome relationships among individual measures	.983	1.701	3	296	.007
Deviations from expected or planned results causes the business unit's management to question the unit's business strategy	.983	1.668	3	296	.004
Our business unit's senior management team was involved in the development and implementation of the unit's performance measurement system	.987	1.326	3	296	.266
Our business unit's budgeting system is linked to the performance measurement system	.994	.558	3	296	.013

Source: Primary & Computed Data

TABLE - 3: EIGEN VALUES

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.448	79.80	79.80	.893
2	.075	13.30	93.10	.264
3	.039	6.90	100.00	.193

Source: Primary & Computed Data

#### STANDARDIZED CANONICAL DISCRIMINANT FUNCTION COEFFICIENTS

The standardized coefficients for the discriminant function were calculated and the results are presented in Table 4.

TABLE - 4: STANDARDIZED CANONICAL DISCRIMINANT FUNCTION COEFFICIENTS

Performance Management Characteristics	Function 1	Function 2	Function 3
Our unit's business strategy is well defined	-.005	.107	.016
Our unit's business strategy is well understood by employees	.490	-.326	.526
Our unit's business strategy is not influenced by corporate strategy	.117	.340	-.224
Our business unit's performance measurement system is derived from the unit's business strategy	.122	.223	-.366
We review and reassess the measures used by our performance measurement system whenever our unit's business strategy changes	.135	.392	-.457
Our performance measurement system has measures that are linked through driver-outcome relationships	.492	.298	.636
Our business unit understands the potential driver-outcome relationships among individual measures	.530	.666	.184
Deviations from expected or planned results causes the business unit's management to question the unit's business strategy	.657	.152	-.019
Our business unit's senior management team was involved in the development and implementation of the unit's performance measurement system	-.396	.090	.222
Our business unit's budgeting system is linked to the performance measurement system	-.397	-.020	-.137

Source: Primary & Computed Data

The discriminant function coefficients are used for calculating the discriminant score for each case in particular.

Taking into the account that the first function has the highest discriminating power, the first discriminant function is:

$$Z = -0.005Z_1 + 0.490 Z_2 + 0.117 Z_3 + 0.122Z_4 + 0.135Z_5 + 0.492 Z_6 + 0.530Z_7 + 0.657Z_8 - 0.399Z_9 - 0.397 Z_{10}$$

The  $Z_1$  to  $Z_{10}$  are standardized  $X_1$  to  $X_{10}$  variables.

The size of the coefficients indicates unit's business strategy is well understood by employees, performance measurement system has measures that are linked through driver-outcome relationships, business unit understands the potential driver-outcome relationships among individual measures and deviations from expected or planned results causes the business unit's management to question the unit's business strategy discriminate best among four functional areas.

#### STRUCTURE MATRIX

The structure matrix coefficients are presented in Table 5. From the table, the results indicate the correlation between each predictor measures and the discriminant function.

For the first discriminant function, it can be seen that correlation coefficients have high values for four measures viz., unit's business strategy is well understood by employees, performance measurement system has measures that are linked through driver-outcome relationships, business unit understands the potential driver-outcome relationships among individual measures and deviations from expected or planned results causes the business unit's management to question the unit's business strategy which means that these measures are strongly correlated with the first function. These measures would probably characterize best division of functional areas.

TABLE - 5: STRUCTURE MATRIX

Performance Management Characteristics	Function		
	1	2	3
Our unit's business strategy is well understood by employees	-.471*	.349	.023
Our performance measurement system has measures that are linked through driver-outcome relationships	.442*	.100	.238
Our business unit understands the potential driver-outcome relationships among individual measures	-.350*	.165	.087
Deviations from expected or planned results causes the business unit's management to question the unit's business strategy	.339*	.126	-.022
Our unit's business strategy is well defined	.289	.321*	-.202
Our business unit's senior management team was involved in the development and implementation of the unit's performance measurement system	.232	.286*	.183
Our business unit's budgeting system is linked to the performance measurement system	.202	.283*	-.093
Our unit's business strategy is not influenced by corporate strategy	-.144	.348	.304*
Our business unit's performance measurement system is derived from the unit's business strategy	.127	-.093	.309*
We review and reassess the measures used by our performance measurement system whenever our unit's business strategy changes	.070	.211	-.303*

Note: \* indicates largest absolute correlation between measure and discriminant function

Source: Primary & Computed Data

For the second function, unit's business strategy is well defined, business unit's senior management team was involved in the development and implementation of the unit's performance measurement system and business unit's budgeting system is linked to the performance measurement system are strongly correlated. These measures would also probably characterize best division of functional areas.

For the third function, unit's business strategy is not influenced by corporate strategy, business unit's performance measurement system is derived from the unit's business strategy and they review and reassess the measures used by our performance measurement system whenever our unit's business strategy changes are strongly correlated. These measures would also probably characterize best division of functional areas.

#### EFFICIENCY OF DISCRIMINANT FUNCTION

The efficiency of discriminate function is presented in Table 6. Based on the discriminant function, 89.67 per cent of the measures have been correctly classified.

TABLE – 6: EFFICIENCY OF DISCRIMINANT FUNCTION

Functional Area	Predicted Group Membership				
	Finance	Human Resource	Production	Marketing	Total
Count					
Finance	8	1	1	1	11
Human Resource	2	17	1	1	21
Production	3	4	141	5	153
Marketing	3	5	4	103	115
%					
Finance	72.73	9.09	9.09	9.09	100.00
Human Resource	9.52	80.96	4.76	4.76	100.00
Production	1.96	2.61	92.16	3.27	100.00
Marketing	2.61	4.35	3.48	89.56	100.00

Note: 89.67 % of original grouped cases correctly classified

Source: Primary & Computed Data

#### CONCLUSION AND RECOMMENDATIONS

The foregoing analysis indicates that majority of the employees are males and half of them belong to the functional area of production. It is clear that more than half of the employees belong to the age group of 26-30 years and more than one third of employees belong to the income group of Rs. 35001-40000. Nearly one third of employees are M.Tech graduates and more than two-third of employees have the total experience of less than three years.

The discriminant analysis shows that unit's business strategy is well understood by employees, performance measurement system has measures that are linked through driver-outcome relationships, business unit understands the potential driver-outcome relationships among individual measures and deviations from expected or planned results causes the business unit's management to question the unit's business strategy discriminate best among four functional areas.

To understand value drivers, managers must have in place performance measurement systems designed to capture information on all aspects of the business, not just the financial results. When managers are faced with multiple tasks, their behavior will differ depending on whether the performance measurement system adopts a financial measure or includes mixed measures.

Applying the implementation process, the dynamic changes and uncertainty environment are emerged. Some conflicts and complexity environment emerging force the stakeholders to produce some changing decision making or other alternatives ways to ensure the "right" decision.

The strong leadership is paramount in creating a positive organizational climate for nurturing performance improvements. Senior management leadership is vital throughout the performance measurement and improvement process. Senior management should frequently review progress and the results of improvement efforts and should have frequent formal and informal meetings with employees and managers to show support for improvement efforts and implementation initiatives.

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**A STUDY ON QUALITY OF WORK LIFE IN TAMILNADU NEWSPRINT AND PAPER LIMITED, KARUR****DR. V. MOHANASUNDARAM****PROFESSOR & HEAD****VIVEKANANDHA INSTITUTE OF ENGINEERING AND TECHNOLOGY FOR WOMEN****TIRUCHENGODE – 637 205****ABSTRACT**

*The purpose of my paper is to gain an insight into current working life policies and practices of employees in TNPL at Karur. The Several factors that influence qualities of work life are safe and healthy working conditions, adequate and fair compensation, opportunities to use and develop human capacities, opportunities for career growth, social relevance of work, social integration in the work force, work and quality of life, constitutionalism in the work place organization and welfare measures QWL provides the balanced relationship among work, non- work and family aspects of life of the human beings. In other words, family life and social life should not be strained by working hours including overtime work, work during inconvenient hours, business travel, transfers, vacations, etc. This paper is based on the information given by the employees in the organization. The data is collected through questionnaire filled by the employees in the organization. This paper will help the organization to measures the quality level maintained in their organization within the departments& surveys as a platform to set standards for the quality of work life prevailing in the organization.*

**KEYWORDS**

Work Life Quality, HRM, Karur.

**INTRODUCTION**

 Quality of Work Life (QWL) has become one of the most important problems and issues in these days in every organisation. Employees are the force that is behind every successful in the organization and no organisation can become successful with the help of technology. The factors that influence the quality of work life are attitude, environment, opportunities for development, nature of job, people, stress, career opportunities, challenging job, growth and development, risk involved and reward.

Quality is no more a specialized word but has become a necessary and a must word for the best survival. In this era, quality of human inputs is the greatest asset to any organization maintaining the quality of study, human inputs rises from maintaining the quality of work life perfectly.

**OVERVIEW OF ORGANISATION**

Tamilnadu Newsprint and Papers Limited was promoted by the Government of Tamilnadu for manufacturing high quality newsprint, writing and printing from Bagasse. Tamilnadu Newsprint and Papers Limited were conceptualized to meet twin objectives. They are Consuming the forest resources and reducing the dependence on import Newsprint. The company was incorporated on **April 16, 1979** under the companies Act as 1956 as public sector under the control of state government. TNPL has been set up at a total cost of **Rs.240 crores**.

TNPL is located at Karur district of Tamilnadu about 400 Kilometers southwest of Chennai. TNPL is acknowledged as the world leader in technology for manufacturing newsprints, printing & papers from Bagasse, pulp mix for newsprint consists of 85% Bagasse & hardwood. It is the most modern mill that exists with unique handling systems, multi fuel boilers, mechanized finishing section and a highly sophisticated laboratory and Research & Development.

**REVIEW OF LITERATURE**

Hackman and Oldham (1976)<sup>1</sup> drew attention to what they described as psychological growth needs as relevant to the consideration of Quality of working life. Several such needs were identified; Skill variety, Task Identity, Task significance, Autonom and Feedback. Mirvis and Lawler(1984)<sup>2</sup> suggested that Quality of working life was associated with satisfaction with wages, hours and working conditions, describing the “basic elements of a good quality of work life” as; safe work environment, equitable wages, equal employment opportunities and opportunities for advancement. Baba and Jamal (1991)<sup>3</sup> listed what they described as typical indicators of quality of working life, including: job satisfaction, job involvement, work role ambiguity, work role conflict, work role overload, job stress, organizational commitment and turn-over intentions. Baba and Jamal explored routinisation of job content, suggesting that this facet should be investigated as part of the concept of quality of working life. Sirgy (2001)<sup>4</sup> et al.; suggested that the key factors in quality of working life are: Need satisfaction based on job requirements, Need satisfaction based on Work environment, Need satisfaction based on Supervisory behavior, Need satisfaction based on Ancillary programmes, Organizational commitment. **Burke (2002)<sup>5</sup> observes** that both women and men prefer working in organisations that support work-life balance. Men appeared to benefit more than women .Men feel more satisfied when they achieve more on the job even at the cost of ignoring the family. On the other hand, women stress that work and family are both equally important and both are the sources of their satisfaction. For them the former is more important. When work does not permit women to take care of their family, they feel unhappy, disappointed and frustrated. They draw tight boundaries between work and family and they do not like one crossing the others. **Morgan (2003)<sup>6</sup>** in his article outline that consequently, a larger part of them have tended to be present at their work place for longer periods of time, thereby reducing the time for which they are available at home. The internet and mobile phones have made it possible for the organizations to keep in constant touch with the employees both during the day and at night. **Yasbek (2004)<sup>7</sup>** in his research work highlights that to a large extent in the IT sector, the employee is expected to be engaged on the job almost at all times. So the traditional distinctions between work-life and family-life have disappeared. Even during selection of employees for an organization, emphasis is placed on the attitudes the person exhibits, more particularly, whether the employee is flexible enough to be available for work at any time. A New Zealand case study (Cochrane et al., 2005) of the implementation in the dairy industry's Whareroa plant of a HPWS know as Manufacturing Excellence (ME) found a mixed set of responses from workers. Most respondents felt they had limited involvement in key decision making, but a majority felt that the workplace had become safer. A majority agreed that the changes had led to the skill level of their job rising and a bigger majority agreed that new training opportunities had been opened up. But there was also a majority disagreement that the system had any impact on their earnings. Gender has an important effect on home working (**Gunkel 2007<sup>8</sup>**) **Bharat (2009)<sup>9</sup>** reviewed that many employees need to work on Saturdays and Sundays too. Moreover, there is a changing pattern in the working hours which is quite different from the standard one, which normally operates from 9 am to 5 pm (Bharat 2009).

**STATEMENT OF THE PROBLEM**

The QWL provides a boost to employees' job satisfaction. The basic nature of the work, the freedom at work and the machineries and tools at work could help the employees in being closely associated with the work. The physical environment of work life, enough lighting air circulation, adequate drinking water and toilet facilities place a true picture in workers instigation of work.

A safe and health working condition and better welfare measures are undoubtedly necessary for a fireless and satisfied work performance. Supervisors are the nearer boss to the workers and a good relationship between them is imperative.

Training is an opportunity area where the worker can utilize for his self development and updating of his work knowledge. Ultimately every effort that managements take for workers and the perseverance of the worker on his physical and mental well being inside the organization will help in maintaining his motivation and satisfaction level which is important for the effective performance of any worker.

### OBJECTIVES OF THE STUDY

1. To know the socio-demographic characteristics of the employees
2. To find the relationship between quality of work life among the respondents
- 3 .To analysis the various dimensions of the QWL
4. To suggest measures for improving quality of work life in the organization

### SIGNIFICANCE OF THE STUDY

QWL denotes all the organizational inputs, which aim at the employee's satisfaction and enhancing organizational effectiveness.

This gives more importance on advance technology and high productivity surpassing the needs and mental states of its employees. This created a negative impact on the working environment among the employees.

Thus it was realized that societal support goes hand in hand with technical innovations. This integration can only be made through quality of work life programmes.

### RESEARCH DESIGN

#### DESCRIPTIVE CUM DIAGNOSTIC

Descriptive study describes the agreement level of quality work life of the respondents, with respects to the various dimensions namely, Adequate and fair compensation, Safe and healthy working conditions, opportunity to use and develop human capacities, opportunity for career growth, social integration in the work force constitutionalism respectively.

Diagnostic study attempts to find out the association between selective socio-demographics characteristics. (Age, sex, department, experience, annual income, educational qualification, type of family) and level of QWL perceived by the respondents. Hence descriptive cum diagnostic research design was adopted.

#### SAMPLING DESIGN

Sample size 100 respondents were taken for the study. More samples were taken from the workers side and rest from executive side. The information required for study was directly collected from the respondents by using questionnaire method as primary source to collect the data. The researcher makes sincere attempts to meet the respondents individually without making disturbance to their concentration at work place.

#### DATA ANALYSIS METHOD

The collected data are converted into tables. To analyze the data, the statistical tools namely t-test, ANOVA, Chi-square test, correlation, were used.

Giving scores to each response as 1,2,3,4 & 5 measured the perceptions of the workers. As instructed in the standard scale, 1- Strongly agree, 2- Agree, 3- Undecided, 4- Disagree, 5- Strongly disagree.

#### LIMITATIONS OF THE STUDY

1. Respondents in equal importance from all departments or with respect to the number of workers in each department cannot be taken due to the non availability, willingness and free time of the skilled workers.
2. Only few determinants of QWL are taken for the research analysis.

#### RESEARCH HYPOTHESIS

##### Hypothesis 1:

Ho: There is no significant difference between the respondent's ages with regard to various dimensions of Quality of Work Life

H1: There is a significant difference between the respondent's ages with regard to various dimensions of Quality of Work Life

##### Hypothesis 2:

Ho: There is no significant difference between the respondent's departments with regard to various dimensions of Quality of Work Life

H1: There is a significant difference between the respondent's departments with regard to various dimensions of Quality of Work Life

##### Hypothesis 3:

Ho: There is no significant difference between the respondent's total years of experience with regard to various dimensions of Quality of Work Life.

H1: There is a significant difference between the respondent's total years of experience with regard to various dimensions of Quality of Work Life.

##### Hypothesis 4:

Ho: There is a no significant difference between the respondent's educational qualifications with regard to various dimensions of Quality of Work Life

H1: There is a significant difference between the respondent's educational qualifications with regard to various dimensions of Quality of Work

**RESULTS****DISTRIBUTION OF RESPONDENTS BY VARIOUS DIMENSIONS OF QUALITY OF WORK LIFE**

Sl. No.	Various dimensions of quality of work life	No.of respondents	Percentage %
1	<b>Safe &amp; health condition</b>		
	Low	40.0	40.0
	High	60.0	60.0
2	<b>Adequate &amp; fair compensation</b>		
	Low	25.0	25.0
	High	75.0	75.0
3	<b>Opportunity to use and develop human capacities</b>		
	Low	47.5	47.5
	High	52.5	52.5
	<b>Opportunity to career growth</b>		
4	Low	30.0	30.0
	High	70.0	70.0
	<b>Social relevance of work</b>		
5	Low	45.0	45.0
	High	55.0	55.0
	<b>Social integration in the work force</b>		
6	Low	40.0	40.0
	High	60.0	60.0
	<b>Work and quality of life</b>		
7	Low	30.0	30.0
	High	70.0	70.0
8	<b>Constitutionalism in the work organization</b>		
	Low	47.5	47.5
	High	52.5	52.5
9	<b>Welfare measures</b>		
	Low	50.0	50.0
	High	50.0	50.0
	<b>Overall</b>		
10	Low	47.5	47.5
	High	52.5	52.5

From the above table it is evident that for Safe and Health working conditions, the score is 60% and 40%, for Adequate and Fair Compensation, the score is 75% and 25% , for Opportunity to use and Develop Human Capacities, the score is 53% and 47%, Opportunity to Career growth, the score is 70% and 30%, for Social relevance of work, the score is 55% and 45%, for Social integration in the Work Force, the score is 60% and 40% for, for Work and Quality of Life, the score is 70% and 30%, for constitutionalism in the work Organization, the score is 53% and 48% for Welfare Measures, the score is 50% and 50% , for Overall, the score is 52% and 48% respectively.



## ONE-WAY ANALYSIS OF VARIANCE AMONG VARIOUS EDUCATIONAL QUALIFICATIONS OF THE RESPONDENTS WITH REGARD TO VARIOUS DIMENSIONS OF QUALITY OF WORK LIFE

Sl. No.	Source	Df	SS	MS	$\bar{X}$	Statistical Inference.
1	<b>Safe &amp; Healthy working condition</b>					
	Between groups	3	127.661	42.554	G1= 24.000	F = 4.039
	Within groups	36	379.314	10.537	G2= 23.214	P < 0.05
					G3= 19.300	Significant
2	<b>Adequate and compensation</b>				G4= 22.142	
	Between groups	3	9.638	3.213	G1 = 8.444	F = 1.693
	Within groups	36	68.337	1.898	G2= 7.285	P > 0.05
	<b>Opportunity to use &amp;</b>				G3= 7.400	Not
	<b>develop human capacities</b>				G4= 8.142	Significant
3	Between groups	3	99.677	33.226	G1 = 28.777	F = 1.632
	Within groups	36	733.098	20.364	G2= 24.857	P > 0.05
					G3= 27.600	Not
					G4= 27.714	Significant
4	<b>Opportunity for career growth</b>				G1= 21.555	F = 1.192
	Between groups	3	26.367	8.789	G2= 19.571	P > 0.05
	Within groups	36	265.408	7.372	G3= 20.100	Not
					G4= 21.142	Significant
5	<b>Social relevance of work</b>					
	Between groups	3	20.391	6.797	G1 = 15.222	F = 1.665
	Within groups	36	146.984	4.083	G2= 13.928	P > 0.05
					G3= 15.500	Not
					G4= 14.000	Significant
6	<b>Social integration in the work force</b>				G1=20.888	F = 3.621
	Between groups	3	81.225	27.075	G2= 17.214	P < 0.05
	Within groups	36	269.175	7.477	G3= 18.500	Significant
					G4= 19.714	
7	<b>Work and quality of life</b>					
	Between groups	3	26.192	8.731	G1= 19.555	F = 0.990
	Within groups	36	317.408	8.817	G2= 18.571	P > 0.05
					G3= 17.900	Not
					G4= 20.142	Significant
8	<b>Constitutionalism in the work organization</b>					
	Between groups	3	4.589	1.530	G1= 19.000	F = 0.200
	Within groups	36	275.186	7.644	G2= 18.428	P > 0.05
					G3= 18.100	Not
					G4= 18.142	Significant
9	<b>Welfare measures</b>					
	Between groups	3	50.514	16.838	G1= 20.000	F = 2.614
	Within groups	36	231.886	6.441	G2= 17.571	P > 0.05
					G3= 17.200	Not
					G4= 19.142	Significant
10	<b>Overall</b>					
	Between groups	3	1897.83	632.61	G1=177.444	F = 1.986
	Within groups	36	11469.2	318.59	G2=160.642	P > 0.05
					G3=161.600	Not
					G4=170.285	Significant

G1 = HSC G2 = ITI / diploma G3 = Graduates

4= Post Graduates / Others

From the above table it is evident that, Adequate and Fair Compensation, Opportunity to use and develop human capacities, Opportunity for career growth, Social relevance of Work, Work and Quality of Life, Constitutionalism in the Work Organization, Welfare Measures are found to be non-significant in nature. Whereas Safe and Healthy working condition and Social Integration in the work Force is found to be significant in nature

## ASSOCIATION BETWEEN DEPARTMENT OF THE RESPONDENTS AND VARIOUS DIMENSIONS OF QUALITY OF WORK LIFE

Sl. No.	Department	Various Dimensions of Quality of work life		Statistical Inference.
		Low	High	
1	<b>Safe &amp; Healthy working condition</b>	n :40	n :60	$\chi^2 = 4.746$
	Production	30	40	df = 2
	Administration	5	18	$P > 0.05$
	Quality Control	5	2	Not Significant
2	<b>Adequate and compensation</b>	n :25	n :75	$\chi^2 = 2.703$
	Production	16	45	df = 2
	Administration	0	20	$P > 0.05$
	Quality Control	9	10	Not Significant
3	<b>Opportunity to use &amp; develop human capacities</b>	n :40	n :60	$\chi^2 = 1.739$
	Production	30	40	df = 2
	Administration	6	8	$P > 0.05$
	Quality Control	2	12	Not Significant
4	<b>Opportunity for career growth</b>	n :36	n :64	$\chi^2 = 3.519$
	Production	33	54	df = 2
	Administration	3	8	$P > 0.05$
	Quality Control	0	2	Not Significant
5	<b>Social relevance of work</b>	n :36	n :64	$\chi^2 = 0.111$
	Production	33	54	df = 2
	Administration	3	8	$P > 0.05$
	Quality Control	0	2	Not Significant
6	<b>Social integration in the work force</b>	n :40	n :60	$\chi^2 = 0.134$
	Production	30	40	df = 2
	Administration	5	18	$P > 0.05$
	Quality Control	5	2	Not Significant
7	<b>work and quality of life</b>	n :36	n :64	$\chi^2 = 1.024$
	Production	33	54	df = 2
	Administration	3	8	$P > 0.05$
	Quality Control	0	2	Not Significant
8	<b>Constitutionalism in the work organization</b>	n :38	n :62	$\chi^2 = 0.803$
	Production	30	42	df = 2
	Administration	6	18	$P > 0.05$
	Quality Control	2	2	Not Significant
9	<b>Welfare measures</b>	n :50	n :50	$\chi^2 = 0.901$
	Production	30	28	df = 2
	Administration	10	8	$P > 0.05$
	Quality Control	10	14	Not Significant
10	<b>overall</b>	n :38	n :62	$\chi^2 = 3.085$
	Production	30	42	df = 2
	Administration	6	18	$P > 0.05$
	Quality Control	2	2	Not Significant

From the above table it is evident that Safe and Healthy Working

Condition, Adequate and Fair Compensation, Opportunity to use and develop human capacities, Opportunity for career growth, Social relevance of Work, Social Integration in the Work Force, Work and Quality of Life, Constitutionalism in the Work Organization, Welfare Measures are found to be non-significant in nature.

## KARL PEARSON'S CO-EFFICIENT OF CORRELATION BETWEEN THE RESPONDENT'S AGE AND VARIOUS DIMENSIONS OF QUALITY OF WORK LIFE

Sl. No.	Variable	Correlation value	Statistical Inference.
1	Age and safe & healthy working condition	-0.018	$P > 0.05$
2	Age and adequate compensation	-0.006	Not Significant
3	Age and opportunity to use and develop human capacities	0.053	$P > 0.05$
4	Age and opportunity for career growth	-0.043	Not Significant
5	Age and social relevance of work	-0.040	$P > 0.05$
6	Age and social integration in the work force	-0.062	Not Significant
7	Age and work and quality of life	-0.010	$P > 0.05$
8	Age and constitutionalism in the work organization	0.076	Not Significant
9	Age and welfare measures	-0.053	$P > 0.05$
10	Age and overall	-0.010	Not Significant

From the above table it is evident that Safe and Health Working Condition, Adequate and Fair Compensation, Opportunity to use and develop human capacities, Opportunity for career growth, Social relevance of Work, Social Integration in the Work Force, Work and Quality of Life, Constitutionalism in the Work Organization, Welfare Measures are found to be non-significant in nature

KARL PEARSON'S CO-EFFICIENT OF CORRELATION BETWEEN THE RESPONDENT'S TOTAL EXPERIENCE AND VARIOUS DIMENSIONS OF QUALITY OF WORK LIFE

Sl. No.	Variable	Correlation value	Statistical Inference.
1	Total experience and safe & healthy working condition	-0.014	P > 0.05 Not Significant
2	Total experience and adequate & fair compensation	-0.070	P > 0.05 Not Significant
3	Total experience and opportunity to use and develop human capacities	0.033	P > 0.05 Not Significant
4	Total experience and opportunity for career growth	-0.021	P > 0.05 Not Significant
5	Total experience and social relevance of work	0.036	P > 0.05 Not Significant
6	Total experience and social integration in the work force	8.014	P > 0.05 Not Significant
7	Total experience and work and quality of life	0.012	P > 0.05 Not Significant
8	Total experience and constitutionalism in and the work organization	0.108	P > 0.05 Not Significant
9	Total experience and welfare measures	0.056	P > 0.05 Not Significant
10	Total experience and overall	0.029	P > 0.05 Not Significant

From the above table it is evident that Safe and Health Working Condition, Adequate and Fair Compensation, Opportunity to use and develop human capacities, Opportunity for career growth, Social relevance of Work, Social Integration in the Work Force, Work and Quality of Life, Constitutionalism in the Work Organization, Welfare Measures are found to be non-significant in nature.

### IMPORTANT FINDINGS

To begin with, the profiles of respondents were reviewed to set the background for the study. The collected data were analyzed with the help of appropriate statistical tools. The results of the analysis are summarized below:

In total, 60% of the respondents are in male and 40% of them are in Female, 38% of the respondents are above 45 years which is followed by 72% of the respondents work in production department, 15 % of them are working in administration department, and 13% of them are working in quality control department respectively.

35% of the respondents are in executive designation, and 43% of the respondents are between 10 - 15 years of experience which is followed by 60% of the respondents. In total 60% of the respondents have strongly agree about Safe and Health Working Condition followed by 75% of the respondents have strongly agree that organization pay adequate and fair compensation to the employees working in the organization.

47% of the respondents have not agree that the employees are not using the Opportunity to Use and Develop Human Capacities but 70% of the respondents are strongly agree for Opportunity to career growth respectively. Among the respondents 55% of the respondents are strongly agree on social relevance of work respectively whereas with regard to social Integration in the work 40 % of the respondents are undecided.

### CONCLUSION

In many organizations QWL is made compulsory and it is also fast growing movement in India. Most of the public and private sector organization's have started to realize the importance of this concept, as its has various merits like Safety measures, Quality of work and the Satisfaction of the employees respectively. The study is aimed at the level of respondents with respect to various dimensions of QWL concept. The working environment of the organization is very peaceful and more cheerful with less noise and dust with proper shelter. The organization is following strictly adhering to use the safety equipments but providing get-together among the workers the awareness of good relationship can be improved more. However the organization required to upgrade their skills in other respective areas also.

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**JANTAR MANTAR ON 'UNESCO' WORLD HERITAGE LIST UNIQUE SELLING PROPOSITION**

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**ABSTRACT**

*Tourism is one of the fastest growing business in the world. India also has the potential to become the topmost destination in the world with wonders and heritage tourism. The study focus on heritage tourism pointing on Jantar-Mantar, Jaipur, Rajasthan, India which is now on UNESCO World Heritage List playing as Unique Selling Proposition where no other promotions existing in First World Countries and the frequency of promotion in India is also very low. Study also reveals the fact that factors like accommodation, tourist operators, guide, cooperation from public, knowledge of foreign language, information centres, e-facility, security issues, accessibility and cleanliness helps targeting foreign visitors.*

**KEYWORDS**

Jantar Mantar, World Heritage List, USP.

**INTRODUCTION**

Tourism is a smokeless industry and is one of the fast growing businesses world over. World Travel and Tourism Council (WTTC) has predicted. That India has the potential to become the number one tourist destination in the world. With the demand growing at 10 per cent per annum, India's tourism industry is thriving due to an increase in foreign tourist's arrivals and greater than before travel by Indians to domestic and abroad destinations. The visitors are pouring in from all over the world: Europe, Africa, Southeast Asia and Australia. At the same time, the number of Indians traveling has also increased. Cultural attractions play an important role in tourism at all levels, from the global highlights of world culture to attractions that underpin local identities. (Richards, 1996). Heritage tourism involves visiting historical or industrial sites that may include old canals, railways, battlegrounds, etc. The overall purpose is to gain an appreciation of the past. It also refers to the marketing of a location to members of a diaspora who have distant family roots there. Cultural heritage tourism is based on the mosaic of places, traditions, art forms, celebrations and experiences that portray this nation and its people, reflecting the diversity and character of the India.

The Jantar Mantar is a collection of architectural astronomical instruments, built by Maharaja (King) Jai Singh II at his then new capital of Jaipur between 1727 and 1734. It is modeled after the one that he had built for him at the Mughal capital of Delhi. He had constructed a total of five such facilities at different locations, including the ones at Delhi and Jaipur. The Jaipur observatory is the largest and best preserved of these. It has been inscribed on the UNESCO World Heritage List as "an expression of the astronomical skills and cosmological concepts of the court of a scholarly prince at the end of the Mughal period". Early restoration work was undertaken under the supervision of Major Arthur Garrett, a keen amateur astronomer, during his appointment as Assistant State Engineer for the Jaipur District.

The observatory consists of fourteen major geometric devices for measuring time, predicting eclipses, tracking stars' location as the earth orbits around the sun, ascertaining the declinations of planets, and determining the celestial altitudes and related ephemerides. Each is a fixed and 'focused' tool. The Samrat Yantra, the largest instrument, is 90 feet (27 m) high, its shadow carefully plotted to tell the time of day. Its face is angled at 27 degrees, the latitude of Jaipur. The Hindu chhatri (small cupola) on top is used as a platform for announcing eclipses and the arrival of monsoons.

Built from local stone and marble, each instrument carries an astronomical scale, generally marked on the marble inner lining. Bronze tablets, all extraordinarily accurate, were also employed. Thoroughly restored in 1901, the Jantar Mantar was declared a national monument in 1948. An excursion through Jai Singh's Jantar is a unique experience of walking through solid geometry and encountering a collective astronomical system designed to probe the heavens.

The instruments are in most cases huge structures. The scale to which they have been built has been alleged to increase their accuracy. However, the penumbra of the sun can be as wide as 30 mm, making the 1mm increments of the Samrat Yantra sundial devoid of any practical significance. Additionally, the masons constructing the instruments had insufficient experience with construction of this scale, and subsidence of the foundations has subsequently misaligned them. The *samrat yantra*, for instance, which is a sundial, can be used to tell the time to an accuracy of about two seconds in Jaipur local time. The Giant Sundial, known as the Samrat Yantra (The Supreme Instrument) is the world's largest sundial, standing 27 meters tall. Its shadow moves visibly at 1 mm per second, or roughly a hand's breadth (6 cm) every minute, which can be a profound experience.

Today the observatory is a popular tourist attraction. However, local astronomers still use it to predict the weather for farmers, although their authority is becoming increasingly questionable. Students of astronomy and Vedic astrology are required to take some of their lessons at the observatory, and it can be said that the observatory is the single most representative work of Vedic thought that still survives, apart from the texts. Many of the smaller instruments display remarkable innovation in architectural design and its relation to function, for instance - the Ram Yantra.

**TOURISM IN RAJASTHAN**

India is a very vast country in its diversity and geographical area. Every state has tourism destinations of its kind. Under such changing and challenging environment, Rajasthan has to protect and maintain its heritage USP and at the same time, it has to market itself to foreign and domestic tourists so well that



the number of tourists should increase with the per capita spending by them. India is likely to generate about US \$ 275.5 billion in 2018 (expected annual growth rate is 10%).

Rajasthan is the largest state of the Republic of India by area. It encompasses most of the area of the large, inhospitable Great Indian Desert (Thar Desert). Rajasthan covers an area of 342,239 km<sup>2</sup>, which is 10.41% of the total area of the country.

Tourism in Rajasthan is one of the most significant sector after agriculture and industry. Tourism alone contributes to almost 15% of the state domestic product. Rajasthan contributes almost 12% towards the foreign tourist arrival in the country.

## LITERATURE REVIEW

Heath, E.; Wall, G. in their book "Marketing tourism destinations: a strategic planning approach", mentioned that Tourism is an economic, environmental and social force of global proportions. Successive changes in transport technology, including the steamboat, railway, automobile and plane, coupled with a myriad of socioeconomic transformations, have enabled growing numbers of people to travel internationally. Although a predominantly economic perspective is adopted, it is recognized that tourism is more than an economic phenomenon. Tourism is an essential component of high-quality lifestyles for many people; it is a dominant user of land and water in many parts of the world; and it also has profound implications for the lives and cultures of people living in destination areas. The book is written predominantly with regional and community scales in mind and from the perspective of an organization responsible for the coordination, planning, and marketing of tourism. It is directed at the strategic rather than the tactical level of planning and marketing. Thus, the emphasis is on broad approaches and general principles rather than specific analytical techniques or advertising and sale procedures.

Prentice, R. in their book "Tourism and Heritage attractions", mentioned that Cultural and historical attractions are principal factors generating tourism trips and this has spurred the growth of a large heritage industry. However, the character and behaviour of heritage tourists and their social and economic impact on their destinations are as yet little understood. The book consists of a detailed analysis of heritage tourism which examines the way the benefits gained from visits to attractions are consumed. This exploration into the nature of the heritage 'product' calls into question the terminology used to define this aspect of the tourism industry, and it is argued that it is all too easily regarded as a homogenous industry when in fact it covers diverse attractions which serve different tourism and leisure markets. A more sensitive approach to such questions as the promotion of these attractions, their retailing role, their sustainability and their educational impact is needed within the industry. It is shown that the demands of tourists, their socioeconomic background and the decision-making processes involved all have implications for the management and marketing of tourism. The book analyses the benefits that tourists seek when visiting heritage attractions and measures their reactions to the presentation of such sites, asking how informed tourists are and what sort of promotion they respond to. By setting up a model of the heritage user, an attempt is made to identify key features which should influence tourist operators seeking to understand the behaviour of their tourist visitor and respond effectively.

Brian Garrod and Alan Fyall, in their research "Managing heritage tourism", investigated the major constraints and imperatives relating to the long-term management of built heritage attractions. Related issues discussed were: the fundamental mission of heritage attractions; the factors which impact upon decisions relating to charging for tourist entry; and the perceptions of heritage managers as to the respective roles of such attractions and public agencies in funding tourism management and heritage conservation programs.

Ranjan Bandyopadhyay, Duarte B. Morais and Garry Chick in their research "Religion and identity in India's heritage tourism" mentioned that the growing worth of heritage in the renegotiation and dissemination of identities has intensified conflicts over whose voice dominates heritage tourism representations. Researcher of the study compares the way India's heritage is represented by the Indian government, by the domestic tourism trade media and by the popular tourism media. The findings reveal that India is consistently represented as an ethnically diverse nation in which Hinduism preceded and prevailed over all other ethnicities/religions; a portrayal that consolidates the state's secular nationalist narrative. Furthermore, the trade and popular media emphasize nostalgic experiences of a sanitized colonial history while the government emphasizes accounts of resistance against colonial powers and of suffering due to Muslim atrocities.

Buhalis (2000) said that destination branding fails to address the unique needs and limitations of a destination as well as its particular geographical, environmental and socio-cultural characteristics. According to him, a destination can be seen as a perceptual concept that can be interpreted subjectively by tourists depending on their travel itinerary, culture, demographic factors, etc.

Chon (1992) suggested that marketers must focus on functional and symbolic attributes of the destination while promoting it. He said that the travelers have certain expectations about a destination and are based on word of mouth, previous experience, advertising, etc. He also suggested that there should be some congruity between the self image and image of the destination

## OBJECTIVES OF THE STUDY

Aim of the study is to analyze whether Jantar Mantar acts as an USP for heritage tourism in Jaipur, Rajasthan and creates opportunities for further increase in foreign tourists or not.

Following Objectives have been shortlisted for the study :

- To find out why foreign tourist choose to visit Jantar Mantar.
- To find out the attributes which attract them the most.
- To find the level of promotions within and outside the country.
- To identify the areas having scope for betterment of Jantar Mantar as a tourist destination.

## RESEARCH METHODOLOGY

An exploratory pilot testing was conducted on 100 foreign tourists to identify the factors which would be considered and used in structuring the final questionnaire. This questionnaire was used as a tool to collect data from 600 tourists for the final descriptive research. In order to test the authenticity of effectiveness of factors proving the objectives, a 'Chi Square Test' was run.

## HYPOTHESIS

### HYPOTHESIS I

H0 : There is no significant relationship between reasons to choose Jantar Mantar.

H1 : There is a significant relationship.

### HYPOTHESIS II

H0 : There is no significant relationship between areas identified by the tourists and the scope for improvement to make it a better tourist destination.

H1 : There is a significant relationship.

## ANALYSIS AND INTERPRETATION

Researcher tested the Hypothesis to prove the objectives of the study:

Testing the first set of hypothesis, researcher identified that there is a significant relationship between the factors identified and decision to visit Jantar Mantar. Factors like JM as a heritage zone, JM as a pure instrumental for various predictions, JM as an economic preference, JM as a place offering tranquility, are significantly related to make the decision regarding visit to Jantar Mantar and tested running a chi-square test as shown below. Test rejects the null hypothesis claiming no significant relationship between the variables given.

**HYPOTHESIS I**

**H0 :** There is no significant relationship between reasons to choose Jantar Mantar.

**H1 :** There is a significant relationship.

Observed Frequencies				
	L	M	H	Total
A	110	130	300	540
B	70	130	355	555
C	150	125	250	525
D	180	200	140	520
E	70	110	350	530
Total	580	695	1395	2670
Expected Frequencies				
	L	M	H	Total
A	117.303	140.561	282.134	540
B	120.561	144.466	289.971	555
C	114.044	136.657	274.297	525
D	112.958	135.355	271.685	520
E	115.131	137.958	276.910	530
Total	580	695	1395	2670

Level of Significance – 5%

Degree of Freedom – 8

**TEST RESULTS**

**Chi Square Value – 231.208**

**Critical value – 15.507**

**REJECT THE NULL HYPOTHESIS.**

Further, testing the second set of hypothesis, researcher identified that there is a significant relationship between the factors identified and the scope for improvement to make Jantar Mantar a better heritage destination. Factors like accommodation, tourist operators, guide, cooperation from public, knowledge of foreign language, information centres, e-facility, security issues, accessibility and cleanliness are significantly related and tested running a chi-square test as shown below. Test rejects the null hypothesis claiming no significant relationship between the variables given.

**HYPOTHESIS II**

**H0 :** There is no significant relationship between the identified factors by the tourists and the scope to make it a better heritage destination for the tourists.

**H1 :** There is a significant relationship.

Observed Frequencies				
	L	M	H	Total
A	208	198	120	530
B	199	187	92	480
C	172	162	140	475
D	208	173	130	510
E	205	188	100	495
F	205	183	120	510
G	210	196	94	500
H	224	172	73	470
I	208	181	70	460
J	225	138	137	500
Total	2064	1778	1076	4930

Expected Frequencies				
	L	M	H	Total
A	221.890	191.144	115.675	530
B	200.957	173.111	104.762	480
C	198.864	171.308	103.671	475
D	213.517	183.931	111.310	510
E	207.237	178.521	108.036	495
F	213.517	183.931	111.310	510
G	209.330	180.324	109.127	500
H	196.770	169.505	102.580	470
I	192.584	165.898	100.397	460
J	209.330	180.324	109.127	500
Total	2064	1778	1076	4930

Level of Significance – 5%

Degree of Freedom – 18

**TEST RESULTS**

**Chi Square Value – 72.743**

**Critical value – 28.869**

**REJECT THE NULL HYPOTHESIS.**

Further, researcher also identified that tourists visit Jantar Mantar as it has its significant contribution in city heritage. Almost all the foreign visitors gather information about the place through UNESCO World Heritage List which is working as Unique Selling Proposition for Jantar Mantar. To add, promotions for Jantar Mantar as a city heritage tourist destination is very low and tourists generally come to know about the place via their friends and relatives or from the people they are in touch with. Moreover, likeliness towards the place is high (almost 80%) and they would love to visit the place again.

Additionally, on the basis of percentage analysis, researcher also identified the following points:

- Knowledge of Guide and Tour Operators about the place is one of the most significant factor.
- Street Beggars bother them a lot and sometimes they bothered with the people running transport too.
- Promotion is highly desirable to plot the place in First World countries.
- Tour operators have a very less role in promoting the place.
- Cleanliness too to make it worth visiting.
- Language is the main problem communicating with the foreign visitors which needs to be improved.
- Cheating through general public is one of the factors which is quite disturbing and which needs attention a lot.
- Also, they require a place like cafeteria of international standard where they can sit for a while and relax.

## CONCLUSION AND SUGGESTIONS

The study disclosed many facts. Heritage happens to be the most important factor to attract foreign travelers. Foreign tourists visit Jantar Mantar, to see the collection of architectural astronomical instruments which plays a major role in heritage tourism in Jaipur - Rajasthan, India. The study also reveals the fact that there is no significant promotion of city heritage places within and outside the country except being on UNESCO world heritage list which is a Unique Selling Proposition for Jantar Mantar. Foreign tourists have also suggested that if the place improves on points like cleanliness, behavior of operators, adequate and accurate information, promotion with foreign tour operators, etc., then it can attract a lot more people.

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**XMOWL MODEL: SUPERVISED APPROACH TO TRANSFORM SYNTACTIC MODEL TO SEMANTIC MODEL**

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**ABSTRACT**

*Ontologies are used in the assimilation of information resources by describing machine readable terms and definitions in semantic manner of the information sources. But, creating an ontology is a difficult and time-consuming process, especially in the early stage of extracting key concepts and relations. This paper proposes a method for domain ontology building by extracting ontological knowledge from UML models of existing systems. We compare the OUP based XML model elements with the OWL ones and derive transformation rules between the corresponding model elements. Based on these rules, we define an XSLT document which implements the transformation processes. XSLT document will be based on DOM and XPath. We expect that the proposed method reduce the cost and time for building domain ontologies with the reuse of existing UML models.*

**KEYWORDS**

OWL, Semantic model, UML, XML, XSLT.

**INTRODUCTION**

The Semantic Web allows data to be shared and reused across application, enterprise, and community, boundaries by providing a common framework". (Cayzer, 2004)

Both intelligent agents and human users can view Semantic Web as an expressive, collaborative, and open, information system in the Web. Hence it comes with the following features:

Simple but expressive data model. URI (Uniform Resource Identifier)- based vocabulary and RDF triples are being used in RDF data model to describe the world.

Collaborative publishing. Agents publish data independently using common meta-ontology (i.e. RDFS and OWL) and same RDF graph model.

Open system in web context. Semantic Web data is published throughout the Web. Both URI-based vocabulary and RDF triples are distributed extensible. (Ladner and Petry, 2005)

Syntactic Web emphasize on the current, mostly HTML-based World Wide Web, in order to distinguish it from the Semantic Web, a concept in which web pages carry information that can be read and understood by machines in a systematic way. The term stems from the contrast between syntax, which is the mechanics of a language used to convey information, and semantics, which is the actual meaning of that information. On a syntactic web page, which is any document on the web that does not contain special tagging to convey meaning, meaning is difficult to parse by a computer program.

An example is a site that gives the weather for any city in the world, in HTML form. Even though the site offers dynamic, database-driven information, it is presented in a purely syntactic way. One could imagine a computer program that tried to retrieve this weather information through text parsing or "web scraping". Though it would be possible to do, if the creators of the site ever decide to change around the layout or HTML of the site, the computer program would most likely need to be rewritten in some way. In contrast, if the weather site published its data semantically, the program could retrieve that semantic data, and the site's creators could change the look and feel of the site without affecting that retrieval ability.

Applications of Semantic Web would be more than just browsing of Web pages. For example, consider the task of constructing a list of the computer science courses available in Indian Universities at particular location. This is a complex search task for any user of the current search engine technology but rather simple to complete with a database of courses available in Universities of India. To perform it using the existing search engines, we would have to retrieve all the universities providing these courses in entire India and then search for particular location, and then you will find only the universities not the desired course. In a database, this would be a simple query using a combination of select, join and sort operations.

The solution lies in part with the creation of the Semantic Web (SW). The Semantic Web will act as a Web of machine understandable data for the purpose of easily automating user and computer tasks. Metadata would be used defensibly for this purpose [6]. Metadata is data that describes attributes and properties about other data, such as Web pages. Derived meta-metamodels include Entity Relationship Diagrams, Formal languages, EBNF, Ontology languages, XML Schema, and MOF. The strengths of these languages tend to be in the familiarity and standardization of the original language.

In Semantic Web software agents will be used by computers to scan and interpret information on Web pages. These software agents are the programs which crawl through the Web, searching for relevant information. The semantic web has collection of information called ontologies.

The Unified Modeling Language (UML) has gained widespread acceptance for the development of software systems [2]. UML is used to visualize, specify, construct and document a software system from multiple perspectives. In a distributed development scenario it is important to allow software engineers and customers to exchange, access, review, query and browse UML models.

Due to its wide acceptance in object oriented software developments, researchers find a new way for reusing the already developed UML models to create new generation Web i.e to develop ontologies. Various research have been going on ontology development, our focus is on how ontology can be developed using already existed UML model. So in this paper we are discussing XMOWL model which emphasize on XMI to OWL transformation.

XML-based Metadata Interchange (XMI) is an interchange format for metadata defined in terms of the MOF standard. In addition to supporting the exchange of complete models, XMI supports the exchange of models in differential form. A generic transformation can be configured to generate (via XSLT) a specialized transformation that will be used to transform a UML model. The approach promotes model reuse, speeds up the modeling process and can be used to assure that only predefined semantics (as specialized by an agent) is included in the transformed model [3].

This paper is based on semi-automated approach for transformation of UML model to OWL.

A general usage scenario for such transformations looks like this: A UML class model ci stored in a UML repository. Now a software agent wants to transform ci, to obtain a model ci+1 which expresses the new semantic model. However, suppose completely manual model transformation by an agent is unacceptable - we would like to assure that the semantics contained in ci+1 is understood by a UML model-driven compiler (e.g.a model-based software generator [4]). As a solution to this problem, we half-fabricate a model part (the difference between ci+1 and ci) and represent it as a generic transformation. By configuring a generic transformation, the agent produces an XMI document describing the transformation that has to be applied to obtain the model ci+1.



First section will be on Literature Review and the next section will be on OUP and tools for generating the XMI document from UML model, on XML and XML schemas and third will be based on XSLT document to generate new XML document from XML. And the last section will be based on Ontology OWL creation from XML us

## LITERATURE REVIEW

A variety of different research projects and commercial initiatives have been applying UML for ontology representation. UML can be used directly as an ontology representation or as a graphical front-end for another ontology representation language (e.g., DAML, OWL). UML has been used with a variety of implementations (e.g., Java objects, Open Knowledge Base Connectivity (OKBC)[9]. UML has been applied to a variety of ontology related tasks (e.g., ontology mapping, consistency checking).

Cranefield and Purvis (1999, 2000) have investigated the use of UML class diagrams for representing ontologies and UML object diagrams for representing instance knowledge [9]. A "UML Data Binding" tool for Java (Cranefield, 2001) has been developed to generate Java classes and RDF schemas from a class diagram encoded in the XMI format. In this work, UML is used directly, not as a graphical syntax for another knowledge representation language.

Bergenti and Poggi (Bergenti, 2000) have proposed an approach to agent-oriented software engineering based on the use of UML to model various aspects of a multi-agent system. One of their proposed diagrams is an "ontology diagram", which depicts classes representing agents and domain entity types, and associations representing domain predicates that can be encoded as KIF or FIPA-SL agent message content.

As developing the ontology for semantic web from scratch is time consuming task, so reusability of UML diagrams reduced the cost of ontology development. In this paper I had tried to transform UML class model of already existed class in java application to OWL ontology class.

## OUP (ONTOLOGY UML PROFILE)

UML profile is a concept used for adapting the basic UML constructs to a specific purpose. Essentially, this means introducing new kinds of modeling elements by extending the basic ones, and adding the new elements to the modeler's repertoire of tools. Also, free-form information can be attached to the new modeling elements. The Ontology UML Profile extends UML in a standard way to enable ontology modeling in the widely used UML modeling tools.

The Class is one of the most fundamental concepts in the ODM and the Ontology UML Profile. As we noted in the discussion about the essential concepts of the ODM, there are some differences between the traditional UML Class or the concept of a Class in object-oriented programming languages and an ontology class as it is defined in OWL (owl:Class). Fortunately, we are not trying to adopt UML as a stand-alone ontology language, since that might require changes to the basic concepts of UML (Class and others). We only need to customize UML as a support to the ODM.

## XML

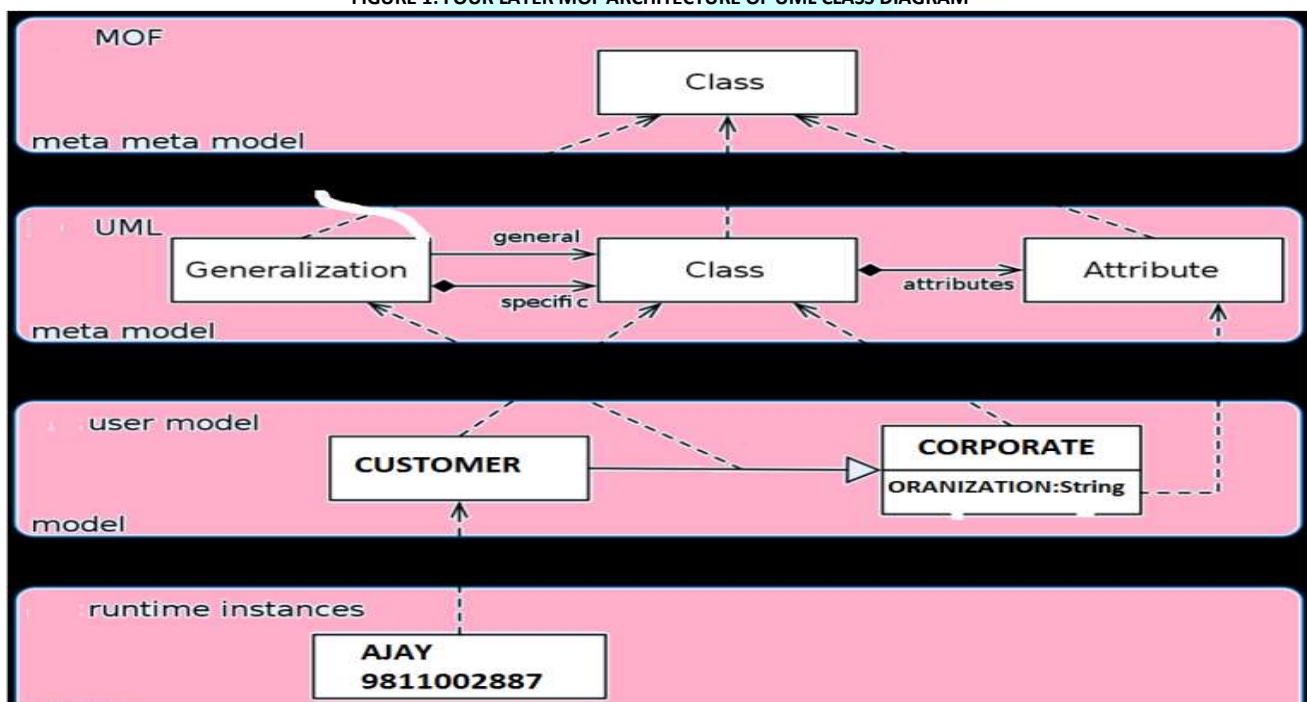
XML has gained ground in becoming a key enabler of these systems in terms of transport of information and commands. XML schemas, which are used to define and constrain the nature of XML exchanged, have consequently come into the limelight. XML has become the de-facto standard for sharing and exchanging information via the web. The prevalence of OMG specifications has motivated analysts to generate UML models for such applications to serve as a PIM[5]. A UML class diagram can be constructed to represent the elements, relationships, and constraints of an XML application visually and then transformed into one or more XML schemas. XML Metadata Interchange (XMI) was designed to enable easy interchange of metadata between modeling tools and can be further used to generate XML DTDs from UML diagrams using a set of conversion

### A. XMI (XML Metadata Interchange)

XMI is a standard which defines how to serialise object instances. Although XML is a very good way to store information in a tree structured way, it is not object oriented. XMI extends XML to make it object oriented.

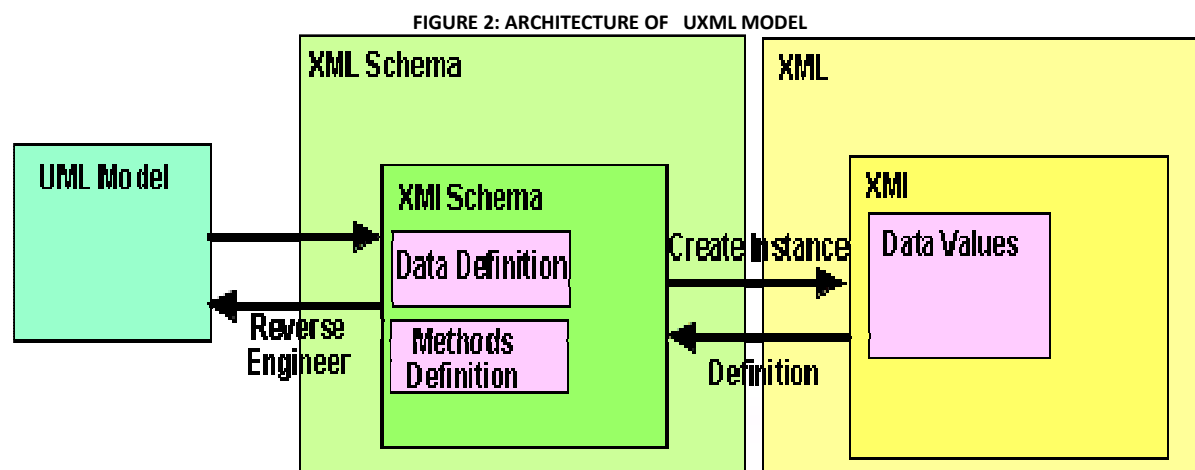
More recent work by the Object Management Group (OMG) has produced the Meta-Object Facility (MOF) and its variants, which promise to unify UML, OWL, and any other modeling language or paradigm (OMG's MOF[8]). UML was born in the software engineering domain. OWL and CL were born in the domain of formal models and logical inference and classification. It is instructive to compare their meta-models. MOF, first and foremost the meta-model of UML, captures four main concepts: 1) classes, 2) associations, 3) datatypes, and 4) packages. OWL models are composed of 1) classes, 2) properties, and 3) instances.

FIGURE 1: FOUR LAYER MOF ARCHITECTURE OF UML CLASS DIAGRAM



### B. Using XMI to store UML Models

We can use XMI to store UML models. XMI is defined for storing object instances; however we can create instances of a meta model (possibly based on the Meta Object Facility (MOF) specification from the Object Management Group (OMG).

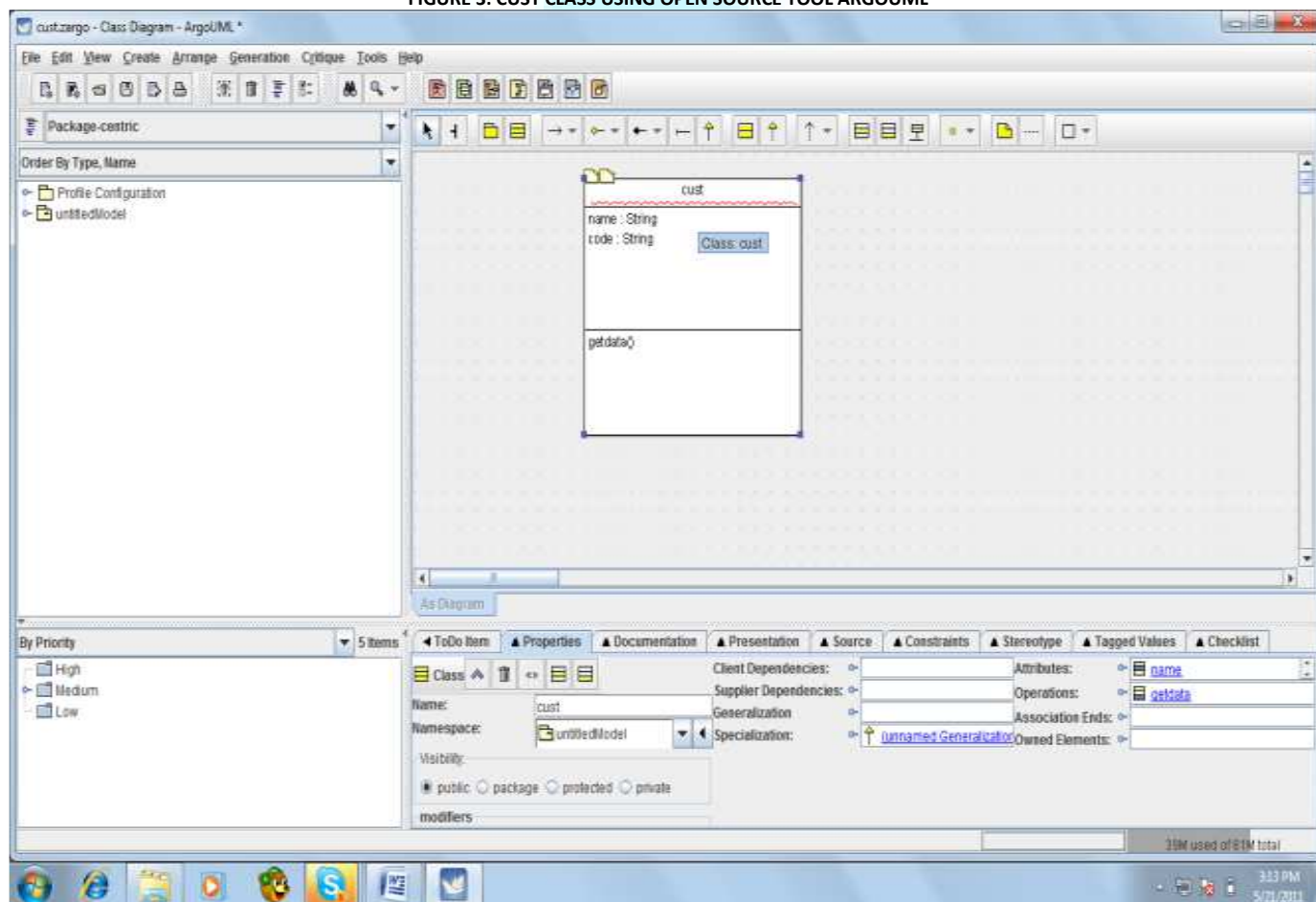


The XMI schema also extends the XML schema so that definitions of objects can be stored. This provides a way to hold a UML model.

We focus only on the class diagrams, since, the XML applications we are addressing are the generation of XML documents from their corresponding schemas and they involve only structure of the application.

I have used open source UML tool for creating UML model diagram. I had created a UML class diagram for Customer class i.e cust class and then saved as .xmi file for the same.

**FIGURE 3: CUST CLASS USING OPEN SOURCE TOOL ARGOUML**



XML dump of the above file is as given below:

```

XML xmi.version = '1.2' xmlns: UML = 'org.omg.xmi.namespace.UML' timestamp = 'Sat May 21 15:27:15 GMT+05:30 2011'>
<XML.header> <XML.documentation>
<XML.exporter>ArgoUML (using Netbeans XMI Writer version 1.0)</XML.exporter>
<XML.exporterVersion>0.32.2(6) revised on $Date: 2010-01-11 22:20:14 +0100 (Mon, 11 Jan 2010) $ </XML.exporterVersion>
</XML.documentation>
<XML.metamodel xmi.name="UML" xmi.version="1.4"/></XML.header>
<XML.content>
<UML: Model xmi.id = '127-0-0-1-5fc8e80a:12f66f0ebfe-8000:0000000000000865'
name = 'untitledModel' isSpecification = 'false' isRoot = 'false' isLeaf = 'false'
XML transformed file for the above XMI is given below:
<?xml version="1.0" encoding="UTF-8" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
<xs:element name="cust" type="cust" />
  
```

```

<xs:complexType name="cust">
<xs:sequence>
<xs:element name="code" type="xs:string" minOccurs="1" maxOccurs="1" />
<xs:element name="name" type="xs:string" minOccurs="1" maxOccurs="1" />
</xs:sequence>
</xs:complexType>
</xs:schema>

```

### C. XML Schema

With XML, the implementation will be an XML schema. The industry generally takes two views on the relationship between the models and the XML schema. Some authors draw a clear line between the design models, typically UML models or entity-relationship models which are supposed to be abstract, and the XML schemas which include lots of implementation details. This distinction promotes a clean separation between the modeling activity and the implementation activity. Modeling is typically done by business analysts, while implementation is the responsibility of technicians.

### D. Ontology

Ontologies play an important role in defining the terminology that agents use in the exchange of knowledge-level messages and therefore the choice of an ontology representation language is a significant issue when designing a multi-agent system[10]. An ontology defines a common set of concepts and terms that are used to describe and represent a domain of knowledge

The Artificial-Intelligence literature contains many contradictory definitions of Ontology. For the purposes of this project an ontology is a formal explicit description of concepts in a domain of discourse (classes (sometimes called concepts)), properties of each concept describing various features and attributes of the concept (slots (sometimes called roles or properties)), and restrictions on slots (facets (called role restrictions)). Together with the classes instances ontology forms the knowledge base (Gruber, 1995). In real terms there is a very fine between where knowledge base starts and Ontology begin. The domain concepts are described by the classes. Most of the Ontologies focus on classes (Noy and McGuinness). For example, a class of persons represents all persons.

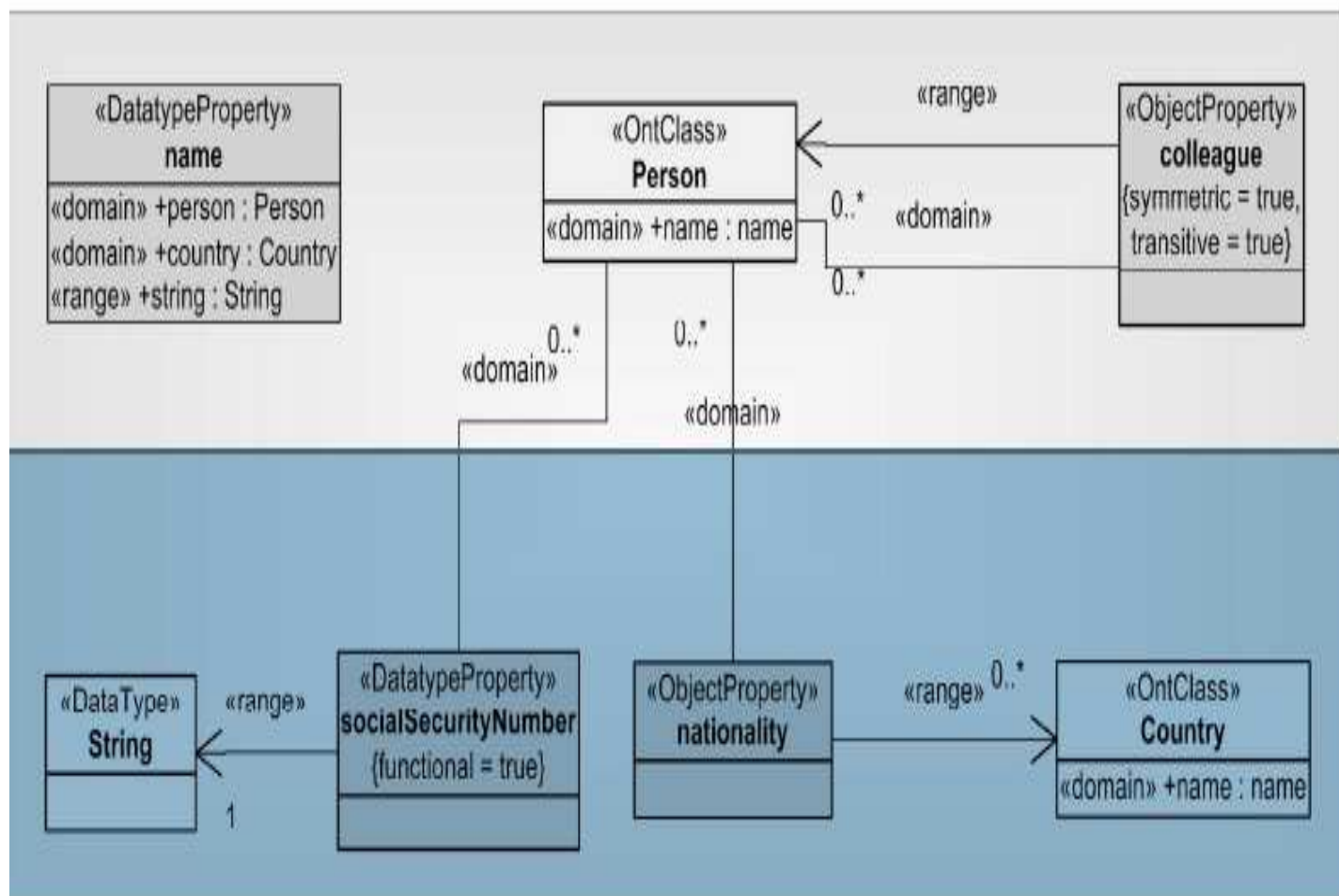
Description logic based ontology languages such as OWL, however, are usually defined in terms of an abstract (text-based) syntax and most care is spent on the formal semantics. As I had discussed earlier that OWL structure is composed of class, properties and instances.

The building blocks of OWL are as follows:

TABLE 1: OWL BUILDING BLOCKS

Element	Description	Example
Individuals	Representation objects in the real world	Ajay, ora1
Classes	Sets of Individuals. Classes may be atomic or complex.	Person, Customer, Order
Object Properties	Represent relationships between two individuals	hasSister,hasParent,workFor
Data Properties	Link individuals to concrete values	has Age,hasName

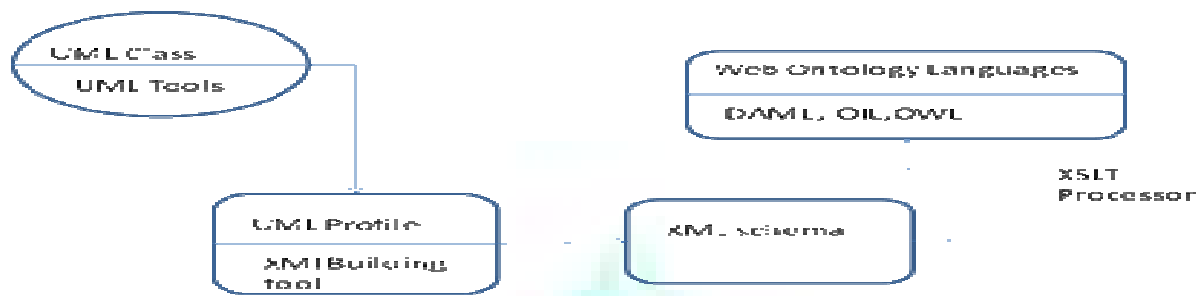
FIGURE 4: OWL ONTOLOGY PROPERTIES



WWWC and DARPA had progressed on the development of tractable ontology language i.e. DAML with the enhancement of UML[1]. The researcher had introduced a new model to enhance the domain property of DAML using UML. But we have focused on transformation of UML to OWL.

## CONVERSION OF SYNTACTIC MODEL TO SEMANTIC MODEL

FIGURE 5: XMOWL MODEL FOR SYNAPTIC TO SEMANTIC MODEL



An XSL stylesheet processor accepts a document or data in XML and an XSL stylesheet and produces the presentation of that XML source content that was intended by the designer of that stylesheet. There are two aspects of this presentation process: first, constructing a result tree from the XML source tree and second, interpreting the result tree to produce formatted results suitable for presentation on a display, on paper, in speech, or onto other media. The first aspect is called tree transformation and the second is called formatting. The process of formatting is performed by the formatter. This formatter may simply be a rendering engine inside a browser.

Researchers are working on many projects regarding conversion of UML to OWL and working with different techniques of using XSLT parsers. I had worked on saxon parser to convert XML file to OWL file. XSLT document contains rules to convert XML to other XML form, as ontology is also one form of XML as change to RDF/XML, thus providing the rules for conversion into ontology OWL.

Here is an example of XML file and XSLT document to convert into another XML i.e OWL form.

FIGURE 6: Person.xml

```

1  <?xml version="1.0" encoding="UTF-8"?>
2  <?xml-stylesheet href="person1.xsl" type="text/xsl" ?>
3  <people>
4  <person profession="lecturer">
5  <name>
6  <first_name>Boriana</first_name>
7  <last_name>Koleva</last_name>
8  </name>
9  <courses>G5BIAW</courses>
10 <courses>G51IDB</courses>
11 </person>
12 <person profession="lecturer">
13 <name>
14 <first_name>Mike</first_name>
15 <last_name>Fraser</last_name>
16 </name>
17 <courses>G53DBC</courses>
18 <courses>G52CSD</courses>
19 </person>
20 </people>
  
```



FIGURE7: Person1.xsl

```

1 <?xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/02/22-xsl-syntax-ns#"
2   xmlns:xsd="http://www.w3.org/2001/XMLSchema#"
3   xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
4   xmlns:owl="http://www.w3.org/2002/07/owl#"
5   xmlns:people="http://www.owl-ontologies.com/people.owl#"
6   xmlns="http://mydefaultnamespace.com"
7   xml:base="file:/d:/person.owl">
8   <owl:Ontology rdf:about="">
9     <owl:imports rdf:resource="file:/d:/person.owl"/>
10   </owl:Ontology>
11   <xsl:apply-templates/>
12 </rdf:RDF>
13 </xsl:template>
14 <xsl:template match="person">
15   <people:person rdf:ID="NM">
16     <people:first_name rdf:datatype="http://www.w3.org/2001/XMLSchema#string">
17       <xsl:apply-templates select="name/first_name"/>
18     </people:first_name>
19     <people:last_name rdf:datatype="http://www.w3.org/2001/XMLSchema#string">
20       <xsl:apply-templates select="name/last_name"/>
21     </people:last_name>
22   </people:person>
23   <people:person rdf:resource="#NM"/>
24 </xsl:template>
25 </xsl:stylesheet>

```

FIGURE 8: RESULTANT OWL DOCUMENT

```

1 <?xml version="1.0" encoding="utf-8"?>
2 <rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:xsd="http://www.w3.org/2001/XMLSchema#" xmlns:rdfs="http://
3   <owl:Ontology rdf:about="">
4     <owl:imports rdf:resource="file:/d:/person.owl"/>
5   </owl:Ontology>
6
7   <people:person xmlns:people="file:/d:/people.owl#" rdf:ID="NM">
8     <people:first_name rdf:datatype="http://www.w3.org/2001/XMLSchema#string">Boriana</people:first_name>
9     <people:last_name rdf:datatype="http://www.w3.org/2001/XMLSchema#string">Koleva</people:last_name>
10  </people:person>
11  <people:person xmlns:people="file:/d:/people.owl#" rdf:resource="#NM"/>
12
13  <people:person xmlns:people="file:/d:/people.owl#" rdf:ID="NM">
14    <people:first_name rdf:datatype="http://www.w3.org/2001/XMLSchema#string">Mike</people:first_name>
15    <people:last_name rdf:datatype="http://www.w3.org/2001/XMLSchema#string">Fraser</people:last_name>
16  </people:person>
17  <people:person xmlns:people="file:/d:/people.owl#" rdf:resource="#NM"/>
18
19 </rdf:RDF>

```

## CONCLUSION

The real world business-to-business integrations are now built on top of XML technologies. In business Applications web search is based on syntactic data. But in the near future, when companies start shifting to a semantic context, there will be a great need for a way to bridge the gap between the syntactic and the semantic paradigms.

Having this problem in mind, we presented a solution for transforming UML/XML data from a widely used standard to a semantic data model. We did it as a proof of concepts and therefore we only propose a solution for common class person. There are many elements that can be used to describe a person as customer also but that are not very common.

Analyzing the results obtained from the mappings becomes obvious that the transformation from UML to OWL is simple and straight-forward but is semi automated. Future work will be based on OCL constraints and also on many other concepts of UML i.e generalization, specialization etc. for conversion and also on mapping of ontologies for reusability.

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## CRM PRACTICES OF TWO INDIAN E-BUSINESS FIRMS AND EVALUATION OF THEIR COMPETITIVE ADVANTAGE THROUGH RBV

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### ABSTRACT

*Customer relationship management (CRM) as a philosophy as well as a technology has gained utmost importance in the business arena. Researchers have suggested different perspectives of CRM that help firms gain competitive advantages. In the same line this research, based on case analysis of two Indian fast growing e-business companies, tries to test few hypotheses derived from Resource Based View (RBV) of CRM. The main objectives are to evaluate the relationships of internet resource – e-business capabilities and e-business values in these two Indian firms. In depth analysis of the case companies reveals there is positive relationship between internet resources and e-business capabilities and these e-business capabilities further have facilitated e-business value. On the basis of the findings certain practical implications and future research have been suggested.*

### KEYWORDS

CRM, Resource based view, internet resources, e-business capabilities, e-business value.

### INTRODUCTION

Customer relationship management (CRM) is a cross-functional process for achieving a continuing dialogue with customers, across all their contact and access points, with personalized treatment of the most valuable customers, to increase customer retention and the effectiveness of marketing initiatives (Day & Bulte 2002). Although it is a new concept, good businesses have been practicing it for centuries - remembering customers' names and family information, monitoring buying patterns and preferences, and promoting new business using this information. The difference today is electronic technology which has increased both the speed and the volume of information exponentially. However, customers are still customers and the key word in CRM is "relationship."

With the emergent of IT era, the face of this relationship has changed so also the customers' preference and demands. Customers today want 24x7 accessibility to one's products, removal of geographic boundaries, easy ordering, timely delivery and responsive service. If companies don't deliver, they are just a mouse-click away from the competition.

CRM is fast becoming a market imperative. As e-business grows, so does the sense of urgency -- especially in industries where established businesses are waking up to find their market share being eroded by dot.com upstarts. With the advances in customer relationship management (CRM) technologies, such firms have not only the motivation but also the means to forge closer relationships and deliver more value to their customers. Yet experience shows that CRM technologies are no panacea. More than half of all CRM projects have produced unsatisfactory results (Dignan 2002). In a survey of chief technology officers organized by Infoworld in 2001, thirty percent of the CTOs agreed that CRM implementation was the biggest blunder and most hyped technology of 2001 (Sodhi 2002).

The shortcomings of CRM have been blamed both on software vendors for promising off-the-shelf solutions and on firms for underestimating the implementation problems and installing new information systems without having a well defined customer management strategy (Bartholomew 2002; Sodhi 2002). Several commentators now claim that installing CRM technology before aligning the strategy and restructuring organizational processes, performance measures, and incentives is the root cause of most failures (e.g., London 2002, Rigby et al 2002). However, Resource Based View (RBV) (Amit and Schoemaker 1993, Barney 1991, Wernerfelt 1984) gives a better explanation to such problems.

The RBV has been used to answer one of the most researched questions within the management strategy field, which is related to understand the sources of sustainable competitive advantages (Porter, 1985; Rumelt et al., 1991). At the same time, this theory has become one of the standard theories to explain why firms in the same industry vary in performance over time (Hoopes et al. 2003). This suggests that the effects of individual, firm-specific resources on performance can be significant (Mahoney & Pandian, 1992).

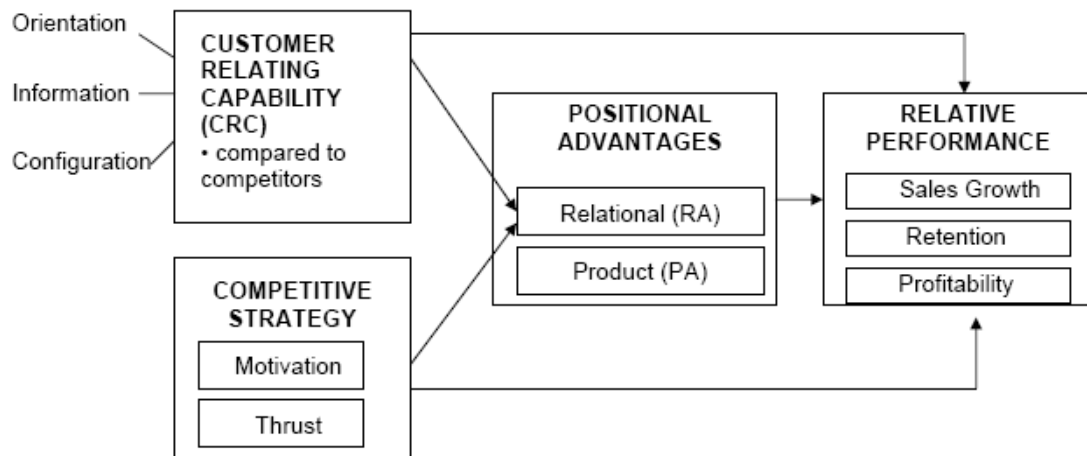
In this regard, the RBV is based on two underlying assertions: resource heterogeneity and resource immobility. Resources and capabilities possessed by competing firms are heterogeneously distributed and may be the source of competitive advantage when they are valuable, rare, difficult to imitate, and non-substitutable by other resources (Barney, 1991; Schulze, 1992; Wernerfelt, 1984). At the same time, resources and capabilities are source of sustained competitive advantage, that is, differences may be long lasting (resource immobility) when protected by barriers to imitation (Mahoney & Pandian, 1992) or isolating mechanisms (Rumelt 1984) such as time-compression diseconomies, historical uniqueness, embeddedness and casual ambiguity (Barney, 1991; Dierickx & Cool, 1989; Peteraf, 1993).

The RBV generally tend to define resources broadly and include assets, infrastructure, skills, etc. While resources serve as the basic units of analysis, firms create competitive advantage by assembling resources that work together to create organizational capabilities. Grant (1991) suggests that the capabilities of a firm are what it can do as a result of teams of resources working together. Teece et al. (1997) argued that capabilities cannot easily be bought; they must be built. Thus, building capabilities is not only a matter of combining resources; capabilities are deep rooted within processes and business routines. Also capabilities involve complex patterns of coordination between people and between people and other resources (Grant, 1991), and between an organization and other organizations. In this respect, Day (1994) describes capabilities as complex bundles of skills and accumulated knowledge, exercised through organizational processes, which enable firms to coordinate activities and make use of their assets. He argues that capabilities and organizational processes are closely entwined, because it is the capability that enables the activities in a business process to be carried out. Makadok (2001) considers capability as a special type of resource. More specifically, he defines capability as an organizationally embedded nontransferable firm-specific resource whose purpose is to improve the productivity of the other resources possessed by the firm. However, organisation's capabilities by themselves cannot give competitive advantage to the firms until and unless they support the competitive strategy of the firm (Day & Bulte 2002).

Take for example the customer relating capability (CRC), which is a complex bundle of skills and accumulated knowledge, combined with systems and databases, is unlikely to be productive unless it supports the competitive strategy (fig. 1). In other words, effectiveness of CRC is dependent on the extent to which

customer relationship management is the defining theme for the business (thrust), and the extent to which CRM initiatives are motivated to stay or get ahead of the competition rather than to simply keep up (motivation).

FIG 1: FOR ACHIEVING A COMPETITIVE ADVANTAGE



Source: *Superiority in Customer Relationship Management: Consequences for competitive Advantage and Performance*, Day and Bulte (2002)

What one sees in the market, from the vantage point of a customer or competitor, is a positional advantage (Day & Wensley 1988). This positional advantage consists not only of customer perceptions that a firm provides value through superior functionality (product advantage), but also of perceptions that the firm is better at delivering service and handling its relations with customers (relational advantage). These positional advantages should translate into superior performance in customer retention, sales growth, and profitability.

## RBV & E-BUSINESS

Extending the traditional notion of organizational capabilities to e-business, a firm's e-business capability is defined here as its ability to mobilize and deploy Internet-based resources, in combination or co-present with other valued resources. E-business capabilities are firm-specific (or inter firm-specific) and rooted in processes and business routines. We differentiate between external and internal e-business capabilities. The former refers to the ability to mobilize Internet-based resources and other corporate resources with external business agents (e.g. supplier and customers), while the latter represents the ability to mobilize Internet-based resources and other corporate resources within a firm's boundaries.

While discussing internet based resources as e-business capabilities, it is noteworthy to understand the difference between IT and IS. This lack of understanding might be one of the reasons that created gap between IT investment –particularly on Internet technologies– and the widespread perception about the lack of value from e-business (Zhu & Kraemer, 2005). Essentially, IT is a generic term for computers, hardware, software, telecommunications, Internet, electronics and related technologies. Whereas, IS is a wider concept, which refers to how information flows are established in an organization to fulfill its information needs (Gunasekaran et al., 2001). In this respect, the RBV offers a useful distinction between IT and IS and which is relevant while we are discussing about CRM capability. While the former is asset-based, the latter comprises of a mixture of assets and capabilities formed around the productive use of IT. Thus, the concept of resource seems to be closer to IT, while IS seems to be closer to capability.

IT resources as defined above are not difficult to imitate. In general, physical technology is by itself typically imitable, expandable and upgradable. If one firm can purchase these physical technologies and thereby implement some strategies, then other firms should also be able to purchase these technologies, and thus such tools should not be a source of competitive advantage (Barney, 1991). However, firms may obtain competitive advantages from exploiting their physical technology in a better (and/or different) way than other firms, even though competing firms do not vary in terms of the physical technology they possess. IT resources are necessary, but not a sufficient condition, for competitive advantages (Clemons & Row, 1991). IT resources rarely contribute directly to competitive advantage. Instead, they form part of a complex chain of assets (IS capabilities) that may lead towards better performance.

Although the above discussion hints towards a relationship between IT and IS capabilities, substantial researches have to be conducted to establish this relationship. Despite research has been undertaken to identify several resources and capabilities, and to analyze their direct effects on firm performance, the relationship between IT resources and IS capabilities have not been systematically studied. Only few studies such as Ravichandran and Lertwongsatien's (2005) offer a clear distinction between resources and capabilities. In this sense, Ravichandran and Lertwongsatien (2005) argue that examining the relationship between IS resources and IS capabilities can provide a better understanding of how resources could be deployed to develop capabilities.

Within the area of e-business, recent studies have identified distinct e-business capabilities and studied their effect on performance (e.g. Zhu, 2004; Zhu & Kraemer, 2005). However, very limited work has been undertaken to identify e-business resources and capabilities and study their separate influences on performance. Similarly, the relationship between e-business resources and capabilities has not been studied.

Resources are the raw material in the development of capabilities. This relationship is implicit to definition of capabilities as an organization's ability to assemble, integrate, and deploy valued resources, usually, in combination or co-presence (Amit & Shoemaker, 1993). Hence, the first and second hypotheses posit a positive relationship between Internet resources and e-business capabilities

**H<sub>1</sub>: There is a positive relationship between Internet resources and external e-business capabilities with customers.**

**H<sub>2</sub>: There is a positive relationship between Internet resources and internal e-business capabilities.**

Researchers studying competitive advantage of firms on the basis of RBV have mostly taken firm's performance as the dependent variable. However, this may not be the best way to test the RBV (Ray et al., 2004). For example, because firms can have competitive advantages in some business activities and competitive disadvantages in others, examining the relationship between resources and capabilities associated with different processes within a firm and the overall performance can lead to misleading conclusions. Ray et al. (2004) proposed the effectiveness of business processes as a way to test the RBV logic. Another issue is that some IT investments may provide benefits after a certain period but increase operating costs in the short term (Kauffman & Kriebel, 1988).

Thus, using firm performance at the macro level is meaningless and can again lead to misleading conclusions. Researchers suggest a process-oriented approach to overcome these confounding problems. Kauffman and Weill (1989) hold that the locus of impact, that is, the business process, should be the primary level of value analysis assessment. Within the literature on e-business, recent research also suggests a perspective based on processes to overcome these problems (Subramaniam & Shaw, 2002).



Engaging in IT investment is not necessary and sufficient condition for improving firm performance, since IT investments might be misused (Tallon et al., 2000). In this sense, IT assets cannot improve organizational performance if they are not used appropriately. However, when used appropriately, is expected to create intermediary effects, such as IT being embedded in products and/or services, streamlined business processes, and improved decisions, which can be expected to have influence on firm performance (Ravichandran & Lertwongsatien, 2005).

Grant (1991) and Makadok (1991) emphasized that while resources by themselves can serve as basic units of analyses, firms create competitive advantage by assembling these resources to create organizational capabilities. Makadok states that these firm-specific capabilities, embedded in organizational processes, provide economic returns because that firm is more effective than its rivals in deploying resources. IS researchers have adopted this capability logic of resources by arguing that competitors may easily duplicate investments in IT resources by purchasing the same hardware and software and, hence, IT resources per se do not provide competitive advantages. Rather, it is the manner in which firms leverage their IT investments to create unique capabilities what impact firm's performance (Clemons & Row, 1991; Mata et al, 1995). Thus, it is expected that external and internal e-business capabilities have the potential to create business value. Thus, our third and fourth hypotheses are as follows:

**H<sub>3</sub>: There is a positive relationship between external e-business capabilities with customers and e-business value**

**H<sub>4</sub>: There is a positive relationship between internal e-business capabilities and e-business value**

## THE STUDY

To test the above mentioned hypotheses two fast growth companies of India i.e, 123 greetings.com and Click-Saltlake.info, have been taken as case for analysis. A structured questionnaire was used to obtain the relevant information from both the companies for analysis. Apart from this, the consultancy experience of the first author with both the companies was helpful in obtaining company specific information and analyzing the case closely.

## CASE ANALYSIS

### OVERVIEW OF THE PROBLEMS & INTERVIEW WITH 123Greetings.com

**PROBLEM:** Both Kajaraia brothers were experiencing high turnaround in their visitors to their competition, moreover the manpower costs were going high for the technically superior teams located centrally at Kolkata, HQ. Their profitability was going thinner, because of higher customer attrition and less attractive sticky proposition to their business, making it a kind of seasonal business. To counter this problem, they were thinking to launch another business diversification, which would also offer different products in cheaper price suitable for the wishes and establish the supply chain which would entail China as the sourcing country and the initial distribution hub would become US. This would also be a web based e-business which suits the synergy of the entire Organization.

The author been introduced to the Kajaraia brothers to set-up their CRM focus and enhance the business through sponsored link section to establish the global supply chain management(SCM). Palash Dasgupta, the project manager was the in-charge of the entire sponsored link and system implementation team. His previous experience comes from system implementation for a pharmacy company and building their ERP systems. The group comprised with 5 systems programming people with 10 tele-calling people when the author took up the assignment. After several sets of communications, it had been found that Mr. Dasgupta is more comfortable in the Information systems side than the management as decision maker. He was been only handling few pocket customers who were brought buy the Kajaraia brothers and resolving their operational/advertisement problems.

Problems in the first sight:

1. No proper training had been given to the Sales Team to acquire new customers.
2. No proper system and process been followed for the field level sales data entry
3. No proper sales CRM available for the clear data flow and data repository system
4. IS is available but the Information Systems resources not been nurtured well.

### Steps Taken to solve the problems

- However, the author undertaken the consolidation project with the Organization and the training requirements been addressed and building a separate team for CRM practices.
- Been instrumental to build up an entire sales team for Sponsored Link Advertisement and establish a complete new account acquisition team.
- Also established a separate business practices team built upon customer retention and relationship referrals by the CRM team.
- Implemented a survey conducted by the CRM team with a promotional plan to measure the satisfaction index with the company and understanding their real needs and wants.

### Supply Chain Practices in 123Greetings

The following sections are based on effective CRM practices that the author has recognized in the theoretical framework. The used questions for every section can be found in Appendix A.

### Strategic Supplier Partnership

**SOLUTION:** 123 Greetings has a customer base of millions users/visitors. In the new business they needed to develop the suppliers to establish the supply chain in China. The quality and logistics issues are not in the scope of this paper. We would see this strategic supplier partnership from the point of CRM. In some of the products, the suppliers are needed to take part of the product design process and also they need to update the database as per the product availability and the current pricing. China manufacturing hub is importing silicon from South Korea, so the electronic goods pricing changes everyday for the lot size. Also in the retailing business area, the company has to get the licensed trademarks that they represent at US and these products are readily available at the stock and ready to dispatch within 3-4 business days any where in US. So the inventory and strategic warehouse locations would be also very important. Moreover, the retail pricing has to be fixed, because of the fluctuating price at the sourcing point. Also, as per the business strategy 123 Greetings be replacing the products portfolio as per the season and greetings types. Most of the suppliers do not have the capacity or quality to stand up to the demand from the company. Adding more suppliers could bring down the trust level and volume commitment by which the quality or delivery might suffer. Moreover, as this is the global supply chain, the forecasting has to be very accurate for the products prior launching in United States which is a customer driven market, there the company also need to take care of return policies and online second hand stock clearance options.

### Customer Relationship

There are three types of customers 123Greetings is having.

- Every Visitor or footprint is a customer to them to their site for the free services and might be a potential buyer.
- The Advertisements space buyers
- The product buyers.

Now another type of customer is getting added known as

- The Suppliers

In the new product selling business the customers are having freedom to customize their products e.g. writing their name or fiancées name etc by laser engraving on metal.

In the advertisements services the customers also get the opportunities to design and customize their adwords and tag line phrases to make it catchy for the eyes of the users.

The visitors/users choosing free greetings cards from the digital inventory are having options to customize and add music to the greetings cards already as per their need and mood.

So, the company is already having the mechanism to measure the mood of their clients. International markets are strongly characterized by personal relationships, moreover domestic market potential is also cannot be ignored at this point, while India is emerging as a very powerful country economically.

There're many teams for art and music developments to cater all kinds of needs internationally. Some of the products and services are to be categorized in the main profiling area which are mainly unisex, by which these products could be sold higher in numbers and could be offered in bulk rates through the websites by the push selling mechanism. The company also needs to offer different services to support business customers. Also different offers have to run throughout the entire site to promote different value deals in much deeper manner. The company never measured the customer satisfaction on the ground and on the group level so far after doing the customer segmentation based on their demography, choice, age, culture, sex etc, however they might have to measure the market potentials only and they have means to measure the mood of a visitor/user.

#### Information Systems

Currently there's no common ERP system available for the entire organization. There's a common backbone or pool available for the internal organization, but this system never had been interacting with the external transactions. In the advertisement area, client has got a very limited access to change Advertisements and manage his advertisement campaigns and refill the payments. Except that, the customer's entire database is kept and never been analyzed from the perspective of CRM except news letters for promotional activities and routine follow-up jobs.

Kajaria brothers were delighted over an integrated approach and planning of consolidated database usage and its utilities got sanctioned internally. Only they have restricted themselves not buying the IS from external sources, rather their choice was to develop and maintain the entire system in-house for the suppliers. So, as per the hour calculation, the job came out for more than 6 months to complete for the available manpower, which is bit a lengthy process for implementation though. Integrated planning made for logistics that takes care of the sourcing and purchasing items as per the demands and maintaining supplier relationships with proper supplying forecasting tools for the benefits of the suppliers based at China in both the languages Mandarin as well as in English. The online bidding system for the suppliers would be built upon the need v/s volume v/s timing algorithm based. Even this system will be integrated such a way that will work all the routines become harmonious throughout the entire group.

After the first phase is over, the CRM software would sit on the top of the ERP and then customers would be able to track their shipments from the source as well as the orders directly would route to the suppliers with the desired quantity and specifications.

The company is cost sensitive in IT Infrastructure development and are not involved in the strategic planning and unable to deploy the customer relating capability unless the entire IT investments are made. Investment in IT, despite of being an e-business company might be one bottle neck for this company to give a customer centric face in longer terms, but still enjoying dominance over competition due to inherent resources. Author had shown the tangible value proposition the Organization might get by the proper CRM practices in terms of slow but steady customer retention efforts and referral programs.

#### Co-operation with the Competitors

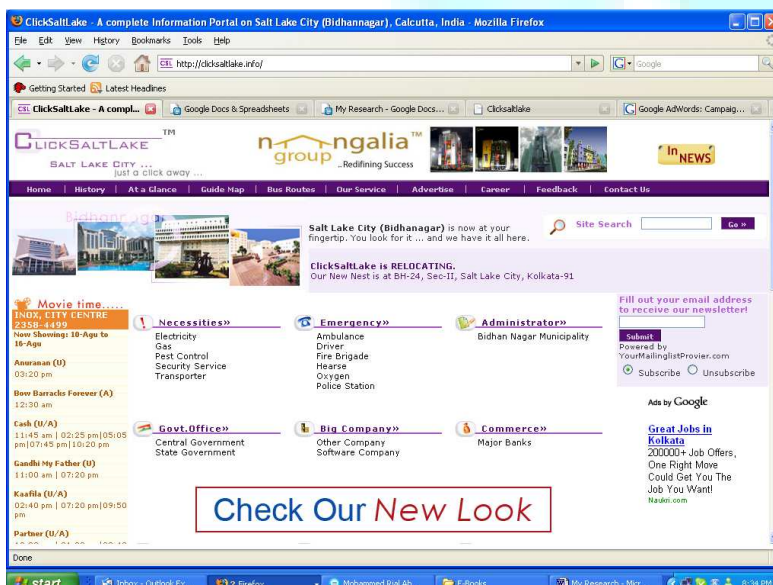
The author initiated developing the strategic co-operation with the company's competitors by link exchange programs. Though, in other areas the co-operation is difficult to execute because of the company's diversified needs. In the product development, the concept is very new that the author has to explore more to understand the methodologies of co-operation from the competition.

#### Overview of the problems & Interview with ClickSaltlake.info

**PROBLEM:** ClickSaltlake is the name of the business is having a website which evolved to help the people finding directions who used to get lost in Saltlake city, Kolkata back in late 1990's. Because, Kolkatans had no idea about the planned city named Saltlake and it's geographic during that point of time, moreover population were few to ask for help to know the exact address and location of a house in 1990's. Less public transportations, least ideas about the geographical demography exist even amongst the people residing at Saltlake city inspired a tech savvy man named Saikat Das, who conceptualized the need of such a website which had served well to the population for more than 7 years in Saltlake Area. This was a simple site written in HTML and the map of saltlake city had been compressed and uploaded to the site block wise maps for giving the people the exact idea of the location of a house in a block. Later with times few phone numbers and few business addresses and had been enlisted to serve the purpose of the people.

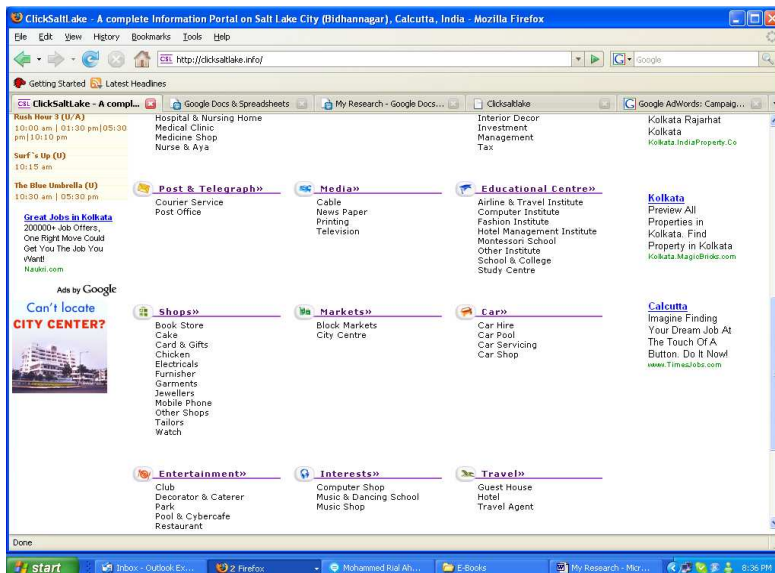
**Intervention:** During June 2007 the author met Mr. Das co-incidentally and the e-business applications been planned by the author after studies and all the suggested changes been brought by Mr. Das and his technical teams, eventually which had brought the sea changes in the site architectures and opened up different business avenues by practicing effective CRM. The case company had transformed from a simple infomediary company to a complete E-Business company with having manifold of service facilities for the visitors, which in turn enhanced the targeted traffic and revenues.

#### The Business Model Conversion:



Nature of Business: Local Guide and listings of some businesses.

Traffic Rank : 2,716,974 dtd. 30<sup>th</sup> Mar, 2007 with ref to [www.Alexa.com](http://www.Alexa.com)



Clicksaltlake.info traffic rank in other countries:

India – 37,600

United States: 1,089,621

### Why Business Transformation was needed

**SOLUTION:** “Change is the only constant on this Earth”. Mr.Das also believed the same because the visitors of this site is not only limited to the people residing only in Saltlake City, due to higher volume of traffic and page ranks, this site started getting popular to those people who’re trying to come to Saltlake City and to reside here for jobs and other requirements from outside, also the expatriates originally from here traveling all over the world or Bengali communities having interests about Saltlake City, which eventually became the software hub of the entire eastern zone of India was the opportunity identification for the business needs.

The business model were to be redefined and the revenue model was to be re-drawn, so that the site starts earning more and get into it’s puberty from its childhood.

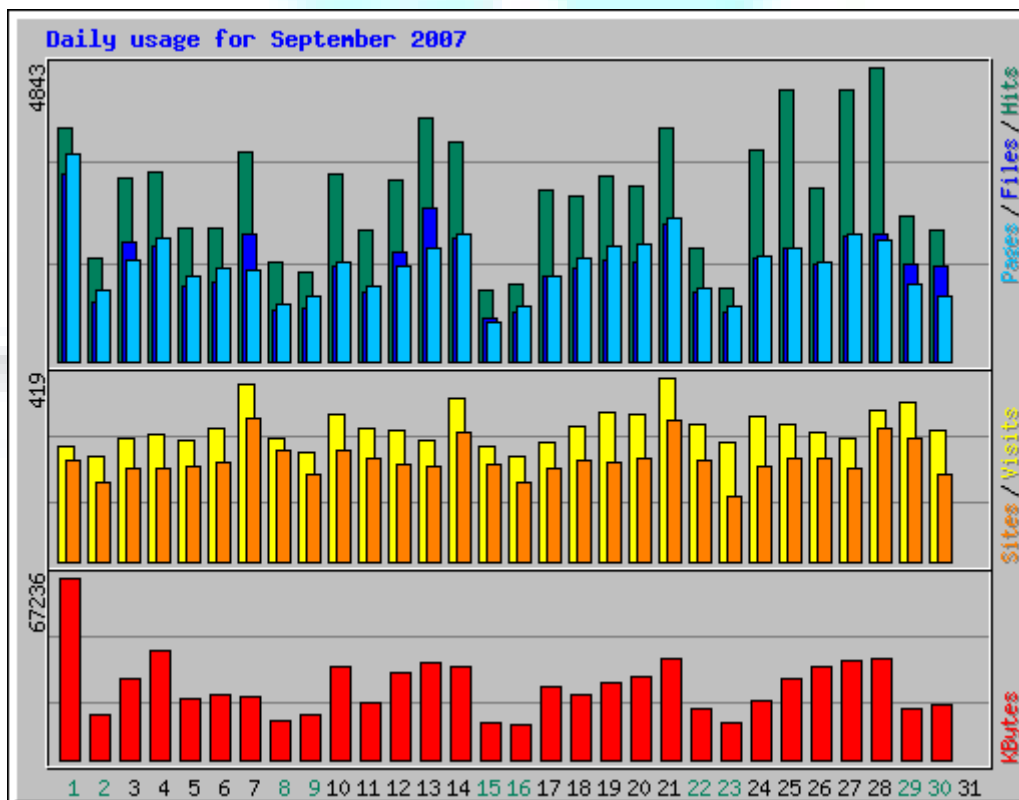
Mr. Das had entrusted the author with that job and remained supportive with all his resources to bring all the necessary changes to the site. The excerpt of this research article would be dealing and explaining all those areas of development had been implemented so far and the model of business to make it more customers centric with the implementation of effective Relationship Management.

The areas had been improved and implemented

- The restructuring
- Internet Marketing
- Search Engine Optimization
- Adsense implementation
- In-house customer care cell

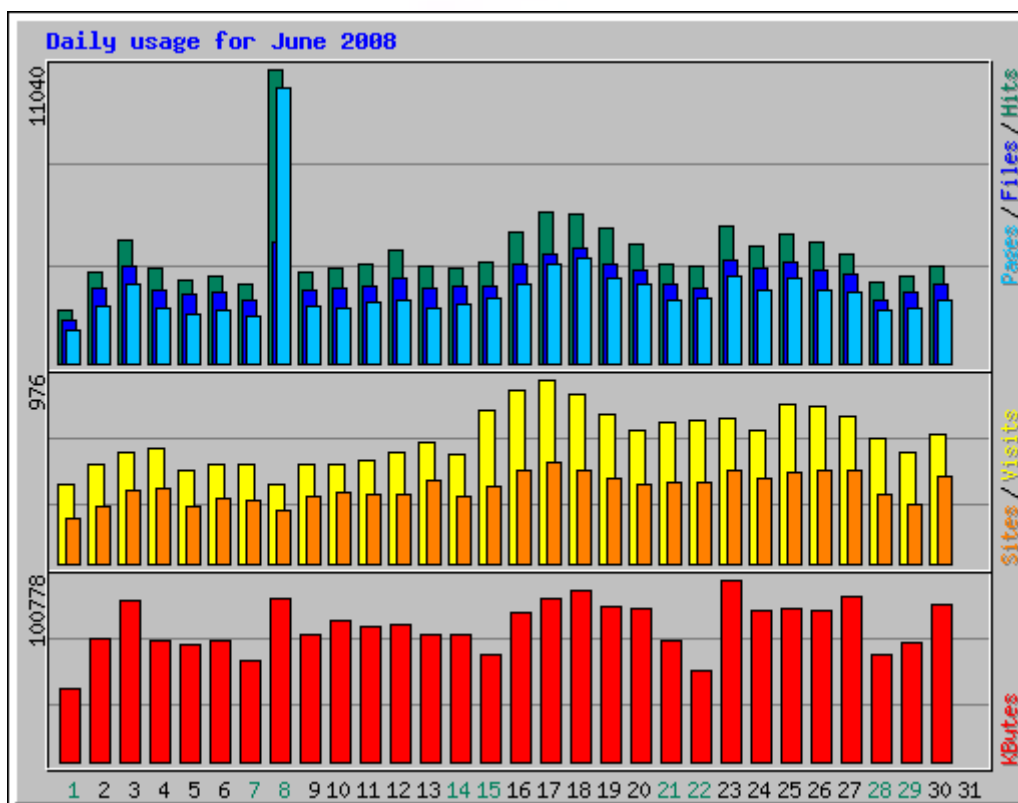
### The results and improvements

The implementation plan of business got approved and started implementation from September 2007 and the traffic nature is given below before the implementation.



- Monthly Statistics for September 2007
- Total Hits 83834
- Total Files 47654
- Total Pages 47679
- Total Visits 9112
- Total KBytes 816572
- Total Unique Sites 4017
- Total Unique URLs 392
- Total Unique Referrers 546
- Total Unique User Agents 112

The figure below had given the recent characteristics of the traffic which is showing more traffic to the site and a significant growth in the site with more focused visitors.

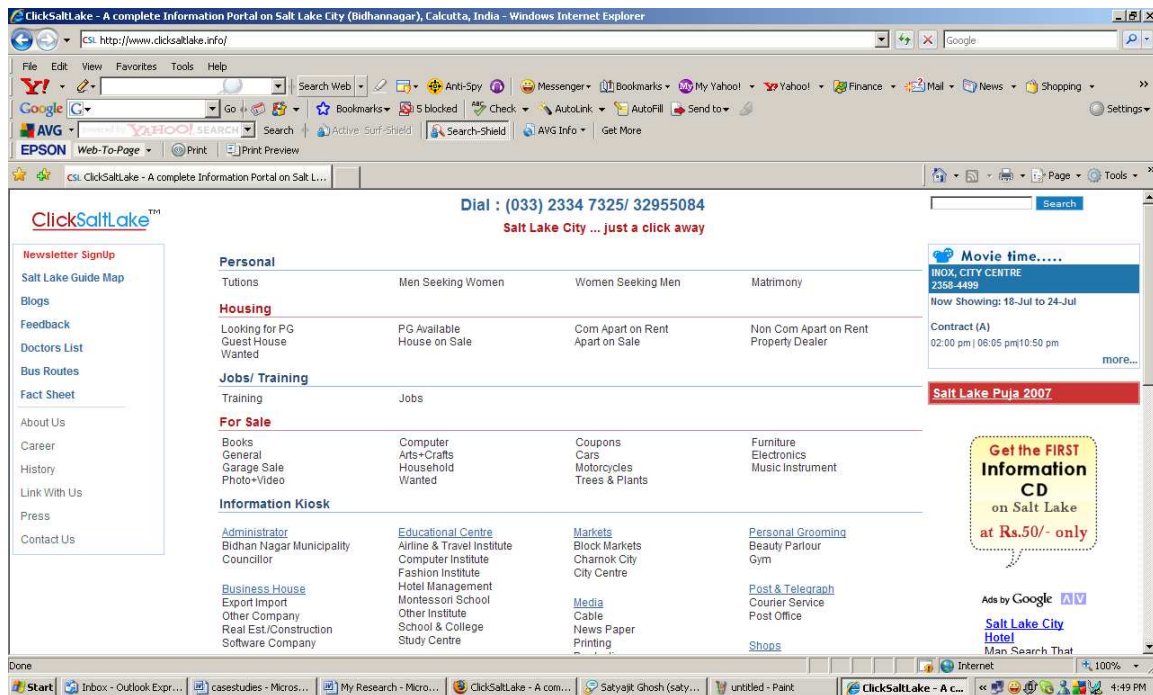


- Monthly Statistics for June 2008
- Total Hits 125767
- Total Files 94336
- Total Pages 82441
- Total Visits 19895
- Total KBytes 2252915
- Total Unique Sites 6789
- Total Unique URLs 322
- Total Unique Referrers 555
- Total Unique User Agents 143

#### **The new look of the site**

The new look of the site given below, developed on Linux, Apache Server, My SQL, and Php (LAMP), which is free and cheaply available.





So again it's been proven that IT resources is not that vital, whereas IS and customer relating capabilities be the source of competitive advantages. The authors had taken time to study different customer feedbacks and used the resources and knowledge base which was already there within the system. Being the functional consultant of CRM Mr. Das already implemented the CRM practices around his business, only the timely change had given them newer dimensions. Now they're diversifying their business in selling consumers products online and building around a similar portal about entire Kolkata.

Hence, CRM practice is not about CRM software, its IT resources and capabilities in customer relating the businesses give the competitive advantage. Certainly CRM software can expedite the implementation faster. Customization has to follow the suitable e-business models accordingly, which is known as CRM practices as discussed in this research article known as IS.

## DISCUSSION

The aim of this study was to explain how e-business creates value and is intended to offer results more widely applicable than Internet leaders or IT industry companies. In this sense, this study attempts to offer an explanation to why there are cases where many firms engage in e-business without deriving any benefits. To respond to those challenges, a conceptual model for assessing e-business value creation, grounded on the resource based view (RBV) of the firms, are developed and tested on two emerging companies.

The results showed, as hypothesized, that Internet resources are not positively related to the e-business value. This finding is not surprising, since competitors may easily duplicate investments in IT resources by purchasing the same hardware and software, and hence IT resources per se do not provide better performance (Santhanam & Hartono, 2003). This can be explained through the RBV, because IT is not considered a resource difficult to imitate, Information Technology (IT) by itself typically imitable. This result supports the findings of another research (Bhatt & Grover, 2005) that did not find evidence of a positive link between IT quality and firm performance. Similarly, Powell and Dent-Micallef (1997) showed that IT by itself cannot be a source of competitive advantage. Thus, our results confirm that Internet technology by itself will rarely create e-business value.

Furthermore, results demonstrate that there is a positive relationship between Internet resources and e-business capabilities. This finding confirms Ravichandran and Lertwongsatien's (2005) who offered a clear distinction between resources and capabilities, and found a positive relationship between IS resources and capabilities. Within the area of e-business, recent studies have identified distinct e-business capabilities and studied their effect on performance (e.g. Zhu, 2004; Zhu & Kraemer, 2005). However, the relationship between e-business resources and capabilities has not been studied. Resources are the raw material in the development of capabilities. Thus, examining the relationship between IS resources and IS capabilities can provide a better understanding of how resources could be used for building capabilities (Ravichandran & Lertwongsatien, 2005). Thus, our findings suggest that although internet resources are not positively related to e-business value, they play a critical role for creating e-business capabilities.

Finally, empirical results demonstrate that there is a positive relationship between e-business capabilities and e-business value. Our findings confirm existing empirical literature, Bharadwaj (2000) and Santhanam and Hartono (2003) found that firms with superior IT capability indeed exhibit superior firm performance. Ravichandran and Lertwongsatien (2005) showed that an organization's ability to use IT to support its core competences depends on IS capabilities. Thus, even though competing firms do not vary in terms of the IT they possess, IS capabilities are rooted in processes and business routines and provide competitive advantages. In this sense, our results support the proposition that external and internal e-business capabilities are key drivers of e-business value. The comparison of visitors in the site from Sept 2009 till now had constantly grown is shown in Appendix B, which itself proves that Internet capabilities drawn from Internet Values enhances and creates a competitive advantage for a longer term for an organization if CRM practices are implemented.

## CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH

Recently, much controversy about the value of IT has been created by assertions of Carr (2003). He argues that IT is ubiquitous, increasingly inexpensive, and accessible to all firms. As such, IT cannot be a source of competitive advantage any more because it is scarcity (not ubiquity) what creates the ability to generate superior performance.

Moreover, skepticism about the value of IT and e-business has been raised, due to the gap between IT investment—particularly on Internet-related technologies—and the widespread perception about the lack of value from e-business. Thus, today information systems (IS) researchers face pressure to answer the question of whether and how e-business creates value. Much of the existing e-business literature still relies, to a great extent, on case studies, anecdotes, and conceptual frameworks, with few empirical data to characterize the Internet-based initiative or gauge the scale of their impact on firm performance—especially in large, traditional companies.

Case studies on firms such as eBay and Amazon show e-business can create business value, but are the lessons learned from these "Internet giants" more widely applicable? Other issue in e-business literature is the lack of theory to guide empirical research. There is therefore a need for an empirically relevant but also theoretically rigorous framework for examining how e-business creates value. To respond to these challenges, a conceptual model for assessing e-business value

creation, grounded on the resource-based view (RBV) of the firm, is developed and tested on a two sample of Indian firms from the same sector. Broadly, this research offers several contributions:

- (1) it shows that Internet technology by itself will rarely create e-business value;
- (2) it confirms that although Internet resources are not positively associated with e-business value, but they play a critical role for creating e-business capabilities;
- (3) it demonstrates that internal and external customer relating capabilities are key drivers of e-business value.

The study provides several important implications for managers. First, it shows that physical Internet technology (Internet resources) by itself will rarely create any e-business value. This explains why there are cases where many firms engage in e-business without deriving any benefits and why IT spending rarely correlates to superior financial results.

Second, it was found that e-business capabilities are key drivers of e-business value. Thus, firms create e-business value by assembling Internet resources and other valued resources that work together to create e-business capabilities. In this sense, firms should invest in Internet technologies in order to create external and internal e-business capabilities. The former refers to the ability to mobilize Internet-based resources and other corporate resources with external business agents (e.g. supplier and customers), while the latter represents the ability to mobilize Internet-based resources and other corporate resources within a firm's boundaries. Overall, this study's findings confirm that executives and management need to be aware of the necessity of creating customer relating capabilities (external and internal) with CRM practices. They need to recognize that their competitors are building e-business capabilities and, if the firm does not respond to that need, it will result in a competitive disadvantage.

While the study's contributions are significant, it has some aspects which can be addressed in future research. First, the sample used is from India, where online spending is not yet picked up so far. In this sense, findings may be extrapolated to other countries, since economic and technological development in India is similar to other countries, where as customer behavior might not be the same. However, in future research, a sampling frame that combines firms from different countries could be used in order to provide a more international perspective to the subject.

Second, the e-business value measure is subjective in the sense that it was based on responses provided by the managers. Thus, it could be interesting to include also objective performance data for measuring CRM value in e-business.

Third, the future studies could consider research designs that allow data collection from multiple respondents within an organization.

Fourth, this research takes a static cross-sectional picture of capabilities, which makes it difficult to address the issue of how capabilities are created over years. A longitudinal study could enrich the findings.

Fifth, in this study, two types of e-business capabilities are distinguished. Like in many survey studies in the IS literature, measurement instruments are not universally agreed. Instead, e-business research is still going through a process, for developing measurement instruments, based on testing and refinement (Straub et al, 2002). In future, research should further validate and extend this typology.

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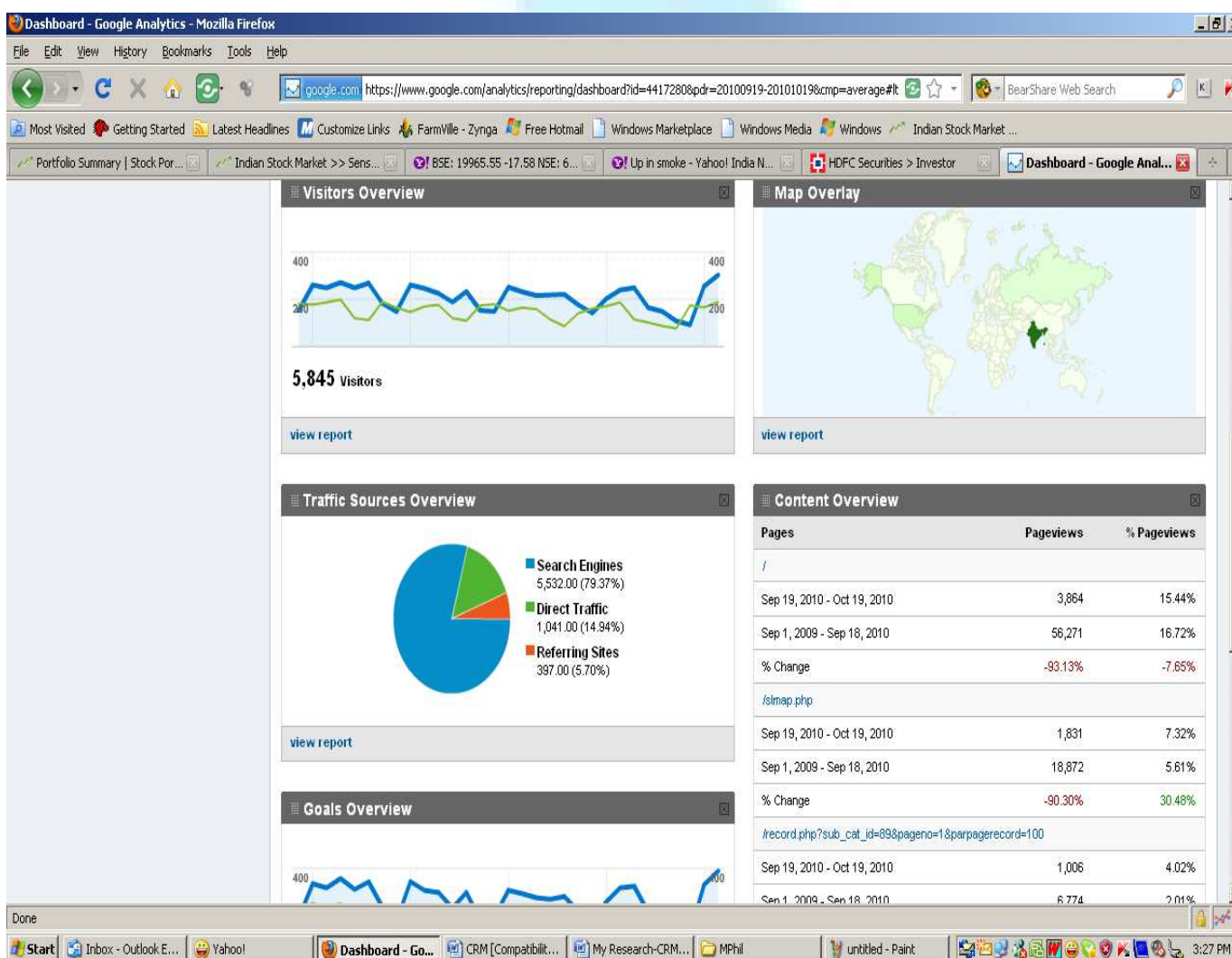
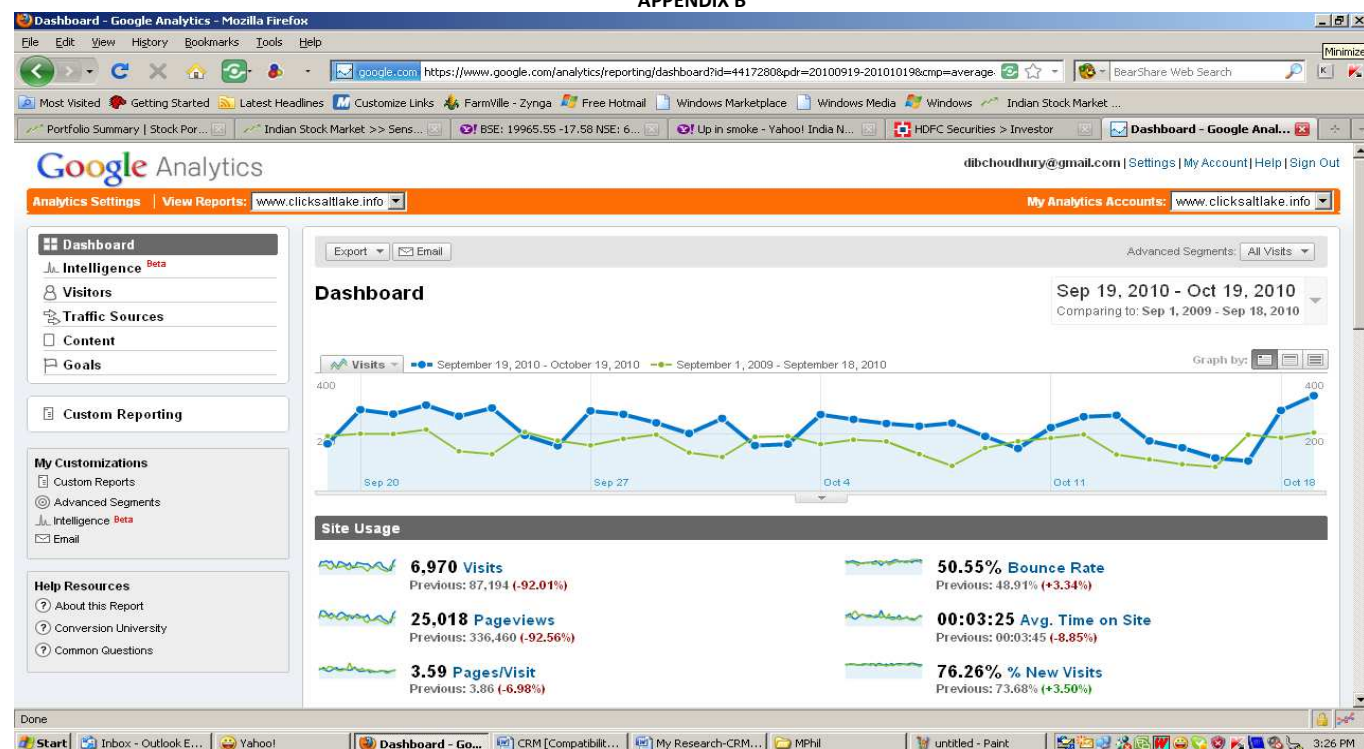
## APPENDIX

### APPENDIX A: THE INTERVIEW GUIDE

1. The role of CRM and especially the CRM practices Manager if any, available in the company. The author wants to know if CRM practice is a part of company's long term strategy.
2. The CRM Practice Manager has got any responsibilities in the strategic decision making?
3. Does a CRM practice department exist? How many employees? How old is the department?
4. The experience level of the CRM Practice Manager, if any? In this company and in the same domain etc?
5. Strategic supplier partnership.
6. The authors asks questions to find out how well developed the relations with the partners in both up-stream and down-stream.
7. Are the suppliers taking part in the product/service design process?
8. Is the company striving to decrease the amount of suppliers?
9. Do the suppliers of the company co-operate with each other?
10. Are there strategic supplier partnerships further upstream than only the first tier?
11. Is the company also buying any service and support of the upstream partners?
12. Customer Relationships.
13. The author will ask questions to find out how well developed the relations with partners in both up-stream and down-stream.
14. Are customers taking part in the product/service designing?
15. Are there strategic customer relationships further downstream than only first tier?
16. Is the company offering also service and support downstream partners?
17. Is company measuring customer satisfaction?
18. Information Systems.
19. Here the author will study how information systems are used in CRM practices.
20. Is the organization is using Enterprise Resource Planning systems?
21. Is the Organization using customer data segmentation using advanced customer demographics for planning its retention strategies?
22. Are suppliers and or/ customers integrated to company's information systems?
23. Do the company's suppliers/customers share relevant information helping planning?
24. How do the CRM practice managers describe the quality of shared information?
25. CRM Functions
26. These questions would reveal if the company is utilizing external partners to CRM functions.
27. What' the motivational factors the company using for its providers?
28. Is there any role of customer relating capabilities to find customers involved in strategic planning?
29. Has the company control over the survey program or customer tracking programs internally?
30. Does the company own any CRM software?
31. Co-operation with competitors.
32. This section of questions will study if the company have strategic co-operation with its competitors?
33. Does the company co-operate with the competitors in the sourcing functions?
34. Does the company co-operate with the competitors in traffic generation?
35. Does the company co-operate with competitors in product/service development and/or business development?
36. Performance Measuring.
37. These questions are written to find out if the company uses performance measuring tools internally/externally to measure customer satisfaction index?
38. Does the company benchmark other company's performances?
39. Is the company using key performance indicators to measure the satisfaction levels and customer referrals in terms of revenue growth?
40. Fast-growth companies.
41. The author wants to find out the company specific experience of fast-growth CRM functions?
42. What are the effects of the fast growth on company's CRM functions?
43. Does CRM support have any indications in the growth of the company?
44. How're the possible problems addressed and solved e.g. internally, with the help from literature, consultants etc?
45. What are the main potential development issues in CRM in the future?



## APPENDIX B





## ANALYSIS OF DEPOSITS, ADVANCES AND PROFITS OF HDFC BANK: SPECIAL FOCUS ON PRE AND POST MERGER ERA

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### ABSTRACT

*The world economy has experienced a revolutionary change in the environment of banking sector. The changes in regulation, technological advancement, competitive trends and disintermediation have all led to large scale banking sector consolidation all over the world. One of the main motives behind the mergers and acquisitions in the banking industry is to achieve economies of scale. Scale economies arise when banks increase their scale of operations and size by merging with other banks. The financial sector in India is highly fragmented and is characterized by a large number of small banks and financial institutions. The trends in M&As in this sector would, therefore, be of special interest to economists, researchers and policy makers. It has been observed that there has been a rising number of M&As in this sector, especially after the recommendations of Narasimham Committee II on Consolidations in the banking sector. This paper is an attempt to empirically investigate the impact of merger on the financial performance parameter of bank with the help of a case study of merger of Centurion Bank of Punjab with HDFC Bank. This paper analyze the pre and post merger financial performance of the HDFC Bank in terms of changes in various financial parameters like EPS, DPS, Deposits, Advances and Profit After Tax.*

### KEYWORDS

Advance, Amalgamation, Bank, Deposit, DPS, EPS, Merger.

### INTRODUCTION

**M**erger is defined as combination of two or more companies into a single company where one survives and the others lose their corporate existence. The survivor acquires all the assets as well as liabilities of the merged company or companies. Generally, the surviving company is the buyer, which retains its identity, and the extinguished company is the seller. Merger is also defined as amalgamation. All assets, liabilities and the stock of one company stand transferred to Transferee Company in consideration of payment in the form of Equity shares, Debentures, and Cash in the transferee company, or a mix of the above modes. In business or economics a merger is a combination of two companies into one larger company. Such actions are commonly voluntary and involve stock swap or cash payment to the target. Stock swap is often used as it allows the shareholders of the two companies to share the risk involved in the deal. Merger is a financial tool that is used for enhancing long-term profitability by expanding their operations. Mergers occur when the merging companies have their mutual consent as different from acquisitions, which can take the form of a hostile takeover.

### RATIONALE FOR MERGER

Factor affecting mergers change with the changing legal, political, economic and social environments (Kaushal, 1995). Business Organization literature has identified two common reasons which are derived out of mergers and acquisitions i.e. efficiency gain and strategic rationale (Neary, 2004). **Efficiency gain** means the merger would result into benefits in the form of economies of scale and economies of scope. **Economies of scale** and scope are achieved because of the integration of the volumes and efficiencies of both the companies put together. Secondly the strategic rationale is derived from the point that mergers and acquisition activity would lead to change in the structure of the combined entity which would have a positive impact on the profits of the firm. Economies of scale arise when increase in the volume of production leads to a reduction in the cost of production per unit. This is because, with merger, fixed costs are distributed over a large volume of production causing the unit cost of production to decline. Economies of scale may also arise from other indivisibilities such as production facilities, management functions and management resources and systems. This is because a given function, facility or resource is utilized for a large scale of operations by the combined firm which generates synergy. **Synergy** implies a situation where the combined firm is more valuable than the sum of the individual combining firms. Operating economies are one form of synergy benefits. But apart from operating economies, synergy may also arise from enhanced managerial capabilities, creativity, innovativeness, R&D and market coverage capacity due to the complementarily resources and skills and a widened horizon of opportunities. **Diversification** implies growth through the combination of firms in unrelated businesses. It results in reduction of total risks through substantial reduction of cyclicalities of operations. The combination of management and other systems strengthen the capacity of the combined firm to withstand the severity of the unforeseen economic factors which could otherwise endanger the survival of the individual companies. A merger may result in financial synergy and benefits for the firm in many ways like by eliminating financial constraints, by enhancing debt capacity and by lowering the financial costs. This is because a merger of two companies can bring stability of cash flows which in turn reduces the risk of insolvency and enhances the capacity of the new entity to service a larger amount of debt at a lower rate of interest.

### THE INDIAN BANKING SYSTEM

The financial system plays a crucial role in mobilizing funds and savings and the use of these funds and savings into more productive use. Banking sector as a major part of the financial system plays an effective role in accelerating the path of economic growth. A sound and efficient financial system has been considered as a pre-requisite for the growth of any economy. This sector plays a very crucial role in promoting the payment and settlement system of an economy. Banks also play an important role in discharging social responsibilities such as poverty eradication, balanced regional development, employment generation etc. The main cause behind the outcome of industrial revolution in Europe during 18th and 19th century was the growth of commercial banking. The banking sector in India as well as in the world continues to be one of the primary engines of growth. The strategic priority in the banking industry has changed over the last two decades. Presently, more emphasis has been put on efficiency, soundness, value creation, and productivity rather than on growth. **To achieve all these goals, the government and regulatory authorities have adopted various policies and measures, out of which consolidation of the banks emerged as**

**one of the most preferable strategy.** There are several ways to consolidate the banking sector; the most commonly adopted by the banks is mergers. Merger and acquisition of the banking sector was one of the outcomes of the deregulation, liberalization, and technological progress. Merger of two weaker banks or merger of one healthy bank with one weak bank can be treated as the faster and less costly way to improve profitability than spurring internal growth. **One of the main motives behind the mergers and acquisitions in the banking industry is to achieve economies of scale. Scale economies arise when banks increase their scale of production and size by merging with other banks.**

### APPROACH OF INDIAN BANKING TOWARDS M & A

M&As in India have also been used as a tool for strengthening the financial system. Through a conscious approach, the weak and small banks have been allowed to merge with stronger banks to protect the interests of depositors, avoid possible financial contagion that could result from individual bank failures and also to reap the benefits of synergy. Thus, the Indian approach has been different from that of many other EMEs, wherein the Governments were actively involved in the consolidation process. For instance, in East-Asia, after the banking crisis in 1997, the Government led the process of bank mergers in order to strengthen capital adequacy and the financial viability of many smaller and often family-owned banks. In these crisis ridden countries, the involvement of the Government was inevitable, as viable but distressed institutions were hardly in a position to attract potential buyers without moving some non-performing loans to an asset management company and/or receiving temporary capital support. Such intervention also proved more cost-effective than taking the bank into public ownership. However, with the intensification in competition through deregulation, privatisation and entry of foreign banks in the emerging markets, consolidation is becoming more market-driven.

### LITERATURE REVIEW

B. Rajesh Kumar (2010) has discussed trends of mergers in Indian Banking Sector as well as strategic role of M&A in Indian economy. It is helpful to analyze the overall scenario of M&A in Indian Banking Sector. Reports on banking sector often indicate that India is slowly but surely moving from a regime of 'large number of small banks' to 'small number of large banks'. Jawa, Rachna(2009) in her study attempts to evaluate whether M&A have been able to generate value by comparing various measures of value creation pre and post merger as well as by a case study approach. The study on "M&As In The Indian Banking Sector - Strategic And Financial Implications" by Srinivasan R. (IIMB, Oct. 2009) analyzed that banks want to safeguard against risks, as well as exploit available opportunities indicated by existing and expected trends. M&As in the banking sector have been on the rise in the recent past, both globally and in India. In this backdrop of emerging global and Indian trends in the banking sector, this article illuminates the key issues surrounding M&As in this sector with the focus on India. It seeks to explain the motives behind some M&As that have occurred in India post-2000, It also analyze the benefits and costs to both parties involved and the consequences for the merged entity. A look at the future of the Indian banking sector, and some key recommendations for banks, follow from this analysis. Kakani Ram Kumar and Mehta Jay (November 2006) has written a paper on "Motives for Mergers and Acquisitions in the Indian Banking Sector - A Note on Opportunities & Imperatives" at SPJCM Singapore. (Working Paper No. 06-13) The aim of this paper is to probe into the various motivations for mergers and acquisitions in the Indian Banking sector. Kar, Rabi (2006) examines the issues and trends associated with M&A of business enterprise in India from 1990-91 to 2001. In order to carry out this analysis, he adopts the 16 major industrial groupings done by National Industrial Classification 1987 and further modifies it by using data from CMIE, Capital Market Online, BSE and NSE for the period 1991 to 2000. The study provides a rich sectoral trend analysis and provides a sector wise data bank of M&A taking place since 1991. Beena, P.L. (2001) in her study analyzed the role of mergers in the private corporate sector during the period 1972-73 to 1994-95. According to Beena, a substantial growth of M&As has been witnessed since 1990s. There were a total of 291 M&A deals during the period 1990-95. But the trend has been sharper since the latter half of 1990s. The total number of M&A jumped to a total number of 736 for the period 1995-2000. Thus, literature is reviewed to look into the various motivations behind a banks' merger/ acquisition event. Given the increasing role of the economic power in the turf war of nations, the paper looks at the significant role of the state and the central bank in protecting customer's interests vis-à-vis creating players of international size. While, gazing at the mergers & acquisitions in the Indian Banking Sector both from an opportunity and as imperative perspectives, the paper also glances at the large implications for the nation. After reading various research articles and notes, it has been found that no specific attempt has been made towards the analysis of performance of Indian banks with detailed focus on pre and post merger regime. This paper is a small effort towards analysis of Pre and Post Merger Financial Performance of Indian bank with the help of case study.

### RESEARCH OBJECTIVE

To analyze pre and post merger financial performance of the HDFC Bank in terms of changes in various financial parameters like EPS, DPS, Deposits, Advances and Profit After Tax

### RESEARCH HYPOTHESIS

$H_0$  = There is no significant difference between pre and post merger financial performance of HDFC Bank

### RESEARCH METHODOLOGY

The present study is descriptive in nature, which is based on empirical evidences in the form of case study based on secondary data available from database "ACEEQUITY" of Accord Fintech Pvt. Ltd. The data on various financial parameters like Deposits, Advances and Profit after Tax along with EPS and DPS were collected and analyzed with special focus on pre and post merger time period. This merger has taken place in 2008, so three years data (March 2008, 2009 and 2010) were available for the study. For pre merger period, total six years data prior to March 2008 were collected to smooth out the variance in per merger period and to become conservative in performance analysis. Then the all variables under the study are analyzed with the help of tools like percentage growth, average and standard deviations for both pre and post merger period. All the variables of financial performance were tested with "t test" assuming equal variance for two samples i.e. pre and post merger period.

### MERGER OF CENTURION BANK OF PUNJAB WITH HDFC BANK

The Housing Development Finance Corporation Limited (HDFC) was amongst the first to receive an 'in principle' approval from the Reserve Bank of India (RBI) to setup a bank in the private sector, as part of the RBI's liberalisation of the Indian Banking Industry in 1994. The bank was incorporated in August 1994 in the name of 'HDFC Bank Limited', with its registered office in Mumbai, India. HDFC Bank commenced operations as a Scheduled Commercial Bank in January 1995. Today, the bank boasts of as many as 1412 branches and over 3275 ATMs across India. In 2002, HDFC Bank witnessed its merger with Times Bank Limited (a private sector bank promoted by Bennett, Coleman & Co. / Times Group). With this, HDFC and Times became the first two private banks in the New Generation Private Sector Banksto have gone through a merger.

**On 25th February 2008, HDFC Bank Board approved the acquisition of Centurion Bank of Punjab (CBoP) for Rs 9,510 crore in one of the largest merger in the financial sector in India.** CBoP shareholders got one share of HDFC Bank for every 29 shares held by them. HDFC Bank and Centurion Bank of Punjab have agreed to the biggest merger in Indian banking history, valued at about \$2.4 billion. It was the beginning of a wave of M&A deals in the financial services industry, as India has relaxed restrictions on bank ownership in 2009. This was HDFC Bank's second acquisition after Times Bank. HDFC Bank jumped to the 7th position among commercial banks from 10th after the merger and the merged entity became second largest private sector bank. The merger has strengthened HDFC Bank's distribution network in the northern and the southern regions. CBoP had close to 170 branches in the north and around 140 branches in the south. CBoP has a concentrated presence in the Indian states of Punjab and Kerala. The combined entity had a network of 1148 branches. HDFC has also acquired a strong SME (small and medium enterprises) portfolio from CBoP. There is not much of overlapping of HDFC Bank and CBoP customers. The entire process of the

merger had taken about four months for completion. The merged entity is known as HDFC Bank. RanaTalwar's Capital hold less than 1 per cent stake in the merged entity from 3.48 in CBoP, HDFC shareholding falls from 23.28 per cent to around 19 per cent in the merged entity. RanaTalwar, chairman of Centurion Bank of Punjab, said, "I believe that the merger with HDFC Bank will create a world-class bank in quality and scale and will set the stage to compete with banks both locally as well as on a global level." According to HDFC Bank Managing Director and Chief Executive Officer AdityaPuri, "Integration will be smooth as there is no overlap. At 40% growth rate, there will be no lay-offs." The integration of the officials was smooth as there is hardly any overlap. There was a potential of business synergy and cultural fit between the two organizations. For CBoP, HDFC bank would exploit its underutilized branch network that had the requisite expertise in retail liabilities, transaction banking and third party distribution. The combined entity had improved productivity levels of CBoP branches by leveraging HDFC Bank's brand name. The deal created an entity with an asset size of Rs 1,09,718 crore (7th largest in India), providing massive scale economies and improved distribution with 1,148 branches and 2,358 ATMs (the largest in terms of branches in the private sector). CBoP's strong SME relationships complemented HDFC Bank's bias towards high-rated corporate entities. There were significant cross-selling opportunities in the short-term. CBoP management had relevant experience with larger banks (as evident in the Centurion Bank and BoP integration earlier) managing business of the size commensurate with HDFC Bank. The only drawback of this merger is that the merged entity will not lend home loans given the conflict of interest with parent HDFC and may even sell down CBoP's home-loan book to it. The retail portfolio of the merged entity will have more by way of unsecured and two-wheeler loans, which have come under pressure recently.

## PRE AND POST MERGER ANALYSIS OF HDFC BANK'S FINANCIAL PERFORMANCE

TABLE 1: GROUP STATISTICS OF HDFC

Indicators	Merger	N	Mean	SD
EPS	Post	3	54.02	9.83
	Pre	6	21.33	9.51
DPS	Post	3	10.17	1.76
	Pre	6	4.33	1.69
Deposits (amount in lakhs)	Post	3	1369948.73	336965.77
	Pre	6	384812.92	197570.78
Advances (amount in lakhs)	Post	3	960468.47	312983.75
	Pre	6	239809.05	150712.20
PAT (amount in lakhs)	Post	3	22612.73	6794.08
	Pre	6	6453.22	3173.49

HDFC and Centurion Bank of Punjab were merged on February 25, 2008. The financial performance of the bank was examined by studying the balance sheet data, six years before the merger and three years after the merger. Pre and post average EPS were Rs.21.325 lacs and Rs.54.02 lacs respectively. The average growth of EPS of the bank is found to be 153.32% after the merger. The mean DPS disbursed by the bank to the shareholders before and after the merger is Rs.4.33 lacs and Rs.10.17 lacs respectively. The mean percentage increase in DPS was recorded at 134.87% after the merger. The average Deposits observed before and after the merger is Rs.3,84,812.91 lacs and Rs.13,69,948.73 lacs respectively. The mean percentage increase in deposits was 256% after the merger. The average Advances disbursed by the bank to the various parties before and after the merger is Rs.2,39,809.05 lacs and Rs.9,60,468.47 lacs respectively. The mean percentage increase in advances was recorded at 300.51% after the merger. Average Profit of the bank before and after the merger was Rs.6,453.21 lacs and Rs.22,612.73 lacs respectively. After the merger, there has been a tremendous growth in the profit of the bank with an average increase of 250.41%. EPS of HDFC is continuously increasing from the year 2002 to the year 2010. EPS is calculated on the basis of Profit After Tax (PAT) divided by total no. of Equity shares. EPS has increased from Rs.10.56 lacs to Rs.64.42 lacs which show increase of 6.1 times. It is due to growth of profit also. In the year 2008, as the merger of HDFC and Centurion Bank of Punjab has done, there has been seen highest growth in 9 years. So, we can say that there is a synergy gain in EPS from the merger. DPS is calculated on the basis of dividend paid divided by total no. of equity shares. From the graph presented in annexure, it is observed that dividend payout is continuously rising. Retention ratio is kept low by giving higher dividend pay-out to the shareholders. It has been growing from Rs. 2.5 to Rs.12 from the year 2002 to the year 2010. Total growth in DPS is 5 times than in the year 2002. In the year of the merger that is in 2008, tremendous change has been taken place that is 380% increase in DPS. The Deposits of HDFC has increased significantly from Rs.1,76,538.1 lacs to Rs.16,74,044.3 lacs. In the year of merger, there is an increase in the amount of deposits. So it can be said that the synergy has been achieved from the merger. The increase in deposits is 9.48 times. The advances of HDFC have increased to Rs. 12,58,305.9 lacs from Rs. 68,137.2 lacs. Even after merger in the year 2008, the deposits are increased tremendously. The increase is 18.47 times in nine years. So it can be said that the synergy has been obtained from the merger. The PAT has increased to Rs. 91,660.53 lacs from Rs. 24,316.18 lacs for the year 2010 and 2002 respectively. This increase is because of increase in deposits and advances. Even after the merger in the year 2008 there is significant increase in that year so it can be said that the synergy is obtained. The increase in PAT is 3.78 times.

TABLE 2: PRE & POST MERGER FINANCIAL PERFORMANCE OF KEY VARIABLES

Year	EPS	DPS	Deposits (in lacs)	Advances (in lacs)	PAT (in lacs)
2002	10.56	2.5	176538.1	68137.2	2970.4
2003	13.75	3.0	223760.7	117548.6	3876.0
2004	17.95	3.5	304088.6	177445.1	5095.0
2005	21.48	4.5	363542.5	255663	6655.6
2006	27.92	5.5	557968.2	350612.6	8707.8
2007	36.29	7.0	682979.4	469447.8	11414.5
2008	44.87	8.5	1007686.0	634269.0	15901.8
2009	52.77	10.0	1428115.8	988830.4	22449.3
2010	64.42	12.0	1674044.3	1258305.9	29487.0

### HYPOTHESIS TESTING: T-TEST: TWO SAMPLE ASSUMING EQUAL VARIANCE

H0 = There is no significant difference between pre and post merger financial performance of HDFC

H1 = There is significant difference between pre and post merger financial performance of HDFC

TABLE 3: INDEPENDENT SAMPLE TEST OF HDFC

Indicators	Assumption	t-test	DoF	P(T<=t) two-tail
EPS	Equal Variances	4.8147	7	0.0019
DPS	Equal Variances	-1.9502	7	0.0921
Deposits (amount in lakhs)	Equal Variances	5.6724	7	0.0007
Advances (amount in lakhs)	Equal Variances	4.8469	7	0.0018
PAT (amount in lakhs)	Equal Variances	5.0619	7	0.0014

## CONCLUSION

P value is less than 0.05 in all parameters except DPS. As per t-test, if value of t-calculation is greater than 2.36, (at the 5% significance level)  $H_0$  is rejected. Here,  $H_0$  is rejected in case of EPS, deposits, advances, and PAT while  $H_0$  is not rejected in case of DPS. It means there is a significant difference between pre and post merger financial performance of the HDFC Bank in terms of changes in financial parameters named EPS, Deposits, Advances and Profit After Tax but there is no significant change in DPS after the merger. So, this indicates that the productivity and efficiency of the bank increased after the merger by considering all four parameters except DPS. **There is a synergy gain from the merger due to high growth in post merger performance. In HDFC Bank, all parameters have high growth after the merger.**

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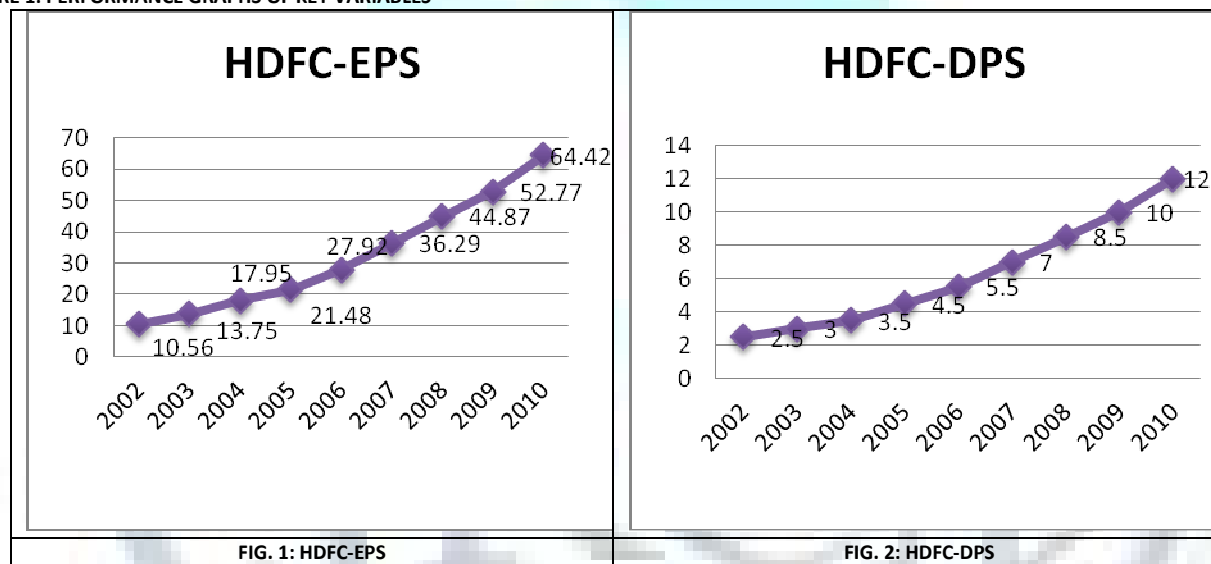
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## ANNEXURE

### ANNEXURE 1: PERFORMANCE GRAPHS OF KEY VARIABLES





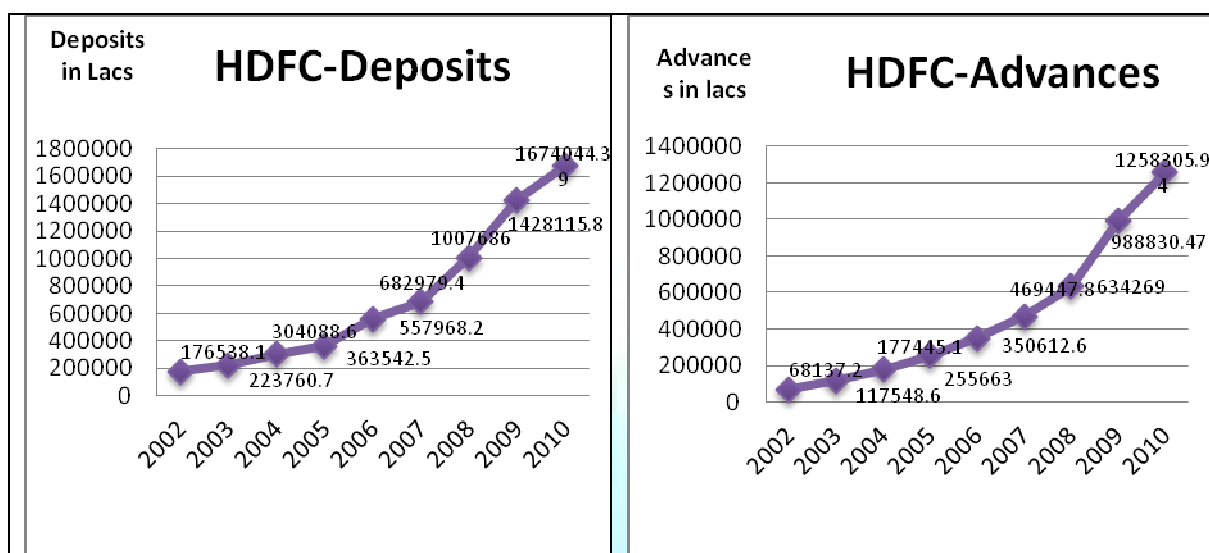


FIG. 3: HDFC-DEPOSITS

FIG.4: HDFC-ADVANCES

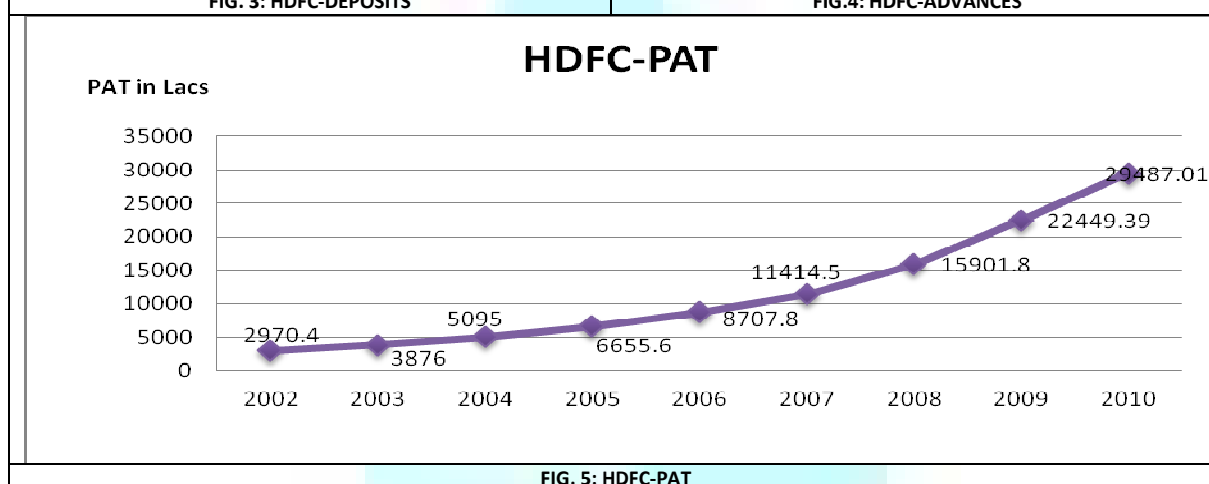


FIG. 5: HDFC-PAT

## ANNEXURE 2: BANKS AMALGAMATED SINCE NATIONALIZATION OF BANKS IN INDIA

Sr. No.	Name of Transferor Bank/Institution	Name of Transferee Bank/Institution	Date of Amalgamation
1	Bank of Bihar Ltd.	State Bank of India	November 8, 1969
2	National Bank of Lahore Ltd	State Bank of India	February 20, 1970
3	Miraj State Bank Ltd.	Union Bank of India	July 29, 1985
4	Lakshmi Commercial Bank Ltd.	Canara Bank	August 24, 1985
5	Bank of Cochin Ltd.	State Bank of India	August 26, 1985
6	Hindustan Commercial Bank Ltd.	Punjab National Bank	December 19, 1986
7	Traders Bank Ltd.	Bank of Baroda	May 13, 1988
8	United Industrial Bank Ltd.	Allahabad Bank	October 31, 1989
9	Bank of Tamilnadu Ltd.	Indian Overseas Bank	February 20, 1990
10	Bank of Thanjavur Ltd.	Indian Bank	February 20, 1990
11	Parur Central Bank Ltd.	Bank of India	February 20, 1990
12	Purbanchal Bank Ltd.	Central Bank of India	August 29, 1990
13	New Bank of India	Punjab National Bank	September 4, 1993
14	KashiNath Seth Bank Ltd.	State Bank of India	January 1, 1996
15	Bari Doab Bank Ltd	Oriental Bank of Commerce	April 8, 1997
16	Punjab Co-operative Bank Ltd	Oriental Bank of Commerce	April 8, 1997
17	Bareilly Corporation Bank Ltd.	Bank of Baroda	June 3, 1999
18	Sikkim Bank Ltd.	Union Bank of India	December 22, 1999
19	Times Bank Ltd.	HDFC Bank Ltd.	February 26, 2000
20	Bank of Madura Ltd.	ICICI Bank Ltd.	March 10, 2001
21	ICICI Ltd.	ICICI Bank Ltd.	May 3, 2002
22	Benares State Bank Ltd.	Bank of Baroda	June 20, 2002
23	Nedungadi Bank Ltd.	Punjab National Bank	February 1, 2003
25	Global Trust Bank Ltd.	Oriental Bank of Commerce	August 14, 2004
26	IDBI Bank Ltd.	IDBI Ltd.	April 2, 2005
27	Bank of Punjab Ltd.	Centurion Bank Ltd.	October 1, 2005
28	Ganesh Bank of Kurundwad Ltd.	Federal Bank Ltd.	September 2, 2006
29	United Western Bank Ltd.	IDBI Ltd.	October 3, 2006
30	Bharat Overseas Bank Ltd.	Indian Overseas Bank	March 31, 2007
31	Sangli Bank Ltd	ICICI Bank Ltd	April 19, 2007
32	Lord Krishna Bank Ltd.	Centurion Bank of Punjab Ltd.	August 29, 2007
33	Centurion Bank of Punjab Ltd.	HDFC Bank Ltd.	May 23, 2008
34	State Bank of Saurashtra	State Bank of India	August 14, 2008

**FINANCIAL STRENGTH - A STUDY OF REDINGTON INDIA LIMITED, TRICHY, TAMIL NADU**

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**ABSTRACT**

The researcher carried out the study with the objective of finding out the financial strength of REDINGTON INDIA LIMITED for the financial year 2006-2010. The researcher is interested in finding out the major factors that determine the financial performance of the organization. The researcher carried out the study with Analytical type of research design in the study with the help of secondary data collection method. For this purpose the researcher took past 5 years balance sheet into consideration. The data is checked out for the validity and reliability before conducting the study. The researcher used the following financial tool namely ratio analysis, Cash Flow Analysis and also statistical tools such as correlation. "Z" Score Model is used out to find the financial Strength of the company. The study reveals that the financial strength is satisfactory. Ratios help to summarize large quantities of financial data to make quantitative judgment about the financial performance of the firm's. Altman Z-Score analysis value is 4.96 from the year 2005-06 to 2009-10. Comparing the Altman guidelines for the healthy zone analysis the company is running in too healthy zone. It means its financial health is viable and its position of financial strength is not to fall. This paper introduced a new approach for performance evaluation – "Z" Score Model. The major contribution of this paper is the use of ratio used in financial analysis to tackle the problems of sample size and distribution uncertainty.

**KEYWORDS**

Financial Performance, Ratio Analysis, Cash Flow Analysis, Z-Score Model.

**INTRODUCTION**

The IT distribution industry in India has evolved rapidly over the past decade. It has undergone major transformation during this period in terms of the number of products, distributors and resellers, channel and vendor expectations. The IT distribution industry is witnessing growth fuelled by investment in the IT and ITES sector, increasing need for automation and information technology in all industries, increases in communication and computing infrastructure spending and increased internet usage in India.

The fast growth in IT hardware market is supplemented by adequate support system in place to sustain in the growth. As a result, the IT hardware services business is also on a growth phase. Hardware services are provided by authorized and unauthorized / third party services providers. Authorized service provider meets manufacturers' requirement like training, warranty tracking mechanism, minimum parts stock levels to meet the delivery commitment, escalation process, customer feedback, customer satisfaction etc. authorized service agent specializes on particular models where as unauthorized service Agent attends to all models without formal training. Some of the manufactures undertake servicing of their products directly. However, since the cost involved in providing this support function is high, they are present in limited cities and authorized service providers like us to cater to the needs of the customers in all locations, including the cities where they are present.

Financial Analysis is the process of identifying the financial strengths and weaknesses of the firm, by properly establishing the relationships between the items of the profit and loss account and balance sheet. These financial statements provide valuable insights into a firm's performance. Financial analysis may be done for a variety of purposes, which may range from a simple analysis of the short-term liquidity position of the firm to comprehensive assessment of strengths and weaknesses of the firm in various areas. It is helpful in assessing corporate excellence, judging credit worthiness, forecasting bond ratings, predicting bankruptcy and assessing market risk. Financial Ratios calculated with the help of information extracted from the financial statements play an important role in analyzing the financial performance of a firm. In this study, the financial performance for the last 5 years is assessed through 'Ratio analysis' and the required data are obtained from the annual accounts of REDINGTON INDIA LIMITED TRICHY.

**REVIEW OF LITERATURE**

**James Hutchinson (2010)<sup>1</sup>**, He realizes that about the long term debt to equity ratio of a Business. The ratio of these numbers tells a lot about the business. It is calculated by taking the debt owed by the company and divided by the owner's equity, also known as capital. The debt number may include all liabilities, or just long term debt.

**Jo Nelgadde (2010)<sup>2</sup>**, in this article he briefly about the asset management ratio. It divided into different types of categories. He state that about the used to analyze accounts receivable and other working capital figures to identify significant changes in the 12 company's operations and financial accounts. He said that there are two categories about this ratio such as account receivable turnover and average age of account receive. He measurement the ratio as, Accounts receivable turnover = Sales / Average Accounts receivable. Average age of accounts receivable/ collection period = 365 days / Accounts receivable Turnover.

**Gopinathan Thachappilly (2009)<sup>3</sup>**, he shows that the EPS is computed by dividing the company's earnings for the period by the average number of shares outstanding during the period. He discuss that Stock analysts regularly estimate future EPS for listed companies and this estimate is one major factor that determines the share's price. Price/Earnings (PE) Ratio = Stock Price per Share / Earnings per Share (EPS). Hence, many investors prefer the Price/Sales ratio because the sales value is less prone to manipulation. Price/Sales (PS) Ratio = Stock Price per Share / Net Sales per Share. The Dividend Yield, The dividend yield ratio annualizes the latest quarterly dividend declared by the company Dividend Yield = Annualized Dividend per Share / Stock Price per Share

**Gopinathan Thachappilly (2009)<sup>4</sup>**, in this articles he express about Debt to Equity Ratio (Debt Capital Ratio) = Total Liabilities / Shareholders' Equity. Capitalization (Term Debt Ratio) = Long-term Debt / (Long-Term Debt + Shareholders' Equity). Interest Coverage Ratio = Profit before Interest and Taxes (PBIT) / Interest Expense. Simultaneously, debt ratios and the related interest coverage ratio checks the soundness of a company's financing policies. One the one hand, use of debt funds can enhance returns to owners. On the other hand, high debt can mean that the company will find it difficult to raise funds during lean periods of business.

**Lucia Jenkins (2009)<sup>5</sup>**, Understanding the use of various financial ratios and techniques can help in gaining a more complete picture of a company's financial outlook. He thinks the most important thing is fixed cost and variable cost. Fixed costs are those costs that are always present, regardless of how much or how little is sold. Some examples of fixed costs include rent, insurance and salaries. Variable costs are the costs that increase or decrease in ratios proportion to sales.

**James Clausen (2009)<sup>6</sup>**, He denotes that about the total asset ratio. The calculation uses two factors, total revenue and average assets to determine the turnover ratio. When calculating for a particular year, the total revenue for that year is used. Instead of using the year ending asset total from the balance sheet, a more accurate picture would be to use the total average assets for the year. Once the average assets are determined for the same time period that revenue is compared, the formula for calculating the asset turnover ratio is.  $\text{Total Revenue} / \text{Average Assets} = \text{Asset Turnover Ratio}$ .

**James Clausen (2009)<sup>7</sup>**, He state that the Profitability Ratio Analysis of Income Statement and Balance Sheet Ratio analysis of the income statement and balance sheet are used to measure company profit performance. He said the learn ratio analyses of the income statement and balance sheet. He defines the income statement shows the net profit of the company by subtracting expenses from gross profit (sales – cost of goods sold). Furthermore, the balance sheet lists the value of the assets, as well as liabilities. In simple terms, the main function of the balance sheet is to show the company's net worth by subtracting liabilities from assets. He said that the balance sheet does not report profits, there's an important relationship between assets and profit. The business owner normally has a lot of investment in the company's assets.

**V. Denadhayan and Mrs. R. Divya Anbarasi (2007)<sup>8</sup>** They have suggested that the Z-score of a sample size remain below the grey area from 1997 to 2007. But in the year 2001-2002 there is in the Z-score. After 2001-02 the decreases in the score in the case that the sample unit is not financially sound and healthy. The sample unit needs to put in the efforts to increase the score. This will help the sample unit to and avoid any damage to its liquidity and solvency position thereby avoiding financial disaster and bankruptcy.

**M. Kannadasan (2007)<sup>9</sup>** an attempt has been made in the present study to have an insight into the examination of financial health of Watch Company in India. To evaluate the financial condition and performance of a company this study use Z-score model which capture the predictive viability of a company's financial health by using a combination financial ratio ultimately predict a score which can be used to determine the financial health of a company. The study concludes that the company overall financial health was good.

**Jose M. Moneva. Eduardo Ortas (2010)<sup>10</sup>** in his study 'Corporate environmental and financial performance: financial performance in order to show managers how an adequate management of environmental factors could contribute to the financial success of the firm. The results support the idea that enterprises which obtained higher rates of environments performance show better financial performance levels in the future.

**John iron (2010)<sup>11</sup>** in his study "Financial Statements why it is important for all business?" states that the purpose of financial statements is to give information regarding the financial situation, performance and changes in financial situation of a venture that is helpful to wide range of users in making financial decisions. Financial statements should be comprehensible, appropriate, reliable and comparable. Reported property, liabilities and equity are directly connected to an organization's financial performance.

**Ramachandra Reddy and Yuvaraja Reddy (2007)<sup>12</sup>** examined the financial performance of the selected cement companies in Andhra Pradesh by Market Value added approach. Objective of the study was to examine the effect of return on net worth, capital productivity, labour productivity, earnings per share, economic value added, return on sales return on total assets and cash profit on market value added.

**Dr. Sangeetha Arora and Shubpreet Kaur (2006)<sup>13</sup>** attempted an empirical study on financial performance of Indian Banking Sector in post reforms era. For the purpose of analysis banks have been categorized into private, foreign sector banks, nationalized and State Bank of India and it's associated. A comparative analysis has been undertaken on the basis of seven key indicators namely return on assets, capital asset risk weathered ratio, non-performing assets level and off-balance sheet operations of scheduled commercial banks form the sector banks have improved considerably when compared with other sectors they are lagging in thrust areas viz, business per employee, profitability and asset quality.

**Dr.T.Satyanarayana chary and Prasad.T (2006)<sup>14</sup>** analyzed the performance of MC Semiconductor Technology Limited – a venture capital unit. They analyzed the performance for a period of 5 years from 2000 to 2004 through liquidity, leverage, activity and profitability ratios. They observed that the overall financial performance of the company is not good over the study period as it combating with the new technologies of IT industry it take 5 to 10 years to prove themselves fixed sources through working capital to be avoided, proper capital mechanism should be devised and implemented to control the expenditure of the organization and the main objective of shareholders wealth maximization is to be achieved by providing at least the minimum rate of return.

**S. K. Bagchi (2004)<sup>15</sup>** analyzed the "Accounting ratios for risk evaluating". He stated that the commercial banks may lay high stress on some ratios like current ratio, acid test for working capital finance, financial institutions may consider the other ratio more relevant like debt service coverage ratio, cash flow ratio, etc. an investor may give equally importance for both ratios. He stated standard level for various ratios and advised if any company ratio not adequate around the standard show it has high risk.

**Reserve Bank of India (2003)<sup>16</sup>** analyzed the performance of 920 non-government financial and investment companies other than banking insurance and chit fund companies during the year 2001-02. The companies were classified the into six major groups according to their activity viz., share trading and investment holding, loan finance, hire purchase finance, leasing diversified and miscellaneous. It was profits despite a marginal decline in their main income. Growth in profit was due low depreciation provision and other operating expenses compared to the previous year. The profit margin and the return on shareholder funds were higher in 2001-02 than the year 2001-02. The dividend rate was fractionally higher during the period. Profit margin was highest in case of diversified companies followed by share trading and investment holding. External sources like debenture issue, bank borrowings and public deposits were continued to be the major sources of finance. Investment in securities of their Indian companies and mutual funds, loans and advances against hire purchases and other revisable were the important uses of funds during the year.

**Navdeep Aggarwal and Singla.S.K. S. K (2001)<sup>17</sup>** developed a single index model for analyzing the financial performance by using Multi- Discriminate analysis (MDA). The MDA analysis brings the light of most important indicators of financial performance namely inventory turnover ratio, interest coverage ratio, net profit to total assets and earnings per share, these factors were inter-related with inventory turnover, interest coverage, net profit and earnings per share, the discriminate score of net profit to total assets, interest coverage ratio, earnings per share and inventory turnover ratios were 13.1146, 0.2323, 0.0156 and 0.2183 respectively.

**Shergill, G. S., et al. (2000)<sup>18</sup>** examined the market structure and financial controls. They found that there was a negative relationship exists between concentrations to profitability to capital intensity due to ideal capacity and a positive relationship observed between risks and profitability due to efficient management. An ideal manager seeks to achieve high profitability with how variation of earnings.

## PROBLEM DEFINITION

Financial performance analysis is the process of determining the operating and financial characteristics of a firm from accounting and financial statements. The ability of an organization

to analyze its financial position is essential for improving its competitive position in the marketplace. Through a careful analysis of its financial performance, the organization can identify opportunities to improve performance of the department, unit or organizational level. In this context an attempt has been made an analysis of financial performance of IT Company to understand how management of finance plays a crucial role in the growth.

## RESEARCH GOALS

The goal of financial performance analysis is to determine the efficiency and performance of firm's management, as reflected in the financial records and reports. The analyst attempts to measure the firm's liquidity, profitability, and other indicators that the business is conducted in a rational and normal way; ensuring enough returns to the shareholders to maintain at least its market value. In this context an attempt has been made an analysis of financial performance of REDINGTON INDIA LIMITED, TRICHY Company to understand how management of finance plays a crucial role in the growth.

**OBJECTIVES OF THE STUDY**

- To find the financial performance of Redington India limited for the past five years.
- To study the financial soundness in terms of liquidity, Solvency and Profitability.
- To know the efficiency of payables management in the organization.
- To analysis the financial strength of the company.

**RESEARCH DESIGN**

Research design constitutes the blue print for collection, measurement and analysis of data. The type of research used here is analytical and descriptive. The required data was collected from secondary data like the annual reports of the organization of previous 5 years. The tools used are Ratio Analysis, Cash flow analysis, correlation and Altman Z – Score Model for analyzing financial strength of the company.

**DATA ANALYSIS****RATIO ANALYSIS****TABLE NO: 1****(Rs. In lakhs)**

Year	Current Ratio	Liquid ratio	Absolute Ratio	Debt Equity Ratio	Proprietor Ratio	GPR	NPR	OR	STR	DTR	DCP	CTR
2005-2006	2.34	1.43	0.54	0.54	0.54	1.29	0.83	101.48	26.92 times	10.18 times	34 days	27.54 times
2006-2007	2.40	1.49	0.42	0.59	0.42	1.39	0.90	95.74	21.99 times	8.90 times	41 days	17.43 times
2007-2008	2.06	1.19	0.46	0.44	0.46	1.79	1.16	95.11	18.42 times	13.50 times	27 days	14.19 times
2008-2009	1.97	1.31	0.43	0.47	0.43	1.92	1.25	88.70	16.40 times	9.90 times	37 days	11.54 times
2009-2010	1.77	1.03	0.39	0.56	0.39	2.52	1.64	100.31	21.16 times	8.94 times	41 days	9.97 times

**INFERENCE**

The current ratio is increased from 2.34 in 2006 to 2.40 in 2007. The liquid ratio of the company for the past five years is in fluctuating trend (1.43 - 1.03). Though it satisfies the ideal norm 1:1 of liquid ratio it is not satisfactory for the company to have decreasing trend. Absolute ratio indicates does not satisfy the standard ratio of 0.75:1. So the company should improve its cash positions. Debt-equity ratio has increased during the study period it indicates the desirable. Proprietary ratio of the company has decreasing trend. It indicates does not satisfy position. Gross profit ratio has increased during the study period. As the ratio is higher it shows a good management. Net profit ratio has increased in last five years. It indicates the efficiency of the business. The operating profit ratio has decreased in the earlier and increased later during the year study period 2009-2010. The stock turnover ratio has decreased in the earlier and increased later during the year 2009-2010. Thus the stock movement has improved. Debtor's turnover ratio shows fluctuation. It indicates the debts were collected promptly as the ratio is higher. Creditor's turnover ratio has decreased during the study period 2006-2010. It indicates the liberal credit terms given by suppliers. Fixed assets turnover ratio has decreased during the study period. It indicates the utilization of fixed assets has decreased.

**CASHFLOW STATEMENT DURING 2005-06 TO 2009-10****OVERALL CHANGES IN CASH FLOW STATEMENT DURING 2005-06 2009-10****TABLE NO: 2****(Rs. In Lakhs)**

PARTICULARS	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
Cash flow from operating activities	-2453.22	-12378.9	21353.62	2685.83	8905.75
Cash flow from investing activities	-3904.05	-5534.14	-10226.4	-1294.96	-14821.3
Cash flow from financial activities	8772.07	23987.81	-12749.9	-3554.38	2316.15
Net increase in cash and cash equivalents	2414.80	6074.76	-1622.63	-2163.51	-3599.35
Cash and cash equivalents at the end of the year	3307.10	9381.86	7759.23	5595.72	1996.37

**INFERENCE**

The table shows cash flow analysis, the cash from operations for the years 2006 and 2010. This indicates company has spent more on inventories and there is increased receivable, implying that the major portion of cash is locked in the form of inventories and receivables, which in turn will affect the working capital of the firm.

**CORRELATION ANALYSIS****TABLE NO: 3: CORRELATION ANALYSIS DURING 2005-06 TO 2009-10**

		Reserve & suplus	Secured	Unsecured	Current liabilities	Sales	Current assets
Reserves& surplus	Pearson Correlation	1	.807	-.340	.956*	.955*	.947*
	Sig. (2-tailed)		.099	.576	.011	.011	.015
	N	5	5	5	5	5	5
Secured	Pearson Correlation	.807	1	-.691	.922*	.839	.831
	Sig. (2-tailed)	.099		.196	.026	.076	.081
	N	5	5	5	5	5	5
Unsecured	Pearson Correlation	-.340	-.691	1	-.569	-.250	-.229
	Sig. (2-tailed)	.576	.196		.317	.686	.711
	N	5	5	5	5	5	5
Current liabilities	Pearson Correlation	.956*	.922*	-.569	1	.928*	.918*
	Sig. (2-tailed)	.011	.026	.317		.023	.028
	N	5	5	5	5	5	5
Sales	Pearson Correlation	.955*	.839	-.250	.928*	1	1.000**
	Sig. (2-tailed)	.011	.076	.686	.023		.000
	N	5	5	5	5	5	5
Current assets	Pearson Correlation	.947*	.831	-.229	.918*	1.000**	1
	Sig. (2-tailed)	.015	.081	.711	.028	.000	
	N	5	5	5	5	5	5

\* Correlation is significant at the 0.05 level (2-tailed).

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



**INFERENCE**

The above table shows the correlations between six variables. Reserves and surplus is found to be correlated with secured loans. Reserve and surplus had not correlated with unsecured loans and it not significant. Reserve and surplus highly correlated (.956, .955, .947) with current liabilities, sales and current assets and its significant level at (0.01).

Secured loan is found to be correlated with Reserves and surplus. Secured loan had not correlated with unsecured loans. Secured loan is highly correlated (.922) with current liabilities and its significant level at (0.01). Secured loan is correlated with sales and current assets.

Unsecured loan had not correlated with reserves and surplus, secured loan, current liabilities, sales and current assets.

Current liabilities are highly correlated (.956, .922) with reserve and surplus and secured loan and its significant level at (0.01). Current liabilities had not correlated with unsecured loans. Current liabilities are highly correlated with (.928, .918) with sales and current assets and its significant level at (0.01).

Sales are highly correlated (.955) with reserves and surplus and its significant level at (0.01). Sales are correlated with secured loan. Sales are had not correlated with unsecured loan. Sales are highly correlated with current liabilities. Sales are highly correlated (1.00) with current assets and significant level at (0.05).

Current assets are highly correlated with reserves and surplus. Current assets are correlated with secured loan. Current assets are had not correlated with unsecured loan. Current assets are highly correlated (.918, 1.00) with current liabilities and sales and its significant level at (0.01, 0.05).

**Z-SCORE MODEL****a) RATIO OF WORKING CAPITAL TO TOTAL ASSETS ( $X_1$ ) =  $X_1$  = Working capital / Total assets****TABLE NO : 4 a (Rs. in lakhs)**

Year	Working capital	Total assets	Ratio
2005-2006	29078.98	83305.48	0.35
2006-2007	49990.24	127014.09	0.47
2007-2008	38397.35	124626.34	0.37
2008-2009	43945.37	143939.74	0.31
2009-2010	44454.52	172538.79	0.26
<b>Average</b>			<b>0.35</b>

**INFERENCE**

From the above table shows the ratio of working capital to total assets for the year 2005-2006 to 2009-2010. It is a fluctuating trend. The average ratio is 0.35.

**b) RATIO OF RESERVES & SURPLUS TO TOTAL SALES ( $X_2$ ) =  $X_2$  = Reserves & surplus / Total sales****TABLE NO: 4 b (Rs. in lakhs)**

Year	Reserves	Sales	Ratio
2005-2006	30454.61	350595.89	0.09
2006-2007	45715.67	471256.41	0.09
2007-2008	49168.29	577100.71	0.08
2008-2009	53652.13	644961.42	0.09
2009-2010	59734.15	606615.65	0.10
<b>Average</b>			<b>0.09</b>

**INFERENCE**

From the above table shows the ratio of reserves & surplus and total sales for the 2005-2006 to 2009-2010. It shows the desirable of following year. The average ratio is 0.09.

**c) RATIO OF EBIT TO TOTAL ASSETS ( $X_3$ ) =  $X_3$  = EBIT / Total assets****TABLE NO: 4 c (Rs. in lakhs)**

Year	Working capital	Total assets	Ratio
2005-2006	4333.15	83305.48	0.05
2006-2007	6562.93	127014.09	0.05
2007-2008	10357.09	124626.34	0.08
2008-2009	12425.11	143939.74	0.09
2009-2010	15315.78	172538.79	0.09
<b>Average</b>			<b>0.07</b>

**INFERENCE**

From the above table shows the ratio of EBIT to total assets for the year 2005-2006 to 2009-2010. It is a fluctuating trend. The average ratio is 0.07.

**d) RATIO OF EQUITY CAPITAL TO BOOK VALUE OF LIABILITIES ( $X_4$ ) =  $X_4$  = Equity Capital / Book value of Liabilities****TABLE NO: 4 d (Rs. in lakhs)**

Year	Equity Capital	Book value of Liabilities	Ratio
2005-2006	6308.22	42033.42	0.15
2006-2007	7786.57	65895.29	0.12
2007-2008	7786.57	63948.13	0.12
2008-2009	7786.57	78316.56	0.10
2009-2010	7863.6	100093.2	0.08
<b>Average</b>			<b>0.11</b>

**INFERENCE**

From the above table shows the ratio of Equity capital to book value of liabilities for the year 2005-2006 to 2009-2010. It is a fluctuating trend. The average ratio is 0.11.

**e) RATIO OF EQUITY CAPITAL TO BOOK VALUE OF LIABILITIES ( $X_5$ ) =  $X_5$  = Sales / Total Assets****TABLE NO: 4 e****(Rs. in lakhs)**

Year	Sales	Total assets	Ratio
2005-2006	350595.89	83305.48	4.21
2006-2007	471256.41	127014.09	3.71
2007-2008	577100.71	124626.34	4.63
2008-2009	644961.42	143939.74	4.48
2009-2010	606615.65	172538.79	3.52
<b>Average</b>			<b>4.11</b>

**INFERENCE**

From the above table shows the ratio of Sales to Total Assets for the year 2005-2006 to 2009-2010. It is a fluctuating trend. The average ratio is 4.11.

**ALTMAN Z-SCORE MODEL**

$$Z = 1.2 X_1 + 1.4 X_2 + 3.3 X_3 + 0.6 X_4 + 1.0 X_5$$

Where,

Z = Discriminate function score of a firm.

$X_1$  = Working capital / Total assets

$X_2$  = Reserves & surplus / Total sales

$X_3$  = EBIT / Total assets

$X_4$  = Equity capital / Book value of total liabilities.

$X_5$  = Sales / Total assets.

$$Z = 1.2 (\text{average value of } X_1) + 1.4 (\text{average value of } X_2) + 3.3 (\text{average value of } X_3) + 0.6 (\text{average value of } X_4) + 1.1 (\text{average value of } X_5)$$

$$Z = 1.2 (0.35) + 1.4 (0.09) + 3.3 (0.07) + 0.6 (0.11) + 1.0 (4.11)$$

$$= 4.96$$

**ALTMAN GUIDELINES FOR FINANCIAL HEALTHY ZONE**

Situation	Z-Score	Zone	Remarks
I	Below 1.8	Not healthy	If failure is certain and extremely likely and would occur properly with in a period of 2 years
II	Between 1.8 and 2.99	Healthy	Financial viability is considered health. The failure in the situation is uncertain to predict.
III	3.0 and above	Too healthy	It financial health viable and not to fall.

**INFERENCE**

From the above Altman Z-Score analysis shows the financial health of the company. The Z-Score value is 4.96 from the year 2005-06 to 2009-10. Comparing the Altman guidelines for the healthy zone analysis the company is running in too healthy zone. It means its Financial health is viable and the its position of Financial strength is not to fall.

**SUGGESTION**

- The current ratio is showing a decreasing trend which is obviously very difficult to manage its working capital. Hence the current ratio should be increase by properly handling the current assets and current liabilities.
- Liquid assets are readily available for the company for its day to day needs. So it has an high importance to maintain the liquidity position of the company. Hence liquid assets should be properly maintained.
- The company has maintained increasing trend of the debt-equity ratio to have good solvency position
- The main objective of the company is to maximize the value of shareholders funds so the company has to concentrate with its share capital
- Proper planning is necessary to maintain profitability and liquidity position of the company.
- Higher stock turnover is evidence for the good maintenance of stock into sales which directly increase the net profit of the company.
- The company should reduce giving more credit to its debtors to maintain its working capital.
- The collection period is high hence the current assets are blocked which affect the working capital position of the company and its liquidity position. It should be avoided.
- The company maintained good credit turnover ratio which enhances the credit worthiness.
- The company mainly depends on current assets and not a fixed asset. The company can do better by improving its fixed assets comparing to sales.
- Cash should be maintained properly reducing credit limits to the debtors and increasing credit limits to the creditors.
- Comparing the Altman guidelines for the healthy zone analysis the company is running in too healthy zone. It means its Financial health is viable and the its position of Financial strength is not to fall.

**LIMITATIONS OF THE STUDY**

- The study is only for a period of 5 years from 2005-06 to 2009-10.
- Study exclusively depends on the published financial data, so it is subject to all limitations that are inherent in the condensed published financial statements.
- Financial analysis is based on the statement of the company which suffers from their inherent limitations. Only audited records are considered for analysis.
- The data collected is only one company and this might not be true representation of the population. This is a major limitation of the research.

**CONCLUSION**

On studying the financial Performance of REDINGTON INDIA LIMITED for a study period of five years 2005-2006 to 2009-2010, the study reveals that the financial strength and performance satisfactory. Ratios help to summarize large quantities of financial data to make quantitative judgment about the financial strength of the firm's. Thus the company is having constant profit which is the sign of it a good financial strength of the company. Still it can be concentrating more on inventory, debtors, and creditors to enable itself in completing the forthcoming business dynamics.

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## A STUDY ON THE MANAGEMENT ACTION PROFILE OF THE TRIBALS IN THE NILGIRIS DISTRICT OF TAMIL NADU

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### ABSTRACT

*The life and culture of the various tribes in India always kindled interest and amusement. Prized with the vast, rich forests and hills, the country has many aboriginal tribes inhabiting them, preserving their distinct identities. This study is conducted in the Nilgiris district of Tamil Nadu and covers five tribes living in the district. Two hundred respondents from each tribe namely Kotas, Todas, Kurumbas, Paniyas and Irulas were chosen for the study. Altogether four dimensions were studied that is activator, director, co-operator, and evaluator. The results indicate that they have more drive as activator and evaluator.*

### KEYWORDS

Profile, activator, director, co-operator, evaluator.

### INTRODUCTION

The origin of the term tribe is closely connected with the rise of European colonialism and its racist ideology. It is crucial to acknowledge that several of the present day "tribes" were once considered as nations and peoples by the same Europeans who wanted to establish commercial and diplomatic relations with them. It was the colonial subjugation that transformed such nations, countries, kingdoms and peoples into "tribes". The term has no equivalent in Africa, Asia, Australia or America, prior to the colonial annexation (Vlukhr-Lobban, et. Al., 1976 : 143-65). Constituting as an integral part of the ideology of racism, it is freely used for hegemonic purposes. With all its connotations of primitivity and unfounded distinction between primitive and civilized in terms of inferior and superior (Diamond, 1972), the term was freely used by the colonial powers to dominate and oppress the peoples and nations of the Third World. The stress on their moral inferiority rationalized colonial domination in terms of the "White Man's Burden" and contributed to the maintenance of the status quo of colonialism (Diamond, 1971: 172). Subsequently, with the rise of national liberation movements in the colonies, ironically their cultures were magnified and the myth of "noble and contended savage" was spread to divide the struggling peoples and join hands with pro-imperialist sections from among them (Maquet, 1964: 50). The shift in perspective was obviously a calculated move to consolidate the colonial aggression. Besides it is not merely accidental that only in the heydays of colonialism, were the people labeled as tribes. True the term survives as its strength of ideological manipulation has not yet been lost even in the post-colonial states. In countries like India, Indonesia, Malaysia etc., where only a fraction of the population was designated as tribe, the term has persisted with even more reliance and political utility.

L.H. Morgan (1877) defined tribe as a "completely organized society" in a barbarian stage, established a series of stages through which humanity was supposed to have proceeded, based on productive technology. While early twentieth century anthropology sought to dispense Morganian ideas of evolutionary changes, recently, the neo-evolutionists like Sahlins (1961) and Service (1962) himself removed chiefdom from the scheme.

India has one of the largest tribal populated countries in the world. According to 1991 census, the total scheduled Tribes population is estimated to be 67.76 millions. They account for 8.07 of the nation's population. Yet they continue to be the weakest among all sections of the society.

The life and culture of the various tribes in India always kindled interest and amusement. Prized with the vast, rich forests and hills, the country has many aboriginal tribes inhabiting them, preserving their distinct identities. One such hills that are credited with the origin of some prominent, ancient tribes, is the Nilgiri hills (or, the Blue Mountains) in Tamil Nadu that are quite popular. A brief description of the tribals taken for the research study are given below

**Kotas:** The 'Kota' tribal name is said to be derived from the root "ko" which means cow. The Kota people believe that their forefathers were cows. A place they live in is called a "kokkal", meaning resting place of the cows. This leads us to assume that Kota tribes were originally cow-herders who later adapted to the profession of pottery. The tribes of Cow-herders were once extensively spread in India. Kota or Kota tribes at present speak Kota language and live in Nilgiri area of Tamilnadu. As per the census, Kota people are more than 2000 in overall Nilgiris district. Here in this population over 80% of them are educated.

**Toda:** The Todas are the inhabitants of the Nilgiris District hills, and they are one of the most picturesque tribes in India. Even though there are six major primitive tribes in the districts, the Todas have attracted for greater attention both here and foreign countries than any other single tribal community. They traditionally trade dairy products with their Nilgiris neighbor peoples.. At the early stage from were people in large number but slowly it has been decreased. At present there are around 1,500 people in Nilgiris district.

**Irulas:** Irulas are one of the poorest tribal communities with a population of 2.1 lakhs, concentrated mainly in North Eastern Tamil Nadu. Irulas with a few subsects among them are living in Masinagudi area, and in parts of Kotagiri and Coonoor Taluks. They are generally engaged in Collection of minor forest products. This is a seasonal operation and they work as casual agricultural laborers on local estates. Some of them are also engaged in looking after the herds of cattle belonging to others. Some are engaged in agriculture in the patta lands, conditionally assigned to them, where they have raised tea, coffee, jack trees, guava etc.

**Kurumbas:** People identified as Kurumbas have been reported across a wide area in south India. Major settlements, however, are found in the Nilgiri area located between 11° 10' and 11°30' N and between 76°25' and 77°00' E, at the junction of the Eastern Ghats and the Western Ghats. There the Kurumbas



occupy the thickly forested slopes, glens, and foothills of the Nilgiri Plateau. The Kurumba houses known as "GUDLU" are temporary constructions in the forests. The traditional occupation of the Kurumbas is food gathering, like collection of honey and forests produce

**Paniyans:** The Paniyans or Paniyas are found in southern part of India in the state of Tamil Nadu, Kerala and Karnataka. In all these three states they are referred as Paniyans. In list approved Primitive Tribal Group (PTGs) by the Government of India, the Paniyans are identified as a Primitive Tribal Group, only in Tamil Nadu not in Kerala and Karnataka states. In Tamil Nadu the Paniyans are found only in Gudalur and Pandalur taluks of Nilgiri Districts. The population of Paniyans is quite high, comparing to the other tribal people. But according to the population level the education level does not equalize.

**The Management Action Profile (MAP)** has been designed largely as a follow-up instrument to The Leader Style and Profile and Professional Style Profile. It may, however, be used equally as a management profile in its own right, or as one of several instruments to provide indications of both individuals and team styles on assessment and development centres. It is particularly useful as a means of giving managerial dimensions to the personality attributes identified in the 16PF or Myers Briggs inventories. The aim of The Map is to help you identify your Primary and Backup modes of Acting, when in the role of director, or manager. It seeks, therefore, to categorize and defines your behaviour – not you as a person. It also sets out to identify how some of your most important behaviours combine and interact when managing, to produce different management action styles.

## OBJECTIVE OF THE STUDY

1. To analyze the management action profile of the five tribes.
2. To determine the differences that exists among the five tribes.

## MATERIAL AND METHODS

### AREA OF RESEARCH

The Nilgiris district of Tamil Nadu is chosen for the present study.

### SAMPLE POPULATION

Five tribes of the districts namely Kotas, Todas, Irulas, Kurumbas, Paniyas are chosen for the study.

### SAMPLE SIZE

A total of 1000 respondents are taken for the study, 200 respondents ranging from 20 to 40 years of age from each tribal group were selected for the present study.

### SAMPLING METHODS

The methods of sampling used for this study is Simple Random Sampling.

### DATA COLLECTION METHOD

Primary data is collected through a set of questionnaires and interview method is followed to gather the required information. Secondary data is collected through various journals, internet and other related books.

## REVIEW OF LITERATURE

Tribal India depicts of the persistence of large number of problems. As the geographical configuration of tribal areas are mostly located in altitudes between 1000 to 3000 feet, and the terrain is highly with the consequent loss of fertility and soil erosion, agricultural as a source of their livelihood has been mostly unproductive (Das P.K, Gulani: P.,L., 1980). The tribal's live in an environment of life even when the forests and land resources are utilize to the optimum extent (21<sup>st</sup> report of the SC, ST Commission, 1971-72, 1972-73). They are deeply religious, traditional bound and God fearing. Most of them are literate and ignorant and even elementary calculations involved in day – to – day measurements in selling their products. The tribal economy, especially in the inaccessible tribal areas in coupled with environmental factors has significantly contributed towards their low living condition (Quarish, M.A, 1974). In the post – independent India, the government is pursuing the policies of protection, integration and development (Ramaiah, p, 1981). The constitution of India guaranteed certain safeguards to the tribal people under various matters of public interest, keeping in view of their long isolation and arrested growth. In pursuance of these, the government has initiated several policy measures and programmes to ensure a better quality of life and to protect them from exploitation. A shift in the policy of isolation to integration of India tribes was indeed a very healthy trend and a major landmark in tribal development. Despite the positive impact of these measures on the well being of tribals, majority of them still derive their livelihood by cultivation, manual jobs, hunting and collection of minor forest produce (Jain.H.C. and Das. N, 1981). In the process of the development in the hitherto inaccessible tribal areas are thrown open by modern means of communications results in a larger number of industrial projects have been located in the tribal areas, but tribals could not take full advantage of the employment opportunities thrown open by this projects. On the contrary, they have lost the land which they have been ploughing for generations. They generally get employment in these projects at the time of constructions but they are thrown out of employment once these projects are commission for want of education, technical skills etc., the tribal's who are enjoying equal rights under constitution have not yet developed political consciousness like other weaker sections of the society (Jena, A., 1986).

## RESULTS AND DISCUSSION

The study is confined to test four skills namely activator, director, co-operator and evaluator. The Table I describes each skills with mean and standard deviation. It is inferred from table – I that the tendency to lead in developing opportunities and exchange of information shows the highest mean ( 1.19) than other sub factors in the skill "Activator". There are fewer tendencies towards working closely in a group as well as winning people by persuasion. The skill of directing is comparatively less among the tribals living in the Nilgiris district of Tamil Nadu. A philosophy of –"I' ll find a way – or 'I' ll make a way" has the highest mean value (1.17) indicating that the tribal's has the habit of working on their own without seeking much help from others. As an evaluator they would like to leave decision making to those who are well qualified or in the right position to make them. From the table it can be concluded that the behavior of the population is more as an evaluator and activator. The other two behaviors taken in study that is co-operator and director has shown less significance. Since they live in groups, they are approachable, considerate and friendly. (1.14). Personal accountability is less among the tribals (1.07) but they are good at identifying, determining and setting work objectives by themselves (1.15). They have greater tendency towards dropping or avoiding, those relationships that seems to prove fruitless, negative or very difficult to handle.

TABLE I: MANAGEMENT ACTION PROFILE OF THE TRIBALS

Activator	Mean	SD
Working closely with others, so that there is higher interdependence, and jointly arrived at goals	1.12	.358
Taking the lead in developing opportunities and influencing outcomes with peers, superiors and stuff	1.19	.049
Ensuring that I always maintain full and frank exchange of information between myself and others	1.19	.421
Being seen as out-going, self-confident, ready to 'grasp the nettles' and therefore, the one who usually initiates and organize the things	1.16	.434
Arriving at decisions through open discussion and fair, but tough, bargaining or negotiation	1.10	.304
Taking what seems to be practical and workable solution, after consulting with others and hearing their views	1.15	.409
Being able to win people over by drive, persuasion or by networking with them	1.11	.312
<b>Total</b>	<b>8.02</b>	
Director		
Identifying, determining and setting work objectives myself, whenever I can	1.15	.362
Concentrating upon those areas where I have expertise and independently taking initiatives to resolve problems, or make things happen	1.12	.365
A philosophy of -'I' ll find a way - or 'I' ll make a way	1.17	.377
To get people to respond as I need them to, by demanding results and high standards	1.11	.343
Running my 'own-ship' and being held personal accountable for the results	1.07	.295
Accepting that if you want to get a job done properly, it is usually best to do yourself	1.10	.325
Creating and maintaining all the freedom and autonomy I can, by keeping my boss- or others- at arms length.	1.10	.325
<b>Total</b>	<b>7.82</b>	
Co-operator		
Being supportive, collaborative and helpful to colleagues and superiors	1.09	.286
Being approachable, considerate and friendly and putting aside a rank, status, or formality.	1.14	.340
Making plans and taking actions which foster harmony, good will and smooth working, within or between the departments	1.12	.333
Generally being someone who is open and friendly and who can see some good in almost everyone	1.14	.343
Readily helping people to achieve the goals they want to have	1.16	.414
Being in one who shows empathy and who is prepared to listen and give thoughtful consideration to others	1.12	.334
Handling such relationship, by hoping and trusting that given time and goodwill, things will generally improve	1.13	.345
<b>Total</b>	<b>7.87</b>	
Evaluator		
Finding alternative way of getting things done, then trying to rely upon those who have left me down, or acted in on underhand way	1.16	.370
Operating efficiently and knowledgeable, within agreed guidelines, procedures guidelines, procedure and yardsticks	1.19	.434
Leaving decision making to those who are well qualified, or in the right position to make them	1.30	.498
Quietly ignoring, 'side stepping', or conveniently forgetting inappropriate or foolish instructions	1.15	.416
Keeping with ideas, plans and actions that have worked previously	1.17	.393
Dropping, or avoiding, those relationships that seems to prove fruitless, negative or very difficult to handle	1.14	.373
Being practical and analytical, and not simply rushing in to give support to others.	1.16	.394
<b>Total</b>	<b>8.27</b>	

TABLE II- TEST OF HYPOTHESIS

No significance association between community of the Respondent and the following	Chi-square value	D.f	Result
Want to be seen as a person whose work is through, accurate and reliable	3.208	2	Accepted
Want to be seen as a person whose approach is characterized by determination and courage	3.293	2	Accepted
Enjoy the excitement and level of challenge or risk involved in sudden changes to the course of action	.006	2	Accepted
Be very alert to shifts in events, or tactics, so as to respond more opportunely as and when needed	1.209	2	Accepted
Change time priorities or goals, in order to take full advantage of opportunities as they rise	.895	2	Accepted
No significance association between the Education of the Respondent and the following			
A philosophy of -'I' ll find a way - or 'I' ll make a way	1.79	8	Accepted
Ensuring that I always maintain full and frank exchange of information between myself and others.	9.507	8	Accepted
Operating efficiently and knowledgeable, within agreed guidelines, procedures guidelines, procedure and yardsticks	1.444	8	Accepted
Concentrating upon those areas where I have expertise and independently taking initiatives to resolve problems, or make things happen	5.813	8	Accepted

From the Table II it is clear that there is no significant relationship between the community and the way they want to be seen by others. By nature they are very hardworking and courageous people and are ready to take up challenges or risks involved in sudden change of action. Irrespective of the community they belong to, they are very alert and keep changing the time priorities or goals in order to take full advantage of opportunities as they arise. According to census 1991, very few tribes have gone up to the level of graduation or post graduation. Most of them are either school dropouts or have completed senior secondary education. Education has no significance association between their way of living and the nature of decision they take in their life.

#### IMPLICATION

The tribals in our country are called as adivasis in the ordinary usage of term. But this word has no meaning in the present days especially with respect to the five tribes taken under study. Despite all the benefits extended by the government, still they find it difficult to compete with the present society, they live in. Extending training on developing different skills may improve their personality and bring them to the knowledge of their hidden capabilities.

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## STRATEGICAL IMPACTS ON GLOBAL BRANDING

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## ABSTRACT

Coca-Cola, Microsoft, IBM, GE, Nokia, Toyota, Intel, McDonald's, Disney and Mercedes- all these brands have something in common. They are internationally acclaimed top 10 global brands (2007) in that order, as per the report by Interbrand. Today globalization is transforming the world in a way which was never imagined a century ago. Some companies have operations in more than 100 countries, sell products in twice as many and boast global revenues larger than the GDPs of many countries! Ideally, the global branding strategy consists of one product formulation, one package design, one advertising program, one pricing schedule, one distribution plan, and so on that would turn out to be the most effective and efficient possible option for each and every country in which the brand is sold. Global branding is, thus, a complex subject because of the many cultural, political and economic challenges involved with it. This paper tries to explore what are the key drivers for global branding. Second, why have the companies started going for global branding strategy. Third, what makes the 'successful' global brands 'successful'? Fourth, what are the challenges faced by global brand marketers. Subsequently, how can a global brand marketer communicate and deliver value to the emerging global consumer. It concludes with the discussion about the future of global branding and its implications for global brand marketers.

## KEYWORDS

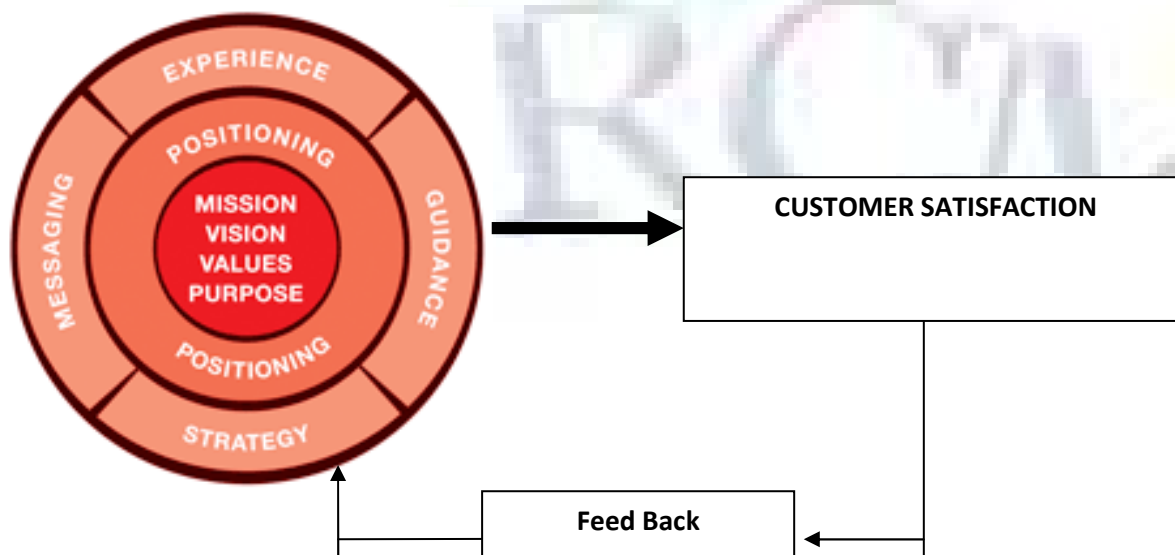
Brand, Strategy, Marketers.

## INTRODUCTION

The idea of globalization was first verbalized by Harvard's Theodore Levitt in the 1980s. When Levitt first proposed "globalization", the marketers said the concept of "global" – having a unified, consistent presence around the world-was only a theory, a pipedream that could never happen in the actual market place. Cultures, local customs, government regulations, distributions, communication channels, they claimed, were just too locally developed to ever permit global brands to exist. So they argued for a "multinational" perspective, i.e., the development of brands on a national market basis, sold locally through a market-by-market implementation approach. Those were the days when governments controlled the flow of goods into and out of their countries. Even in Europe, France and Belgium (Schultz and Schultz, 2004) were separated by the "invisible border" of customs, duties regulations, and even communication systems. Almost every large marketing organization was based on developing a national or tightly defined regional unit, one for Germany, one for the United Kingdom (UK), one for Scandinavia, and so on. Therefore, the country manager was king, and he or she did not recognize anyone or anything outside their own borders, except may be the CEO when he arrived for annual visit. So, when Levitt was writing, there were "multinational marketers and brands", that is, organizations that marketed in multiple countries but practically none in a global way. It was just not possible. But, technology, communication systems and most of all, diplomacy and the need to develop relevant markets forced governments and marketers to create global alliances such as the European Union, MERCOSUL, NAFTA, APEC and so on. Today, globalization is real although some marketers and some theoreticians still don't recognize it. All this has led to the emergence of global brands. Moreover, the economic growth powered with the emergence of internet has made the world shrink into a much smaller place than what it used to be in the yesteryears. Marketers, whether big (Coca-Cola, Microsoft, IBM, etc.) or small (Samrat Namkeen from Ahmedabad, Haldiram's Namkeen from Nagpur, Alphonso Mangoes from Ratnagiri, etc.), too, have started identifying this potential that can be tapped in the consumer markets and hence, making their brands go global.

## THE GLOBAL BRAND STRATEGY

Ideally, the global branding strategy consists of one product formulation, one package design, one advertising program, one pricing schedule, one distribution plan, and so on that would turn out to be the most effective and efficient possible option for each and every country in which the brand is sold (Keller, 2003). However, it is difficult for a brand marketer to adopt such a uniformly optimal brand strategy. Thus, the global brand marketer is posed with a challenge of making a trade-off between two strategies – standardization and customization. Global branding is, therefore, a complex subject because of the many cultural, political and economic challenges involved with it.



## KEY DRIVERS FOR GLOBAL BRANDING

The pressures of international competition, worldwide availability of technology, shifting markets, and increasingly mobile customer bases are forcing companies to review their structure and business practices from a global perspective (Randall, 2003). Companies going global are also called upon to rethink their corporate brands and implement changes needed to reflect global reality.

The major parameters that can be considered as key drivers for marketers to go for global branding:

### LIVING UP TO THE EXPECTATIONS OF EMERGING GLOBAL CONSUMERS

"Ultimately brands are all about trust," Mukul Pandya writes in the Wall Street Journal. "The reason consumers flock (Gregory and Wiechmann, 2002) to some brands and ignore others is that behind the brand stands an unspoken promise of value. Consumer audiences are now more aware, savvy and have realized that they have a great many more choices."

### THE NEED TO KEEP PACE AND MOVE AHEAD OF COMPETITION

In today's high-technology, knowledge-based economy, the global brand is considered as the most valuable intangible asset. As companies move rapidly into fast-moving e-commerce terrain, brand building becomes even more crucial. Increasing number of dot-com startups have been investing in millions of dollars, obtained from venture capitalists, in an attempt to build brands overnight – one because internet makes it so easy for competitors to enter into the territory and second because brand building on the internet can be remarkably fast. As an example, traditional corporations like Avon, Coca-Cola, and General Electric took decades to build global brands, while it has taken as little as five years for Amazon.com to accomplish the same thing. In the 1990s organizations started realizing the need for effectively managing the brand asset in an increasingly global marketplace.

### RISING ECONOMIES OF SCALE

Consolidation and globalization of the retail trade are some of the key drivers that have created a strong interest for global branding in the minds of the marketers. As global markets turn more and more competitive, it becomes more and more expensive for a company to achieve a meaningful marketplace advantage. Rising costs of research and development for product differentiation, along with production cost advantages that necessitate the plant capacities that exceed local demand, call for companies to globalize their brands in order to amortize these and other costs across local markets.

### EXPLOITATION OF EXPERIENCE CURVES AND KNOWLEDGE TRANSFERS

As a firm competes in local markets, it learns through experience how to best create a viable brand position and how to mount successful brand advertising and promotional campaigns. Such knowledge may then be transferable to other markets. Some local brands gain global exposure without any benefit of any active corporate support. To a great extent this is due to the ongoing spread of global communications – especially the internet- greater international level for both business and pleasure, and the globalization of the news and entertainment industries.

### SEEKING NEW GROWTH OPPORTUNITIES

In order to achieve the revenue growth demanded today, many brands must enter new markets that offer high growth opportunities or relatively weak competition. This is especially true of those mature brands with growth potential limited by national markets.

Another important trend is towards retail trade consolidation, often resulting in global mega chains. These derive critical market advantages from sharing information and technology, refined logistic systems, and greater negotiation power over manufacturers. A case in point is the global retail giant, Walmart.

### THE NEED TO CULTIVATE BRAND PARTNERSHIPS THROUGH MERGERS AND ACQUISITIONS

One of the key reasons for this is the need for short-term profit and generally risk-averse society that we now live in. Board directors who have been successful in shaping a new business realize that it is easier and more efficient to merge with or acquire an ailing competitor and turn it around than to go for organic growth. This is symptomatic of saturated western markets and the lack of real innovation in the marketplace. The core of this issue is that what these companies are buying is not necessarily the technology or the product, but the goodwill of another large group of consumers towards that brand. Often the offer price for the business is made up from a majority percentage for the goodwill or brand, and a minority of the capital and goods.

## WHY GLOBALIZE?

Going global is always going to be expensive and difficult, but seems a prize worth aiming for. The main arguments in favour of globalization centre on the view that the world is not only getting smaller psychologically, but that it is also getting more similar. Other substantial reasons for the company to global are:

### A NECESSITY FOR SURVIVAL

In some markets, global scale is a prerequisite for competing at all. The United States market is one such example which has an array of competitors. In these arenas, such as pharmaceuticals and cars, economies of scale or scope are paramount in bringing costs down low enough or spreading high investment over large enough sales.

### GLOBAL CLIENTELE

For many service firms whose clients are international – advertising agencies, accountants, consultants – a global network is becoming a necessity. A firm that wants to serve the biggest clients has been forced to set up local offices around the world, or to develop alliances with other firms to provide a global reach.

### COMPETITION

The fact that competitors are going global is undoubtedly a spur. A firm may have to compete on a global scale, either to defend its turf from the domestic market against global competitors with scale advantages or to take advantage of new opportunities in new markets before competitors establish themselves.

### PROFIT OPPORTUNITIES

If successful brands cannot be transferred rapidly to as many markets as possible, profit opportunities are foregone. P&G found that, without central control, some successful brands that were not introduced into major European markets for up to 12 years after their initial launch. The first mover advantage may also be lost, leaving the firm playing catch-up in too many important countries.

### SIMILARITY IN PREFERENCES OF THE GLOBAL MARKET SEGMENT

People are basically the same and are becoming even more like each other all the time. A world culture is developing, formed by global communications, travel, films, television and the activities of multinational firms. In the three areas that make up the so-called 'triad' – the United States, Europe and South Asia – this is arguably true to an extent. It is most true of younger people, and in many markets the tastes of the under-30s are probably very similar at least in most developed countries. Although, there are worldwide standards for some products to be accepted in world markets - like America dominates most computer and software markets, Japan automation and earth-moving equipment markets, German engineering, but the markets are essentially the same everywhere. Given this, there will be a segment within each market that will be essentially similar to the segment found everywhere else. Thus there will be a segment that responds to Rolex, Dunhill and Gucci similarly in every country, for example. The size of the segment will vary considerably, but it will exist. The extent to which this is true of markets outside the obvious luxury products is unclear but it certainly could be: there will be a segment that wants a particular type of car or toothpaste, in every country, but the size will vary.

### GLOBAL ECONOMIES OF SCALE OFFER A DEFINITE COMPETITIVE ADVANTAGE

Global branding offers huge economies of scale. The cost advantage so obtained can be used either to offer unbeatable value or to invest in product development or promotion. There can also be possible savings in marketing costs such as advertising.

Moreover, there are some markets that need to operate on a global scale. As an example, it is hard for local firms to compete in civil aircraft, cars or pharmaceuticals. Theodore Levitt, one of the fiercest proponents of global branding, argued that economies of scale could actually overcome local market preferences. If a manufacturer ignored current differences in consumer preferences and offered a common product at an unbeatable price, consumers would tradeoff preferences for value. For example, there have traditionally been differences in what European countries demand in washing machine: some want automatic, others do not, some prefer front-loading and others top-loading, and so on. Levitt argued that making a single, standardized model on a European



scale would offer such value for money that consumers would abandon their traditional views and buy it anyway. Even service firms can usually find some economies, particularly in back-office processing – but every few hundred thousand pounds of costs are useful. Strategically, these are all very real pressures. Firms risk being left behind caught in a cycle of increasing threats and decreasing opportunities, facing only decline. But going global has also become an imperative in the face of intense competition and shrinking of the world into a smaller place.

## THE 'SUCCESSFUL' GLOBAL BRANDS

### COCA-COLA



Coca-Cola, Microsoft, IBM, GE, Nokia, Toyota, Intel, McDonald's, Disney and Mercedes have all emerged to be the internationally acclaimed top 10 brands for the year 2007 as per the report published by Interbrand. These are the brands which followed stakeholders' journeys to provide effective, consistent and appropriate messaging throughout the service. Let us see how some of these brands managed to be what it requires to be one of the world's best brands.

### NOKIA



The brand Nokia which is valued at \$33.3bn this year with an increase of 12% from last year has been able to do so by rediscovering the theme of demand creation by focusing on simple, easy-to-use handsets that are sleek and stylish. The brand's 'bounce back' this year has been driven by a reinvigorated focus on product design and feature innovation. For example, the Nokia N95 was hugely successful, integrating mail, web and music in a single handset. It has become the equivalent of the Blackberry for the consumer.

### MCDONALD'S



Another case is that of McDonald's which has moved up from its number 9 position in 2006 to number 8 position in 2007 with a 7 % increase in brand value. The secret behind the success of the brand is that it's focus on quality, value and convenience. There are several reasons behind the success. Firstly, it has tried to focus itself on being a single brand company which is clearly evident from its consistent use of the global advertising theme 'I'm loving it'. Secondly, it continues to reinvent itself in the face of changing consumer preferences towards healthy eating. It has shown that being responsive to customers is critical to success. McDonald's is providing healthier alternatives and the nutritional profile of everything it offers. The introduction of new sandwiches, salads and fruit items to the menu has created a 'halo' effect that augments the traditional McDonald's offering. These items add a healthy 'accent' to the McDonald's image and create demand. But the success is deeper than simply creating demand. The brand has been managed and planned well too. The broader menu, coupled with remodeled/more stylish restaurants, is helping McDonald's to shift traditional perceptions of the brand and encourage existing customers to engage with it more frequently. Rather than being a place where people go to grab a quick snack on the go, McDonald's is trying to attract diners who appreciate better quality, better tasting food and are willing to pay a premium for it. .

### TOYOTA



Toyota at number 6 up from 7 last year is an example of how having foresight helps the companies' make informed choices about their brand and frees leaders up to make bold moves with full knowledge of the implications – essential to thriving in a competitive environment. A recent example is the confluence of environmental concerns and rising oil prices. Ten years ago any company talking about these two issues in the automotive industry would have largely been

thought of as foolish or eccentric. SUV sales were growing, cars were getting bigger, engines less efficient, and gas was cheap. In the wider world, the political climate was stable; global GDP growth was moderate, the impact of China just emerging, and world oil supplies high. As forward-looking brand managers, Toyota considered these factors and built a scenario that now differentiates them from the pack. Recognizing the value of leading the 'green' agenda, it positioned itself to capitalize on this significant driver of demand that has been accelerated by, and conjoined with, the rapid rise in gasoline prices. Brands cannot lead through reaction. They must anticipate the needs of the future and be ready for it when it arrives. The Toyota Prius has become a statement of environmental care, as well as achieving staggering sales in its own right. But better still for the Toyota brand, it casts a 'green halo' across its entire portfolio.

#### GENERAL ELECTRIC



Taking one more case of brand GE, which has been able to maintain its number 4 position in 2006 in 2007 too, even with a diversified brand portfolio in the face of intense competition. Four principles that have guided GE through the years have contributed to its success. First, only one corporate brand has been used on virtually all products. The corporate brand thus has been the driver of the customers' link to the brand. Second, a single idea – better living from electricity/technology- has provided a core identity and a basis for a relationship with the customer for a long time period. Third, the focus has always been on customer benefits rather than on the products. It is the customers who are living better and enjoying good things in their lives. Fourth, the GE identity has been allowed to evolve while still being true to its heritage. Positioning and execution, particularly of the company's symbol and slogan played a key role in the evolutionary process.

In summary, the focus on quality, clarity in communications, continuous innovation, rich customer experiences through quality services at each touch point makes the brand stand out. In addition, the ability to plan and allocate the resources and foresee the future demand also gives the global brand a competitive edge over others.

#### CHALLENGES FACED BY GLOBAL BRAND MARKETERS

As many companies are finding out, doing business globally is not simply taking a basic set of operations and applying them from one country to another. Many factors including corporate strategy and performance, mergers and acquisitions, accounting and reporting, and the growing scrutiny of corporate, legal, and cultural behaviours around the world, contribute to a highly complex global perspective. So, for companies that look to globalize, it's important to study and understand each market and its people carefully considering both similarities and differences in the markets they wish to serve.

##### DIFFERENCES IN CONSUMER NEEDS, WANTS, AND USAGE PATTERNS

Coke which is one of the most preferred and ubiquitous brand across the world is not preferred by people of Myanmar, Cuba and Syria.

McDonald's India offers products developed especially for the Indian market, specifically vegetarian customers. It serves only mutton, chicken, fish and vegetable products, not beef, pork, or their by-products. Big Mac™ thus becomes Maharaja™, which consists of two all-mutton patties, special sauce, lettuce, cheese, pickles and onions on a sesame seed bun. Israel has some kosher McDonald's restaurants, while Saudi Arabia has a restaurant which closes five times a day for Muslim prayer.

Pizza Hut in China has a far different menu, with wider choices and a much higher level of service than in its US home market.

Holiday Inn represents a much higher level in hostelry in Europe and Asia than in the US. Each of these brands has been extensively adapted to take advantage of local customs, tastes, expectations, and opportunities.

##### DIFFERENCES IN CULTURES

L'Oreal is certainly one such French company that has been able to successfully cater to different markets by conveying the allure of different cultures through its many products by making a conscious effort to diversify the cultural origins of its brands. Whether it's selling Italian elegance, New York street smarts, or French beauty through its brands, L'Oreal is reaching out to a vast range of people across incomes and cultures. Its products range from Redken hair care to Ralph Lauren perfumes to Helena Rubenstein cosmetics.

##### DIFFERENCES IN COMMUNICATION

The differences in language may pose a serious communication problem, at times necessitating changes or modifications in the brand name or marketing designs.

*In Japanese, for instance, 3M's slogan, "sticks like crazy," translates as "sticks foolishly." Chevrolet's brand name Nova in Spanish means "it doesn't go". In Chinese Pepsi's slogan, "Come Alive," translates as "come out of the grave."*

Also, the laws affecting brand communications vary considerably from country to country. In Canada, if the information does not appear in both French and English, the goods may be confiscated. Superlatives like 'best coffee' are illegal in Germany, tobacco advertising is less subject to legal restrictions in the Far East and no alcohol at all may be advertised on French television. In West Germany, the Government controls drug advertising and prohibits comparison advertisements. In Italy, too, the Government controls pharmaceutical advertising and advertisements for several personal items.

##### DIFFERENCES IN DISTRIBUTION

Kentucky Fried Chicken, Japan, is a joint venture between KFC Inc. and Mitsubishi Corporation while Sears Roebuck and Company has a joint venture with Seibu Stores Inc., Japan because it is a culturally and/or difficult market to penetrate.

A number of devolved production sites producing different products for different consuming markets may be required. Sony France produces in-car hi-fi, video cassettes and audio tapes for its home market as well as for the UK and the rest of Europe. While Sony UK produces televisions for France and its home market, Sony Japan produces clock radios for France, the UK and the Far East.

##### DIFFERENCES IN LEGAL ENVIRONMENT

Although the brand may be global, each of the local companies in the network might be restricted by the limits of local registration. Ciba Specialty Chemicals, for instance, is registered in at least 30 countries around the world. In the US, the corporate name is Ciba Specialty Chemicals Inc., but in France it's Ciba Specialty Chemicals SA; and in the UK it's Ciba Specialty Chemicals Ltd., and so forth. Also company may encounter a slew of currency transactions, valuations and fluctuations.

##### DIFFERENCES IN ORGANIZATIONAL FORMS AND REQUIREMENT OF SKILLED TALENT

The rapidly changing environment is bringing about changes in organizational structures which impact upon the management of brands internationally. Increasing competition, particularly when globally fuelled by recessionary pressures, has forced companies into more disaggregated and financially accountable structures. Such pressures have also given rise to an increase in mergers and acquisitions as well as the formation of networks and alliances to take advantage of synergies within brand portfolios and to gain access to new markets. McDonald's has adopted a standardized structure globally whereas Nestle focuses on locally adapted structure.

Finding talent that is knowledgeable, experienced in technical details of business, sensitive to cultural and other local differences, and competent to carry out the assignment is today's real global challenge.

### DIFFERENCES IN THE ECONOMIC ENVIRONMENT

Markets, whether global or domestic, require purchasing power as well as people. The available purchasing power in an economy depends on current income, prices, savings, debt, and credit availability. This creates a strong impact on business, especially for companies whose products and brands are geared to high-income and price-sensitive customers. Thus, there is a vast difference in acceptability of the products in developing markets and developed markets. For example, unable compete effectively in developing markets, Unilever offered one-rupee sachets of detergent and shampoo which have been a big hit in rural India.

The challenges for the global brand marketer are thus, as manifold as the opportunities and he needs to consider the disparities and similarities of a particular market for serving it fruitfully and successfully.

### COMMUNICATING AND DELIVERING VALUE TO THE GLOBAL CONSUMER

The importance of brands keeps growing apace all over the world. Faced with a confusing array of competing offerings and marketing messages, consumers and business customers alike rely increasingly on brands to guide their buying choices. Thus, the global market place, where the cultures, values, languages, and traditions change so drastically when the borders are crossed, requires the global brand market to have more sophisticated communication skills to advance the brand and the corporate vision. So, communicating to the global consumer requires that the communication efforts match the business plan at the global, regional and country levels. Global training and staffing as well as innovative internal communications between all corporate levels is also essential. A mix of communications media coupled with a combinations of promotional areas can help build brand recognition both internationally and country by country. Internet and technology plays a quintessential role for the success of global branding strategy of any brand marketer. In addition government relations, community relations and media relations are critical to success of a global brand.

The global brand can have a sustainable competitive advantage over its competitors by delivering values to the global consumer in terms of service, quality, professionalism, competitiveness and a will to win, growth and development of all employees, continuous improvement in productivity, growing profit for stakeholders, continuously updating technology.

### FUTURE OF GLOBAL BRANDING

Building a global brand will be definitely one of the key challenges for global brand marketers. Competition will intensify and the brand will have to carve its own position in the mind of the consumer not only for competing but also for its survival.

The greater market segmentation across industries and larger, more varied customer groups will pose a bigger challenge to the global brand marketers. They will have to find out new ways of cost cutting and innovation to solve the problems while making every effort to plan, execute and communicate a powerful, clear-cut global brand strategy.

The crucial role of technology cannot be understated for the global brand to win and survive. Multitasking and multidisciplinary tasks would be the order of the day for the leaders as the global market expands and interconnectivity increases throughout the world.

Cultivating brand partnerships will be required by the global brand marketers in some form for strategic entry into the market.



### STRATEGIC IMPLICATIONS FOR GLOBAL BRAND MARKETERS

Kevin Roberts, Saatchi & Saatchi CEO, has written in Advertising Age:

*"Brands will become more important as trust marks-sources of identity for people, stories people choose to believe in and that help make sense of a chaotic world."*

Branding codifies a company's identity and can fix its position not only in the global market place but also in the mind of the global consumer. Thus, it becomes imperative for the growth seeking company to:

1. Develop its own distinct, global branding strategy which once established, to communicate and nurture its brand.
2. Balance standardization and customization
3. Develop a clear strategic vision for the road ahead
4. The need to implement one correct strategy at one point in time
5. The need to develop globally competent and skilled pool of talent
6. The need to understand the emerging global consumer
7. Continuous innovation and technology up gradation to stay ahead of competition

8. Plan efficiencies in manufacturing, production, marketing and distribution
9. The need to understand the economic, political, legal, socio-cultural environment of different countries and the ability to respond to fast-changing environments
10. Building brand partnerships through strategic alliances with competitors and businesses will help develop synergies between the global brand marketers.

## CONCLUSION

To conclude, global brands are here to stay in the emerging global markets, which are shrinking in terms of distances and differences, provided the global brand marketers are ready to face the challenges posed by them to survive intense competition.

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## A STUDY ON DEPLOYMENT OF EFFECTIVE MICRO FINANCE FOR WOMEN EMPOWERMENT

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### ABSTRACT

*Micro-finance programme gives women access to savings, credit and other services to reach millions of people worldwide bringing them together regularly in organized groups. This paper presents a fascinating case for why strategically planning for empowerment approaches is so crucial in the context of a microfinance sector where more and more practitioners are becoming complacent toward empowerment under the assumption that microfinance practices automatically produce significant empowerment benefits for women. Women empowerment is not region or country problem, it is existing all over the world. In this study both primary and secondary data have been employed to test the suitability of micro insurance models and products available to the women empowerment. The role of micro finance institutions towards strengthening the women community has been examined. In order to check the women entrepreneurs satisfaction level in usefulness of micro finance models and products tested through employing weighted average score method. Micro savings, micro credit and RSCA and SHGs are the best products and models to the women entrepreneurs. Micro finance is a useful mechanism, which lays foundation stone for the social and economic development in the life of poor, uneducated, rural and unprivileged women. Micro finance schemes are removed the chronic poverty of many families, the ultimate credit goes to women members of the family.*

### KEYWORDS

Women Empowerment, Micro Finance, Micro Savings, Micro Credit, Micro Finance Models, Self-help Group.

### INTRODUCTION

**W**omen Empowerment refers to the act of increasing education, employment, emancipation, entrepreneurship and economic strength of women in the modern civilization. Women Empowerment is a hypothesized state about the way things are and can be. Basically it's about the empowering women power, helping, achieving, and succeeding in their life. Empowerment is defined as the processes by which women take control and ownership of their lives through expansion of their choices. Nowadays, increased awareness among the educationist and industrialist, helped to enhance women status through education, employment and emancipation in some extent. It is relatively easy for privileged and upper income class women. Lower income and less privileged communities are unable to take part in the education, employment and emancipation. Along with economic health of a family depends upon the income stream of the breadwinner. If the breadwinner is male, there is any unexpected demise or if he is a drunkard, the economic life of the family gets affected largely. This is the true scenario persists in many developing nations. The real focus is obligatory to strengthen the income of the women belongs to lower and middle income class. In rural India, gender discriminations highly affects the livelihood of women, also they are not allowed to start any business ventures on their own. Women empowerment can take place at a hierarchy of different levels like individual, household, community and societal and is facilitated by providing constructive stimulus and eradicating inhibiting influences. Women's empowerment in India is heavily dependent on many different variables that include geographical location, educational status, social status, and age. Policies on women's empowerment exist at the national, state, and local levels in many sectors, including health, education, economic opportunities, gender-based violence, and political participation. However, there are significant gaps between policy advancements and actual practice at the community level.

Three vital practices have been recognized as essential for women empowerment and bridging the gap between actual and policy advancement. The first is social enlistment and communal agency, as poor women often lack the basic capabilities and self-confidence to counter and challenge existing disparities and barriers against them. Often, change agents are needed to catalyze social mobilization consciously. Second, the process of social mobilization needs to be accompanied and complemented by economic security. As long as the disadvantaged suffer from economic deprivation and livelihood insecurity, they will not be in a position to mobilize. Third, establishing suitable innovative micro financial products through banks or any financial institution framework will stabilize its life.

### STATEMENT OF PROBLEM

In India, gender discrimination remains to stand in the way of women securing capabilities and opportunities, even after decades of discussion. It is a mystery that the region has raced so far and fast in expanding its economies but has extended only a limited share of the benefits to women of the country. Women are paid lower than the men; it is difficult to create a massive fund with the small savings from their earnings. Now banks and financial institutions not interested to offer suitable products for poor and unprivileged segments. Micro finance is the best vehicle to reach ultimate goal of the women. It offers bundled product like insurance, savings, pension, money transfer, loans at lower denominations. A majority of microfinance schemes target women with the explicit goal of empowering them. There are varying underlying motivations for pursuing women empowerment. Some argue that women are amongst the poorest and the most vulnerable of the underprivileged and thus helping them should be a priority. The importance of women to economic development of India was first acknowledged during the country's struggle for independence. Women-owned business has the potential to make significant assistances to job creation and economic growth, economic empowerment of women changes the balance of power because it allow half the world's population to contemplate higher goals than basic survival. In rural areas, there is an urgent need of empowering women. The establishment of self-help groups and microfinance will enhance their socio-economic status in society.

Micro finance helps women to get small loan for business and it gives them an autonomous means of making wealth and becoming self-reliant in a society. The success of micro credit initiatives has often been attributed to their particular focus on empowering women and encouraging their self-reliance through developing their own means of income. It is observed that majority of rural women who are associated with self-help group actively positively succeed to gain themselves empowered. In India self-help groups are a suitable means for empowerment of women. Microfinance programmes intends to arrest the most burning issues i.e. poverty and unemployment, which are main hurdles in the process of development. It can be defined as a provision of thrift, credit and other financial services and products of very small amounts to the poor in rural, semi urban or urban areas for enabling them to raise their income level and improving living of standards.

### REVIEW OF LITERATURE

A review of the literature raises questions about the degree to which women keep a control over assets acquired as a result of loans from SHGs. Research (Goetz and Sen Gupta 1996; Mayoux 1998) shows that only a minority of women receiving credit from poverty-oriented microfinance programmes are controlling their loans; many women are merely 'post-boxes': passing on the full amount of their loans directly to their husbands, sons or sons-in-law, with little or no access to the income generated and receiving back only enough money to make weekly loan repayments. Goetz and Sen Gupta (1996) found that, on average, only 37 per

cent of loans provided by four different Bangladeshi credit organizations were either fully or significantly controlled by women, where significant control does not include control over marketing, and may thus imply little control over the income generated.

Kabeer (1998) distinguishes between women as marginal, joint or primary decision makers, using a matrix, which considers women's role in decision-making regarding the use of the loan, participation in running the business, and the use of profits. She writes that it is important to acknowledge this complexity in household gender relations, and to reflect on the mix of structural, individual and programme factors which influence the degree of control women are able to take over their loan.

Pitt and Khandker (1995) investigated the decision-making outcomes according to the gender of the loan borrower to infer the gender differences within the household. However, it is difficult to interpret their results that state those loans to men were likely to have a greater fertility-reducing effect than loans to women. Kabeer (1998) suggests that this could have been due to the fact that they try to make assumptions about agency on the basis of evidence on relationship between resources and achievements.

Amin, Becker and Bayes (1998) split the concept of women's empowerment into three components each measured separately: Inter-spouse consultation index, which seeks to represent the extent to which husbands consult their wives in household affairs; Individual autonomy indexes which represents women's self-reported autonomy of physical movement outside the house and in matters of spending money; and the Authority index, which reports on actual decision-making power, which is traditionally in the hands of the patriarch of the family. These indices are similar to those of used by Balk in her (1994) study. Comparable components of empowerment are included in the eight indicators by Hashemi (1996): mobility, economic security, ability to make a small purchase, ability to make larger purchases, involvement in major decisions, and relative freedom from domination by the family, political and legal awareness, and involvement in political campaigning and protests.

Fernandez (2008) argues that this minimalist approach of mere financial intervention for enterprise development is not particular to microcredit provided by Microfinance Institutions but also to large banks, where the former often follows this approach under pressure of achieving financial sustainability. In an in-depth and detailed analysis of micro finance, Kalpana (2008) shows the diversity of bypass strategies implemented by women to do as if they were using microcredit for productive use. The motivation here was to access credit rather than to redefine the uses to which it was put as productive. But definitely this is a reflection of women's capacity to negotiate access to resources and use them for their livelihood promotion. Dichter (2007), in a book entitled, What's Wrong with Microcredit, says that it is unrealistic to expect microfinance to noticeably affect growth or successful business development.

## RESEARCH METHODOLOGY

### OBJECTIVES OF THE STUDY

This study has been conducted to:

- Check the suitability of micro finance products and models for women empowerment.
- Identify the role of micro finance institutions in strengthening women empowerment.
- Study the women empowerment approaches in micro finance.
- Analyze the past performance of micro finance activities in India.
- Know the women entrepreneurs opinion as to micro finance services and models.

### SAMPLE AND DATA

In this present study, both primary and secondary data considered for analyzing the suitability of micro finance product and on women empowerment. The sample consists of 100 women entrepreneurs selected from the various parts of Tamilnadu. The basic idea for selecting sample is depends up on the availability of women candidates using the micro finance services from any model and the same women candidate should be uneducated or less educated. The women entrepreneurs are engaged in the business of agriculture, fisheries, brick manufacturing, tailoring, retail stores, cracker manufacturing, horticulture, handlooms, power looms, etc. Urban and rural women entrepreneurs/small business owners are treated equally. A detailed questionnaire is presented, in order to collect the required data from the respondents.

### SUITABILITY OF MICRO FINANCE PRODUCTS

The portfolio of microfinance products and services has dramatically changed in the past one decade with the entry of a variety of microfinance service providers and intermediaries. Today, microfinance products and services broadly include credit, savings, insurance, money transfer and micro-leasing products. The women need a secure place to save their money and access to insurance for their homes, businesses and health. Microfinance institutions are now innovating new products to help meet these needs, empowering the women to improve their own lives. Products commoned in the microfinance sector today is:

**Micro Savings** – It facilitates a chance to save money without any minimum balance. It allows women members to retain money for future and unexpected costs. Women members save small amounts of money, as little as a few rupees a month in a group fund. They may borrow from the savings account for a variety of purposes ranging from household emergencies to school fees. As women prove capable of managing their funds well, they may borrow from a local bank to invest in small business or farm activities. Banks typically lend up to four rupees for every rupee in the group fund;

**Micro Insurance** – Gives the entrepreneurs the chance to focus more on their core business which drastically reduces the risk affecting their property, health or working possibilities. There is different types of insurance services like life insurance, property insurance, health insurance and disability insurance. The spectrum of services in this sphere is constantly expanded, as schemes and terms of providing insurance services are determined by each company individually;

**Micro Leasing** – For women entrepreneurs or women owned small businesses who can't afford buy at full cost they can instead lease equipment, agricultural machinery or vehicles. Often no limitations of minimum cost of the leased object;

**Money Transfer** – It is a service for transferring money, mainly overseas to family or friends. Money transfers without opening current accounts are performed by a number of commercial banks through international money transfer systems such as Western Union, Money Gram, and Anelik. On the surface they may seem like small money transfers, but when one considers that such transactions take place millions of times around the world each week, the numbers start to become impressive.

**Micro Credit** - Microcredit is the name given to small loans made to poor people who are regarded as bad financial risks, by conventional banks, as they have insufficient savings or assets to obtain a loan. Despite the diversity of definitions the word micro credit generally means the following.

TABLE NO – 1: MICRO CREDIT PRODUCTS, PURPOSE, DURATION AND INTEREST RATE

(Hypothetical figures)

Type of Loan	Purpose	Duration	Interest rate
Income Generation Loan (IGL)	Income generation, asset development	50 weeks loan paid weekly	12.5% (flat) 24% (effective)
Mid-Term Loan (MTL)	Same as IGL, available at middle (week 25) of IGL	50 weeks loan paid weekly	12.5% (flat) 24% (effective)
Emergency Loan (EL)	All emergencies such as health, funerals, hospitalization	20 weeks loan	0% Interest free
Individual Loan (IL)	Income generation, asset development	1-2 years loan repaid monthly	11% (flat) 23% (effective)

(Source: microcredit.india.com)

The Income Generating Loan is used for a diversity of activities that generate income for their families. The Mid Term Loan is available to clients after 25 weeks of repaying their IGL loan. A client is eligible for a MTL if the client has not taken the maximum amount of the IGL. The residual amount can be taken as a MTL. The Emergency Loan is available to all clients over the course of a fiscal year. The loan is interest free and the amount and repayment terms are agreed upon by the MFI and the client on a case by case basis. The amount is small compared to the income generating products and is only given in times of dire need to meet

expenses such as funerals, hospital admissions, prenatal care and other crisis situations. The Individual Loan is designed for clients and non-clients that have specific needs beyond the group lending model. Loans are given to an individual outside of the group lending process. Amounts are typically higher than that of the income generating loan and repayments are less frequent. Applicants must complete a strict business appraisal process and have both collateral and a guarantor.

## MICROFINANCE MODELS

Microfinance itself is a credit lending model, and within this lending model exist several subcategories, i.e. microfinance lending models, which differ in terms of where their funds are sourced from, and how the money is governed. This post briefly mentions each lending model and lists microfinance providers that follow these models. In India, some of the models are not popular and women members are not interested to take part in the same models.

**Associations** –Generally association is formed by the poor in the target community to offer microfinance services to them. The association, which can form on the basis of gender, religion, or political and cultural orientation of its members, then gathers capital and intermediates between banks, MFIs and its members. SHGs are the best example to associations.

**Grameen Bank/ Village Banking**–These are formal versions of ‘associations’ and are created by members of a target community who wish to improve their living standards and to generate employment. By offering microfinance services, these banks seek to develop their communities. Guarantees are provided by social collateral as services are distributed through 5-member groups where each member’s eligibility for loans is based on his/her peer’s performance.

**Cooperatives** - Cooperatives are very much like Associations and Community Banks except that their ownership structure does not include the poor. A group of middle or upper class individuals may form a co-op to offer microfinance services to the poor.

**Credit Unions** - In a credit union, members of a target community gather their money and make loans to one another at low interest rates. Compared to community banks, credit unions are smaller and non-profit oriented, charging interest rates that merely allow sustainability.

**Non-Governmental Organizations** - Unlike community-based models, NGOs are ‘external organizations’ and their activities range from offering microfinance services to improving credit rating of the poor, training, education and research. NGOs may also act as intermediaries between the poor and donor agencies and operate locally, as well as globally.

**For-profit Banks** - Commercial Banks, as well as specialized Microfinance Banks offer various financial services to the poor but the main purpose may be to secure a high return on investment. Unlike other models, the aim is social development as well as financial progress, beyond institutional sustainability. Read about a bank that exploited the poor under the guise of microfinance.

**Rotating Savings and Credit Associations** - These are small groups, typically composed of women, where each member makes ‘regular cyclical contributions into a common fund’, which is given entirely to one member at the start of each cycle. The benefit of this model is the matching of a client’s cash flows with the loan, the ability to structure the deal without interest rates, and the absence of over-head costs. Because of the evolving nature of microfinance theory and practice, models other than the ones mentioned above may exist.

## ROLE OF MICRO FINANCE IN WOMEN EMPOWERMENT

Provision for targeting women in microfinance programmes comes from organizations of extensively differing political perceptions. There has recently been an apparent convergence of policy and terminology and common concerns with sustainability, participation and empowerment as donor agencies and NGOs have attempted to address their critics, and activists have become engaged in constructive dialogue. However, underlying the current apparent consensus, it is possible to identify three contrasting ‘focus’ with different underlying aims and understandings and different policy prescriptions and priorities in relation to both micro-finance itself and to women empowerment policy as summarized in Table 2.

TABLE 2: MICRO FINANCE FOCUS ON WOMEN EMPOWERMENT

	Focus on Feminist Empowerment	Focus on Alleviation of Poverty	Focus on Finance Sufficiency
<b>Focus Point</b>	Micro finance is needed to develop women participation in social, political and economic area	Micro finance is needed for poverty alleviation	Self-sufficiency scheme of micro finance will increase access of poor people
<b>Target</b>	Poor women	Chronic poor, the poorest	The entrepreneurial poor
<b>Reason for Selection</b>	Gender equality, human rights, freedom	More female poverty Deficiency to meet basic needs. Creating SHGs.	Capital formation and economic development. Equal opportunity
<b>Deployment Strategy</b>	Gender awareness and feminist organization	Small savings and loans. Developing group for community welfare.	Low interest rates Separate entity for micro finance. Multiple services provision.
<b>Suitable Services</b>	Camps, activities to stress the importance of women	Making awareness on financial planning	Guidance on marketing of goods, effective usage of finance

(Source: Micro finance service recommendation report 2009)

The feminist empowerment focus is firmly rooted in the development of some of the earliest microfinance programs in the South, including the Self-Employed Women’s Association in India. Its underlying concerns are gender equality and women’s human rights. Microfinance is promoted as an entry point in the context of a wider strategy for women’s economic and socio-political empowerment that focuses on gender awareness and feminist organization. The poverty alleviation focus also differs in many of its interpretations and understandings of empowerment in microfinance. Poverty alleviation under this paradigm is defined in broader terms than market incomes to encompass increasing capacities and choices and decreasing the vulnerability of poor people. The main focus of programs as a whole is on developing sustainable livelihoods, community development and social service provisions like literacy, healthcare and infrastructure development. There is not only a concern with reaching the poor, but also the poorest. The financial sufficiency focus has very different views on many of these issues. Its definitions of empowerment are in essentially individualist terms with the ultimate aim being the expansion of individual choice or capacity for self-reliance. The paradigm assumes that increasing women’s access to microfinance services will in itself lead to individual economic empowerment through enabling women’s decisions about savings and credit use, enabling women to set up micro-enterprises, and increasing incomes under their control. It is then assumed that this increased economic empowerment will lead to increased well-being of women and also to social and political empowerment.

## WOMEN EMPOWERMENT APPROACHES IN MICRO FINANCE

Micro finance institutions are primarily started with the objective of social and economic uplift of unprivileged and poor in the country. There is plenty of micro finance products are offered to the poor community. The existence of well-equipped micro finance institution can empower women livelihood. There are multiple finance facilities are freely available with low cost to the macro enterprises. But this is a bane for the micro enterprises, largely these are established by the poor and women candidates. Lower education, inexperience in approaching officials, lack of awareness in conduction of business and so on is the hurdle for the women in the society. This can be avoided by implementing participative approach and program related approach. Micro finance institutions should consider participation from program participants, staff, and donors at many levels of an organization. This participatory approach advocates that strategies for women’s empowerment be mainstreamed into the policies and procedures of an organization as a way to create fundamental change in gender relations and increased empowerment for women. Participative learning, management and action are highly possible while adopting this approach. In addition to the above, leaders of microfinance institutions should consider adopting new program-related empowerment strategies that allow many elements of their current



programs to achieve greater empowerment impact. In undertaking these strategies, micro finance institutions need to rethink many of their current program-related best practices in light of how they can better address gender and empowerment issues.

### PAST PERFORMANCE OF MICRO FINANCE

A significant proportion of the poor, many of whom work as agricultural and unskilled or semi-skilled wage laborers, micro-entrepreneurs and low-salaried workers, were historically excluded from the formal financial system. According to the Government of India's Report (2008) of the Committee on Financial Sector Reforms, only 34.3% of the people in the lowest income quartile have savings and only 17.7% have a bank account. By contrast, in the highest income quartile, 92.4% have savings and 86.0% have bank accounts. Factors contributing to such low savings rates and bank account participation are the lack of access to banks in rural India and cultural perceptions of risk among the poor associated with formal banking. In addition, the poor lack access to other formal sources of credit as well.

The same report estimated that 29.8% of the lowest income quartile obtained a loan in the last two years, of which only 2.9% were from banks. In comparison, 16.3% of the highest income quartile obtained a loan in the last two years, of which 7.5% were from banks. In other words, the lowest income quartile obtained only 9.6% of all loans from banks while the highest income quartile obtained 45.8% of all loans from banks. Even though the majority of small loans by banks are at low interest rates, the poor borrow predominantly from informal sources, especially money lenders, landlords, local shopkeepers and traders at much higher rates. In the lowest income quartile, over 79.0% of loans were from these sources, while only 10.8% were from SHGs and MFIs. The 2006 World Bank Report on Improving Access to Finance for Rural Poor, or Improving Access Report, found that the interest charged on loans from informal sources averaged 48.0% per annum.

Several steps have been taken by the Government of India and the Reserve Bank of India, or RBI, to increase access to banking in India. The banking sector witnessed large scale branch expansion after the initial phase nationalization of banks in 1969. Mandatory requirements were placed on banks to direct large proportions of their credit to priority sectors, including agriculture, small-scale industries and other sectors identified as critical to economic and social development.

### OPINION ANALYSIS OF WOMEN ENTREPRENEURS

In order to study the opinion of women entrepreneurs with regard to the effectiveness of various service rendered by the micro finance institutions, 100 women entrepreneurs selected from the various parts of Tamilnadu. Convenience sampling system has been adopted to select the sample for this study. A detailed questionnaire prepared on a five point scale stating Highly Useful, Useful, Do Not Know, Less Useful and Not Useful classifications. Weighted average scores have been calculated on the basis of weights assigned, that is, 5,4,3,2 and 1 respectively. The responses of women entrepreneurs to these items are presented in Table 3.

TABLE – 3: OPINION OF WOMEN ENTREPRENEURS ON MICRO FINANCE

Micro Finance Services	Highly Useful	Useful	Do Not Know	Less Useful	Not Useful	Weighted Average Score
Micro Savings	51	31	4	5	5	27.33
Micro Insurance	26	59	5	9	1	26.67
Micro Leasing	15	28	4	46	7	19.87
Money Transfer	18	65	3	12	2	25.67
Micro Credit	59	35	3	2	1	29.93

(Source: Primary data)

It is clear from the table 3, that woman entrepreneurs have paid highest importance to micro credit than the other services offered by the entrepreneurs. Highest weighted average score 29.93 marked by the total respondents. Micro savings is the next choice to the women entrepreneurs; it is place second among the five micro finance services. Micro insurance and money transfer is a useful service to the respondents; this is placed third and fourth among the five services offered by the micro finance institutions. Micro leasing is the new concept and the same is not popular among the women entrepreneurs.

TABLE – 4: OPINION OF WOMEN ENTREPRENEURS ON SUITABILITY OF MF MODELS

Micro Finance Services	Highly Useful	Useful	Do Not Know	Less Useful	Not Useful	Weighted Average Score
SHGs	62	29	7	2	0	30.07
Banks	34	38	12	6	10	25.33
Cooperatives	27	24	31	14	4	23.73
NGOs	32	31	22	12	3	25.13
Village Bank	23	29	26	14	8	22.07
Credit Union	12	38	12	23	15	20.6
RSCA	68	27	1	3	1	30.53

(Source: Primary data)

It is evident from the table 4, Rotating saving and credit associations, are highly useful for the women entrepreneurs. Weighted average score of 30.53 is strongly evidenced to their expectations on the service provided by the RSCAs. Self-help group model is the next choice to them; this is also equally welcomed among the women entrepreneurs, the weighted average score of 30.07 indicates their expectations. Followed that banks and NGOs are placed third and fourth respectively, this is also considered as useful. Next priority is given to cooperative and village bank models by the women entrepreneurs. Credit union is not a suitable model to the women entrepreneurs, and they are not having enough idea about the same.

### CONCLUSION

Increasing the contribution of micro-finance to women's empowerment will require firstly much greater commitment and coherence in the underlying programme vision. This present study is conducted to check the suitability of micro finance products and models involved in the women empowerment, micro savings and micro credit are the two popular products to the women. There is multiple micro finance models are prevailing in the country, among all, self-help group and rotating savings and credit associations perceived as the suitable to the women empowerment activities. Micro finance institutions are deploying three kind of focus on women empowerment. These focuses are directly related with the social and political empowerment of women, gender equality and participation in community and financial self-sustainability by creating women entrepreneurs. Participative and program-related approaches are largely effective for the empowering women. Largely, in light of existing evidence on gender impact in microfinance institutions, leaders in the microfinance field can no longer be self-satisfied and assume that current program services are automatically empowering to women. Nor can they avoid empowerment approaches in fear of constant conflict with financial sustainability aims. Instead, they need to actively embrace empowerment approaches in microfinance institutions. By doing this, they will be able to realize their full potential in contributing to the holistic agenda for women empowerment.

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## A STUDY OF HRD PRACTICES IN AUTO COMPONENT COMPANIES IN HARYANA

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### ABSTRACT

*This paper focuses on the status of HRD practices in Auto Component Industry in India. The paper reviews and describes HRD practices and examines the perception of the employees working in the industry regarding the maturity level of HRD practices. Hence, the main objective of this paper is to review that HRD function is carried out as per the convenience or HRD plays the strategic role in the industry. The first section presents the introduction, objective, research methodology and the hypothesis followed by the data collection, interpretation and analysis in section two. Section three tests the hypothesis. Finally, section four provides suggestions and recommendations.*

### KEYWORDS

Human Resource, HRD Practices.

### INTRODUCTION

Human resources are one of the most important features of many businesses, especially in an economy where there is an increasing shift towards becoming global companies. The skill and cumulative learning of today's workforce assume crucial significance. Every factor of production other than human resource can be duplicated, transferred, altered and improved anywhere in the world but human resource is not transplantable to any company or a nation.

Hence, human resource development becomes the first and important for any commercial or non commercial organization. It is the people working in the organization without which nothing could ever be a resource. Human resource is the only asset which appreciates with time if properly nurtured. The strategic use of human resource differentiates the better run companies with other companies.

Capital or technology is no longer a scarce resource. They can be available in everywhere in the world. The most scarce resource is the employees working the country or the organization. Companies that are leading in any sector are those which are more advanced in maintaining qualified and committed employees. The most important challenge for any business in general in today's world, among all functional area of management is effective management of human resources.

It was 25 years ago that our country witnessed the emergence of a new HRD culture in our country with Prof Uday Pareek and Prof T.V.Rao heading the movement. The activity started as a "Review Exercise of the Performance Appraisal System" for L&T resulted in the development of a new function - The HRD Function.

For the last three decades, management of human resource as a concept and as a profession underwent remarkable changes. From scientific management approach, human relation approach and behavioural science approach to Human Resource Development (HRD) approach. The field of HRD is still at developing stage.

Human Resource Development is an integral part of Human Resource Management. Both are interdependent and have been integrated into one system.

McLean and McLean (2001) have offered the following global definition of HRD after reviewing various definitions across the world:

" Human Resource Development is any process or activity that, either initially or over the longer-term, has the potential to develop adults' work based knowledge, expertise, productivity, and satisfaction, whether for personal or group/team gain, or for the benefit of an organization, community, nation, or, ultimately the whole humanity".

### OBJECTIVE OF THE STUDY

The study had been carried out with the following main objectives:

To examine the maturity level of HRD practices being followed in selected auto component companies under study and to provide suggestions to improve the quality of HRD in the organization.

### RESEARCH METHODOLOGY

The study is completely based on *primary data* collected by the researcher through well designed, structured and comprehensive 5-point likert scale questionnaires developed by the researcher i.e. Employee Opinion Survey. This questionnaire collects the data from the employees working the organization hence the study is based on the employee perceptions.

The *secondary data* would be collected from the various documents relating to reports, external surveys and information from published media if any.

### HYPOTHESIS OF THE STUDY

In this study, the researcher has identified the hypotheses that the HRD function is carried out by the organisation as per convenience.

### DATA COLLECTION, INTERPRETATION & ANALYSIS

The responses of employees were collected on 9 HRD practices/ mechanisms from 6 manufacturing companies. These nine HRD practices/ mechanism were:

1. Manpower Planning & Recruitment
2. Potential Appraisal & Promotions
3. Career planning & Succession Planning
4. Performance Management System
5. Contextual Analysis

6. Training & Learning
7. Workers Development
8. Feedback & Counseling
9. Organisation Development

The responses received from the questionnaire were shown in the below table. These responses were further processed and analyzed as per the details given in Table 1:-

TABLE 1: MEAN SCORE CALCULATION OF EMPLOYEE OPINION SURVEY DATA

Status of HRD Practices	Scale	Total Responses	Total Score	<b>Mean Score=</b> Total Score/Total Responses => 4890/2023 = 2.42 <b>Highest Possible mean Score-5.00 = 100%</b> <b>Hence 2.42 = 48.34%</b>
	Highly Effective	5	1	
	Somewhat Effective	4	189	
	Effective	3	800	
	Somewhat Ineffective	2	696	
	Highly Ineffective	1	337	
		<b>2023</b>	<b>4890</b>	

Based on the mean calculation below matrix was used for assessment, Table-2:

TABLE-2: HRD MATURITY INDEX

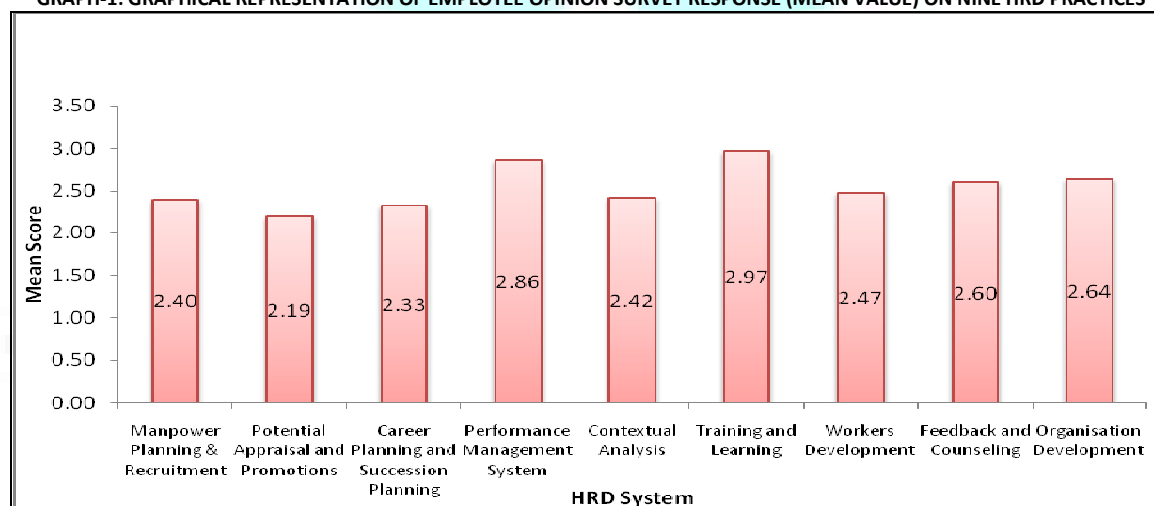
HRD Maturity Index	Mean Value	Maturity Score
Extremely High Level Of System Maturity	Above 4.5	Above 90%
Very High Maturity Level	4-4.5	80-90%
High Maturity Level	3.5-4	70-80%
Moderate High Maturity Level	3-3.5	60-70%
Moderate Maturity Level	2.5-3	50-60%
Moderate Low Maturity Level	2-2.5	40-50%
Low Maturity Level	1.5-2	30-40%
Very Low Maturity Level	1-2	20-30%
Maturity Not At All Present	Below 1	Below 20%

The data of employee's response as collected through employee Opinion Survey had been analysis and presented below IN TABLE-3:

TABLE-3: EMPLOYEE OPINION SURVEY RESPONSE (MEAN VALUE) ON NINE HRD PRACTICES

HRD Practices	Employee Opinion Survey response (Mean Value)	% Value
Manpower Planning & Recruitment	2.40	48%
Potential Appraisal and Promotions	2.19	44%
Career Planning and Succession Planning	2.33	47%
Performance Management System	2.86	57%
Contextual Analysis	2.42	48%
Training and Learning	2.97	59%
Workers Development	2.47	49%
Feedback and Counseling	2.60	52%
Organisation Development	2.64	53%

GRAPH-1: GRAPHICAL REPRESENTATION OF EMPLOYEE OPINION SURVEY RESPONSE (MEAN VALUE) ON NINE HRD PRACTICES



The analysis of employee opinion data in Table revealed the maturity level of HRD practices was at Moderately Low Level between 40-50% except in case of Performance Management System, Training & Learning, feedback & Counseling and Organization Development where the maturity level is at moderate level. Thus hypothesis has been proved and HRD practices in the auto component companies were carried out as per convenience.

## HYPOTHESIS TESTING

Though the above analysis had proved the hypotheses yet the researcher had decided to use the Kolmogorov – Smirnov's 'D' test, to test the set Null Hypothesis:  $H_0$ : The HRD function is not carried out by the organisation as per convenience.

TABLE-4: HYPOTHESIS TESTING

Employee Opinion Survey	Observed Number	Observed Proportion	Observed Cumulative Proportion	Null Proportion	Observed Cumulative Proportion	Observed Cumulative Proportion
1	2	3	4	5	6	7
			(3)/2023		2023/ (5*2023)	
Strongly Agreed	5	1	0.00049	0.00049	0.20000	0.19951
Somewhat Agreed	4	189	0.09343	0.09392	0.20000	0.30608
Agreed	3	800	0.39545	0.48937	0.20000	0.11063
Somewhat Disagreed	2	696	0.34404	0.83342	0.20000	-0.03342
Strongly Disagreed	1	337	0.16658	1.00000	0.20000	1.00000
	n	2023			Calculated 'D' Value	0.30608
					Critical 'D' Value	0.03024
Critical 'D' Value = $1.36/\sqrt{2023}$			$= 1.36/\sqrt{2023}$		$= 1.36/44.9772$	
n= No. of respondents					0.03024	

The employee opinion survey data as shown in table 4 had also been added and it was found that the calculated 'D' value was 0.30608 exceeded the critical 'D' value of 0.03024, the null hypothesis that the HRD function was not carried out by the organisation as per convenience had been rejected hence the HRD function was carried out in the organisation as per convenience.

**When the null hypothesis has been rejected, it is proved that the HRD practices in auto component companies are carried out as per the convenience. The HRD department does not play a strategic role in the organisation. Their activities are not linked with the overall objectives of the organisation i.e. they do not contribute directly in achieving the organisational objectives. The HRD department in the company only cares/ supports the other departments for effective and efficient performance in their area of work.**

## SUGGESTION/ RECOMMENDATIONS

Following recommendation has been given by the researcher to make the HRD more strong and business driven:

### **Manpower planning and Recruitment**

The researcher has recommended that considerable attention need to be given to scientific method of fixing manpower requirements such as cycle time study, time and motion study.

### **Potential Appraisal and Promotions**

Potential appraisal should be given due importance in the organization and promotion should not be only based upon the past performance. The ability and maturity of the person should be assessed for taking up the next higher job.

### **Career Planning and Succession Planning**

The career planning should be done for each and every employee- be it new entrant or the senior level person and should be well communicated to all the employees. The succession planning should be done where ever possible especially for senior level positions and critical positions. The career planning policy, succession planning policy and promotion policy should be linked together.

### **Performance Management System**

The performance management system should be objective in nature and simple to understand and implement. The role of the appraiser, appraisee, HRD department and reviewing officer should be clear. The appraiser and appraisees should be educated about the appraisal system. Every items of the appraisal form should be used for the performance improvements.

### **Training and Learning**

Training policy should be developed and known to all the employees. A planned approach of training in terms of need analysis, faculty selection, organisation of programs and follow up should be used. All training program should be evaluated for effectiveness and to ensure that it will contribute in the achievement of the overall objective/ targets of the organisation.

### **Workers Development**

Workers development should be more focused and needs to be planned and executed by force. Workers development should be made the part of the union agreement. It should be made obligatory for every worker to attend the programs and participate in the development activities.

### **Feedback and Counseling**

Feedback and counseling is found quiet matured in all organisations. The improvement is needed in giving the feedback to the employees. The training programs should be arranged for teaching how to give feedback. HR should go little beyond the line and support the career oriented employees in selecting the best career option for them.

### **Organisation Development**

The organization need to train their HR personnel on initiating and implementing organization development interventions. Just implementing the Kaizen, Quality circle cannot support the organization in handling the future knowledgeable workforce.

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## GREEN HEALTH MANAGEMENT FOR EMPLOYEES IN I.T. AND BPO SECTORS, USING SHARON SCHEMA WITH CHRISTINA THEORY

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### ABSTRACT

*The term absenteeism refers to the failure to attend to work. It is one of the major problems faced by companies across the globe today. High rate of absenteeism is neither desirable to employers nor good for the employees. In this work we have proposed a new application on mobile to cater the well being of heart and we designing a new mobile which is incorporating with stethoscope. We call it as "Mobile Steth" with automatic application for suggesting the food and heart related problems. Mobile steth will record the user datum; with this datum critical label will be checked. If the subject (patient) reaches the critical label, mobile steth will initiates an alarm to their family members and if the subject needs it will fix appointment in the nearest hospital from the organization. In majority of organizations, high rate of health related absenteeism has an adverse effect on quality and quantity of production, efficiency of workers and organization, organizational discipline and more importantly on the organization's intention to fulfill the new market demands. Sudden medical leave badly hurts the progress of an organization resulting in loss of productivity, increased costs in hiring additional staff and low morale among the workers. It is high time that employers address this health and heart related problem on a priority basis. Whatever be the reason absenteeism is not at all a healthy practice and steps should be taken to manage it effectively. In this paper a study has been conducted among the I.T and BPO peoples facing young age heart related problems. The main objective is to find out the level of CVD absenteeism among the workers in the organization, to find out the various causes for absenteeism, to study the relationship between the employee's satisfaction level and CVD absenteeism and to finally suggest the possible remedial measures to reduce and control the absenteeism rate. The study concludes that absenteeism can be reduced to a great extent if the management takes initiative in making the workers feel responsible towards their job by introducing various motivational schemes.*

### KEYWORDS

Eating Habits, Heart Related problems, Job Stress, Less Concentration, Mobile with Inbuilt stethoscope, Sharon's Heart Card, Self Motivation.

### INTRODUCTION

 years back – Have you ever heard of a cardiac arrest, blockage in angina, high cholesterol and high diabetes to an employee in the age group of 25-40 years?

Similarly have you heard of early retirement, mental strain, absenteeism and burnout?

Obviously no, which you have not come across - such a scenario. Occupational stress with health problem is the interaction of the worker and the conditions of work. Downsizing, increased workloads, high competition, growing population etc. are taking their toll. "Mental Stress, in essence, is a feeling of doubt about being able to cope, a perception that the resources available do not match the demands made.

#### MOBILE WITH INBUILT STETHOSCOPE IS GIVEN TO ALL EMPLOYEES

Healthier employees mean happier employees. There's less absenteeism, improved productivity and lowered health care premium costs- Jim Link Failure to attend or appear when expected. In another words, the absence means the state of being away or not being present. According to "Webster's Encyclopedia unabridged dictionary", absence means, "not in a certain place at a given time". The Law Lexicon defined absent literally as "etymologically it means not present. More recently, absenteeism has increasingly been viewed as an indicator of psychological, medical, or social adjustment to work." According to Goff, Mount, & Jamison, in 1990 "Employee absences due to personal illness, personal business and absence without leave, as measured in number of hours. (Source: G. Ritzer Ed., Blackwell Encyclopedia of sociology, Blackwell Publishing.) Van der Merwe and Miller (1988) classify absenteeism into three broad categories that help to understand the nature of this phenomenon. They are Sickness absence, Authorized absence/absence with permission and unexcused absence/ absence without leave.

#### ORGANIZATION IS MAINTAINING EMPLOYEES RECORD

However there is a concern regarding issues of health and safety that are unique to this new & developing Industry. The lack of reliable and response to this concern poses a challenge for safeguarding the health of IT and BPO employees having young age heart related problems. Elevated Food habits, Non-vegetarian food items, cigars, stress levels, shift duties, high work targets, lofty income may force many towards addictions to keep them going. Call centers and I.T is blooming field of employees in the present age of global communication technology. The Kerala Health department and Migration Surveys of 2007 and 2008 covered a much larger sample than the NSS survey for employees in Kerala zone and its surroundings were assess the extent of bias in estimates based on NSS Health Sector for the IT and BPO Employees data.

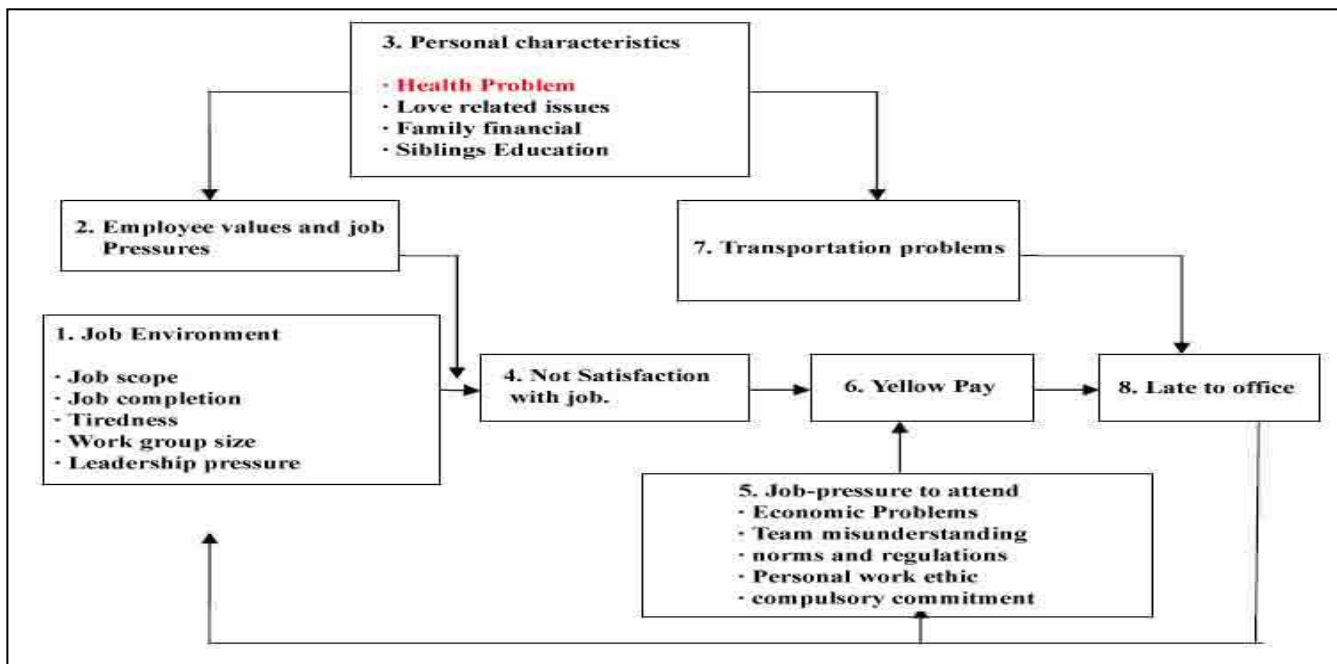
### STATEMENT OF THE PROBLEM

According to the most recent CCH Unscheduled Absence Survey, employers are losing ground when it comes to keeping workers on the job. Unscheduled absenteeism rates have risen to their highest level since 1999. What continues to be of most concern is that almost two out of three employees who don't show up for work aren't physically ill. Absenteeism is a serious problem for a management because it involves heavy expenses.

## MODEL OF ABSENTEEISM

Heuristic framework on the various factors influencing employee attendance

FIGURE 1: HEURISTIC FRAMEWORK ON THE VARIOUS FACTORS INFLUENCING EMPLOYEE



## REVIEW OF LITERATURE

The study on employees absenteeism conducted by a number of researchers has been gathered in order to analyze the previous findings in accordance to the present scenario.

The Business Roundtable Report C-6 (June 1986 Reprinted Sept. 1989) "Heart related Absenteeism and product turnover a Construction Industry Cost Effectiveness project report. Based on the findings reflecting the workers' views, reasons for absenteeism and turnover fall into two broad categories:

1. Controllable with intimation 2. Uncontrollable (Emergency)

The Controllable reasons for absenteeism and turnover involve the ingredients of the environment of a construction site. In addition, each ingredient is important in its own right, quite apart from its effect on absenteeism and turnover. Careful attention to planning, safety, interpersonal relationships, and other management Fundamentals will not only reduce absenteeism and turnover, but will have other positive effects on job costs and schedules. A relatively small portion of the work force is causing most of the absenteeism and turnover. Eighty-six percent of the workers surveyed reported quitting fewer than three jobs in the last two years.

R. BRIAN HAYNES, DAVID L. SACKETT, D. WAYNE TAYLOR, EDWARD S. GIBSON, AND ARNOLD L. JOHNSON, (October 5 2000),

The New England journal of medicine "Increased Absenteeism from Work after Detection and Labeling of Hypertensive and Young Heart Patients". A study of hypertension in an industrial setting allowed us to confirm and explore an earlier retrospective finding that the labeling of patients as hypertensive resulted in increased absenteeism from work.

PAUL M. MUCHINSKY (27 JULY 2004) "EMPLOYEE ABSENTEEISM AT IOWA STATE UNIVERSITY USA".

The purpose of this paper is to review the literature on employee absenteeism as a form of withdrawal behavior apart from turnover. Studies examining the psychometric properties of absence measures are reviewed, along with the relationship between absenteeism and personal, attitudinal, and organizational variables. Studies exploring the relationship between absenteeism and turnover are examined according to the unit of analysis studied in the research. Programmatic efforts to reduce employee absenteeism are also reviewed. Throughout the paper emphasis is placed on the indices used by investigators to measure absenteeism, and the problems that have arisen in the literature through the use of multiple indicators of absenteeism. The review concludes with suggestions for research that are of both theoretical and practical concern.

FACULTY OF MANGEMENT SCIENCE AND HEALTH SECTOR DEPARTMENT OF INDUSTRIAL PSYCHOLOGY OF THE UNIVERSITY OF THE WESTERN CAPE, (NOVEMBER 2007).

CVD - employees not showing up for work when scheduled - can be a major problem for organizations. As pressures increase on the budgets and competitiveness of companies, more attention is being given to reduce workplace absenteeism and its cost. Most research has concluded that absence is a complex variable and that it is influenced by multiple causes, both personal and organizational. Job satisfaction has been noted as one of the factors influencing an employee's motivation to attend. Studies on the relationship between absenteeism and job satisfaction seem to be inconsistent. Some research has found no correlation between these two variables whereas other studies indicate a weak to moderate relationship between these two variables.

WILLIAM H. HENDRIX, BARBARA A. SPENCER AND GAIL S. GIBSON, JOURNAL OF BUSINESS AND PSYCHOLOGY VOLUME 9 REPRINTED (2009)

"Organizational and extra organizational factors affecting stress, employee well-being, and absenteeism for males and females". The purpose of this research is to examine separately for males and females, the effects of different sources of job and life stress on the emotional and physical well-being of those individuals, and in turn on absenteeism. Results using experienced higher levels of job stress, absenteeism, and poorer emotional well-being of employees working in night shifts and rotational shifts. They suffered in young age cardio related problems and diabetes related problems, without any awareness about their life.

## OTHER MAJOR FINDINGS FROM THE STUDY

It has been clearly established that major of stress related diseases lead to critical illness like heart attacks, high diabetes, high cholesterol and many more medication related diseases. . As pressures increase on the budgets and competitiveness of companies, more attention is being given to reduce workplace absenteeism and its cost.

Which could have been much under control / avoided in some cases through preventive medicine?

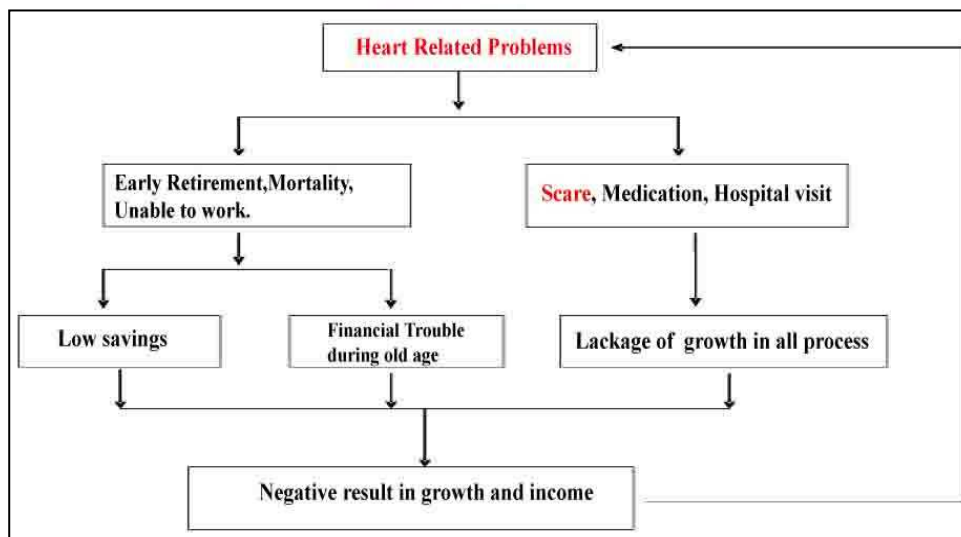
- About 82 % of the doctors are of opinion that preventive healthcare increases productivity as well as profitability of a company.
- Some of the diseases that can be detected through preventive health care are
- **Sudden Heart Attack (94% - PRIMARY PROBLEM)**
- Hypertension
- Diabetes

- Gastro Intestinal
- Heart diseases with throat cancer
- Throat cancer with cardio problem
- Sleeping problem
- Severe Headache

### THE ROLE OF HEALTH FOOD CULTURE IN ORGANIZATION

"This organization relies on committees, structures, logic and analysis" (Lynch 283). In this context a small group of managers/leaders will make the final decision but they will rely on procedures, systems and well-defined roles of communication. Besides in knowledge based economy, many of the business rely on the intellectual capital including creativity and innovation which is critically dependent on the health of the employees as shown below.

FIGURE 2: EMPLOYEE'S TROUBLE FACTORS IN ORGANIZATIONS AND ECONOMIC GROWTH REDUCING



However post diagnosis medical treatment is recommended and to some extent counseling, shifting to less stressful job in the company is also advised.

- The employee oriented measures that can be adopted to reduce stress are ranked as exercise, spending time with family followed by meditation in the same order.
- The employer oriented measures to combat stress are ranked as follows creating awareness on weight control, exercise, curbing smoking, and blood pressure control and health risk assessment.
- In the future occupational stress can be promoted by the following in the same order of importance as employee, employer, government, NGO & then finally hospitals.

### DATA SOURCES FOR HEALTH PROBLEMS AND CVD ALERTS

Both secondary and primary data was used. Primary data was collected through a questionnaire. About 50 medical practitioners from various medical fields from both the towns were selected in the sample. Various secondary sources like Anna University Library, Pondicherry University Library, and JIPMER Library was visited to collect the data apart from referring national and international journals and internet. A well structural Questionnaire with open and close ended questions was used and data was collected through personal Interview method. Statistical tools like chi square (one sample test), ranking methods were also used so as to judge the credibility of the survey results. The findings of the study are tabulated below.

TABLE 1: OBSERVATIONS ON OCCUPATIONAL STRESS DIMENSIONS AMONG PATIENTS

MAJOR STRESS FACTOR	
Factor	% of the respondents
Work related problems / Problem with team peoples	70
Family / Love / relationship issues for money	90
Young age Heart Problem	45
Have to update the subject topics daily	83
Other (specify)	----
AGE GROUP FACING STRESS	
Age Group	% of the respondents
20 – 30	65
30 – 40	55
40 – 50.. +	43
FREQUENCY OF VISIT OF PATIENTS WITH CVD / B.P	
Frequency	% of the respondents
Always	75
Sometimes	33
Often	43
Rarely	87
Never	94

### RESEARCH METHODOLOGY FOR MOBILE STETH FOR EMPLOYEES

The research design adopted in this study is Descriptive research. The researcher has used both the primary as well as secondary data. The primary data was collected using a structured questionnaire and secondary data from financial websites, business magazines, newspapers, journals, attendance record, employee's handbook, HR handbook and policies, and from company website. The sample size was 75 and the sampling techniques adopted were simple

random sampling. Scoring scheme was evolved to quantify the data. The data was analyzed using Percentage analysis, weighted average, Chi square test and one way ANOVA.

#### HYPOTHESIS 1:

**Ho: Factors causing occupational stress are uniformly distributed among patients.**

O	E	(O-E)	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
35	16.6	18.4	338.56	20.39
11	16.6	5.6	31.36	1.96
4	16.6	12.6	8.76	9.56
$\sum (O-E)^2/E = 31.91$				

The calculated value of chi square was 31.91 and the table value was 5.99 at 5% level of significance and degree of freedom equal to 2. Hence the null hypothesis is rejected and it is concluded that factors causing occupational stress are not uniformly distributed among patients.

#### HYPOTHESIS 2:

**Ho: Frequency of visit of patients with stress related diseases is uniformly distributed.**

**TABLE 2: EMPLOYEES MOST SUSCEPTIBLE TO LIFESTYLE DISEASES**

Employees	Rank
IT/ITes	1
Media	3
KPO	2
Financial Services	4
Telecom	5

#### HYPOTHESIS 3:

Table 2 indicates that the doctors consider IT / ITes employees to be more susceptible to lifestyle diseases like obesity, diabetes, high BP, High cholesterol, heart-ailments, spondylosis, sleep disorders and depression. This is indeed characteristic of the sectors working style. The study concludes that absenteeism can be reduced to a great extent if the management takes initiative in making the workers feel responsible towards their job by introducing various motivational schemes. The purpose of this research is to examine separately for males and females, the effects of different sources of job and life stress on the emotional and physical well-being of those individual will We added new mechanisms called as instant appointment fixing in hospital zone, if the patient reaches the critical label or he is feeling to be in uneasy state, our program will search in the hospital zone for the appointment with doctor. If the doctor is not free or the hospital server is busy, then our programs will switch to the next hospital zone.

#### MOBILE WITH STETHOSCOPE – SHARON MOBILES FOR EMPLOYEES

The proposed idea of Sharon mobile phone alarm allows all authenticated individuals to suggest the individuals for their food lifestyle and diet mechanisms. Authentication is validated by capturing the small user's information and by comparing with the existing stored database of food zone with the help of array matching scheme. The Health transactions and communication of the individual is carried over using synthesized information what he provided before using this software. It has 3 label stages say normal, medium, and critical. Our target is mainly focusing the critical label patients, because they are in risk levels in their health. We added new mechanisms called as instant appointment fixing in hospital zone, if the patient reaches the critical label or he is feeling to be in uneasy state, our program will search in the hospital zone for the appointment with doctor. If the doctor is not free or the hospital server is busy, then our programs will switch to the next hospital zone.

#### CHRISTINA THEORY FOR HEALTH SUGGESTIONS TO THE EMPLOYEES

An important advantage of our scheme is that the patient can change the class keys of system at anytime without having to reissue new devices to the users, whereas only the user with valid class and the daily food information need to be updated in HCN. However, when an individual authenticated user wants to change the profile, a new device needs to be issued. This also needs to be done when a different class is desired for personnel data to be accessed with the Christina theory for food habits. It contains the entire accessing records that how to change their profile schemes in a detailed manner.

The five criteria are:

- Fit with prescription or emergent strategic routes for stress free life
- Ability to cope with strategic change oh health
- Hospital Management should not couple with work environment
- World class Medicare facilities at affordable costs established at aesthetic locations.
- Permanent cure of disease and rejuvenation of body , mind and spirit imparted by the Wellness therapies

#### HEART CARD NUMBER SCHEMA (HCN)

Note that the mobile application in our scheme is an alarm. That does calculation in the Decrypting Key Derivation process. This raises the question of whether such an application can be attacked by an adversary to gain secret information to subvert this process. This concern is necessary, since cosset lock scheme has been successfully attacked, due to the weakness of the security. We face a similar situation here also. This architecture is well suited for participatory research as it enables the user to be involved in the sampling process. We highlight below some of the advantages of this architecture. Easy integration of off-the-shelf sensors which provides the user with a large selection of sensors. Second, the design of a flexible sensor controller that separated the connectivity of the communication from the sensor data format which is stored in the HCN, enabling minimal code customization as new sensors are added to their system.

#### REDUCE THE RATE OF ABSENTEEISM WITH SHARON MOBILES:

- **Patient with Heart Mobiles**-The training of supervisors in how to best manage absenteeism should include instruction on how to conduct effective and fair return-to-work interviews. Recent national surveys indicate that these interviews are regarded as one of the most effective tools for managing Short-term absenteeism.
- **Employee Hospital Appointment Program**- Employees become frequently absent from work due to personal problems so the company can take initiative by providing employee hospital appointment programs.
- **Heart card access within organization**-Tell employees that they must phone in as early as possible to advise why they are unable to make it to work and when they expect to return.



- **Return to Work Interview-** When an employee returns to work then ensure that they have a 'return to work interview' and routine enquiry must be done.
- **Medical care program (weekly)-**The management can provide advanced medical care program at least every week for the health care of the workers.
- **Healthy food Chart in the organization-**The attendance incentives may be raised a little to motivate the employees regularity.
- **Induction programme for the family members –**The family members of the worker should also clearly inform about the loss the worker incurs due to his frequent absence for work. The management can also make the family members to actively co-operate in making the worker attend work regularly.

### HEART RELATED SUGGESTIONS FOR THE EMPLOYEES

The survey has brought about very interesting revelations to combat stress of BPO employees as stated below:

Government intervention through its comprehensive care and commitment to regularly introduce innovative schemes, infrastructure development, environment protection at the Macro level and also provide incentive and subsidies to these companies or indirect subsidies cover the whole range of preventive health care. Measures like counseling, gym, health check- ups, follow – up to this check -ups etc. should also be covered by government schemes.

- Though some companies provide wellness measures they are used by employees only in certain situations. Hence government must ask these companies to make preventive checkups mandatory.
- Corporate can offer preventive health care vouchers for fixed time periods at regular intervals of time.
- When you are in Rome be like a Roman” This philosophy has to be realized by the employees to accept the demands of the BPO job profile apart from the income from it.
- The role of HR personnel has to be unbiased towards the Employees and the employers to provide a more stress free work environment.
- Providing music in the background of the shop floor, would give them relaxation to monotony and boredom in the work.
- Fixing up smiling, pictures of philosophers like Swami Vivekananda to calm the employee stress.
- Follow guidelines for arrangement of the employee work station like in the aspect of height, depth, and back rest of the chair.
- Good lighting design can be followed to significantly help reduce discomfort due to glare.
- Tips should be followed to protect the employees from (CV) computer vision syndrome with respect to areas like monitors positioning, angle of viewing, attaching antiglare screen etc.

### DISCUSSION

There were some interesting surprises in the details of the findings. The initial analysis using Means was based on attitude towards the company and its health sectors, attitudinal and behavioral responses. Behavioral responses were consistently lowest, followed by attitude towards the company and its image and the highest was health related attitudinal. The findings suggest that having or not having health related awareness does not impact employees. Nevertheless, what was surprising was that there was no significant difference in the response of a predetermined, selected, and known segment towards a pretested and accepted medical related food habits in the company canteen. There was no significant difference in company, attitudinal and behavioral measures responses.

This contradicts previous studies that have nearly all found differences and significant differences in favor of health food advertisers (Atkins & Block, 1983; H. Friedman et al., 1977). There was no possibility of bias or comparison between the different types of posters brochures for food principles. In essence, respondents evaluated each advertisement on its own merits and the authors found that these merits produced similar results. The authors found no evidence that health endorsement program, which normally cost in low budget, would benefit the company image.

### CONCLUSION

It is increasingly being recognized that occupational stress and young age heart related problems is a major hazard at the work place of IT and BPO employees. This is taking a toll on the lifestyle of our youngsters. The deaths in the recent years in this sector have to some extent brought the attention of policy makers to regulate the health and safety related issues. Combating occupational stress of I.T and BPO employees has to follow 3600 approach wherein a mental change is required in these IT and BPO employees to accept their job profile and have to respond to new behaviors this sector calls for, while the employers should also promote awareness and provide necessary facilities to control their employee stress. Also the various sections of our society should understand that healthier the population of a country, the greater is its economic growth.

Further while liberalization of the economy has expanded opportunity for employment and additional incomes in this BPO sector, it has also brought with it urbanization and changes in lifestyles. These changes have had a profound impact on the epidemiology of diseases and health care demands of the people. To some extent large companies like Infosys has introduced programme like (Hale) Health Assessment Lifestyle Enrichment for reducing absenteeism and psychological stress. Similarly WIPRO runs a programme called Mitr (Friend) to take care of the emotional and physical well being of its employees.

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## WHETHER BSE SENSEX (BSE30) AND BSE NATIONAL INDEX (BSE 100) ARE COINTEGRATED?

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### ABSTRACT

Most middle income group investors prefer to invest in BSE 100 than BSE 30 due to its price affordability. But most of the information available in the market and media are focusing on BSE 30 securities and the yield on those securities. Whether using the yield data of BSE 30 securities will solve the problem of those investors who keen on investing in BSE 100 securities is the main objective of this study. The solution is the econometric and statistical tool called cointegration. If there exists a stationary linear combination of non stationary random variables, the variables combined are said to be co-integrated. The data is downloaded from BSE's official website and the period on focus is between January 1991 and July 2011. Yield is monthly yield which includes both monthly dividend yield and monthly capital gain yield. Three tests are used to find the stationary linear relationship between the non stationary variables called yield on BSE 30 securities and yield on BSE 100 securities. They are Augmented Dickey Fuller test, Engle and Granger Test and Johansen Test. We conclude that there is evidence for a cointegrating relationship if (a) The unit-root hypothesis is not rejected for the individual variables; (b) The unit-root hypothesis is rejected for the residuals (what) from the cointegrating regression. The p-value is less than 0.05 and therefore we can reject  $H_0$  and it follows that B30 and B100 are co-integrated.

### KEYWORDS

Sensex, BSE 100, Cointegration, ADF Test, Engle Granger Test.

### INTRODUCTION



Over the decades, the stock market in the country has passed through good and bad periods. The journey in the 20th century has not been an easy one. Till the decade of eighties, there was no measure or scale that could precisely measure the various ups and downs in the Indian stock market. BSE, in 1986, came out with a Stock Index-SENSEX- that subsequently became the barometer of the Indian stock market.

The launch of SENSEX in 1986 was later followed up in January 1989 by introduction of BSE National Index (Base: 1983-84 = 100). It comprised 100 stocks listed at five major stock exchanges in India - Mumbai, Calcutta, Delhi, Ahmadabad and Madras. The BSE National Index was renamed BSE-100 Index from October 14, 1996 and since then, it is being calculated taking into consideration only the prices of stocks listed at BSE. BSE launched the dollar-linked version of BSE-100 index on May 22, 2006.

The main objective of the paper is to find whether any stationary linear combination exists between the non stationary random variables such as yield of BSE 30, better known as Sensex, and BSE 100. Here we include both dividend yield and capital yield into Total yield. Monthly data imported from BSE official website is used.

Middle income investors may prefer to invest in BSE National index which has 100 scripts and whose share prices may easily be affordable to those investors. So they may be interested to learn the relationship between the yield of BSE 30 and BSE 100, since there is more information on BSE 30 are available in the market than the BSE 100. The cointegration is the statistical and econometric tool which is used to clarify those doubts. If there exists a stationary linear combination of non stationary random variables, the variables combined are said to be co-integrated. To understand the phrase co-integrated of order zero, we should first define integrated series. Non-stationary series that become stationary when differenced  $n$  times are called integrated of order  $n$ . For a set of series to be co-integrated, each member of the set must be integrated of the same order  $n$ ; thus the term co-integration. A set of series, all integrated of order  $n$ , are said to be co-integrated if and only if some linear combination of the series – with non zero weights only – is integrated of order less than  $n$ . Such a linear combination is called a co-integrating relationship. So if  $x_t$  and  $y_t$  are said to be cointegrated if there exists a parameter  $\alpha$  such that

$$U_t = y_t - \alpha x_t$$

### REVIEW OF LITERATURE

Co-integration theory is definitely the innovation in theoretical econometrics that has created the most interest among economists in the last decade. A vector of  $I(1)$  variables  $y_t$  is said to be cointegrated if there exist a vector  $\beta$  such that  $\beta y_t$  is trend stationary. If there exist  $r$  such linearly independent vectors  $\beta_i$ ,  $i = 1, \dots, r$ , then  $y_t$  is said to be cointegrated with cointegrating rank  $r$ . The matrix  $\beta = (\beta_1, \dots, \beta_r)$  is called the cointegrating matrix. Cointegrating relationships between the sequences are ruled out through Johansen's (1988) cointegration tests. Although there exists a number of cointegration tests, such as the Engle and Granger (1987) method and the Stock and Watson (1988) test, Johansen's test has a number of desirable properties, including the fact that all test variables are treated as endogenous variables. Engle and Granger (1987) compared different tests and recommended the CADF test. They supplied critical values based on Monte Carlo simulations for the case of just one regressor. Engle and Yoo (1987) extend those tables to the case of more than one regressor, and MacKinnon (1991) has the most complete tables available so far. New tests for unit roots in residuals from a potentially cointegrating relation (like the Phillips-Perron tests) have been suggested since the publication of Engle and Granger (1987) and critical values have been simulated for some of those (see Phillips and Ouliaris (1990) for critical values for the PP test - these values are built into the COINT package), but it seems that the CADF test stands up pretty well. Again, you have to be careful if the series contains trends. If the  $x_t$  series contain a trend (or may contain a trend) then we should be careful to include a trend in the cointegrating regression, otherwise the asymptotic critical values will be different. The best way of testing for unit roots is by using the system ML estimator of Johansen (1988, 1991) is a test for cointegration restrictions in a VAR representation. Johansen's estimation is treated in much detail in the book by Johansen (1995). This estimator also gives you asymptotically efficient estimates of the cointegrating vectors (the  $\beta$ 's) and of the adjustment parameters (the  $\alpha$ 's). Johansen's method is the maximum likelihood estimator of the so-called reduced rank model. Even though there is a constant in the error correction representation (eqn. (3)), this may not translate into a deterministic trend in  $y_t$ . Note that this is not the same as what Campbell and Perron (1992) refer to as "deterministic cointegration", namely the case where there is trend in  $y_t$  but no trend in  $\Delta y_t$ . Johansen (1991) derives the likelihood ratio test (which we will denote  $H^*$ ) for reduced rank in the case where there is a constant in the ECM but no trend in  $y_t$ , see Johansen (1991) or Johansen (1995) for the full explanation. Johansen (1992b) discusses how to obtain a consistent test for the number of stochastic trends and for trend in  $y_t$  at the same time. See Johansen (1991) for the derivation of the maximum likelihood estimator when there may or may not be trend. It turns out to be very convenient to program the Maximum Likelihood estimator in this case: all you have to do is to move the vector of ones in to  $Z_{kt}$  and delete it from  $Z_{1t}$ .

### DATA AND METHODOLOGY

The primary objective of the study is to determine whether the yield of BSE 30 securities and BSE 100 securities are related as stationary linear combination. Then it means that both non stationary variables are cointegrated. The data is taken from BSE official website <http://www.bseindia.com/stockinfo/indices.aspx>. The formula used for finding out capital yield is  $\ln(P_t / P_{t-1})$ . The dividend yield is already available in the website. Total yield = dividend yield, which is taken

directly from the official website of BSE + Capital yield which is found from the formula. The Augmented Dickey-Fuller test, Engle Granger co-integration test and Johansen co-integration test. Monthly data are used for calculation and the period is from January 1991 and August 2011. Suppose that we take the total yield generated on BSE 30 and we call this as R30. And considering the alternative return on index BSE 100 and we call this as R100.

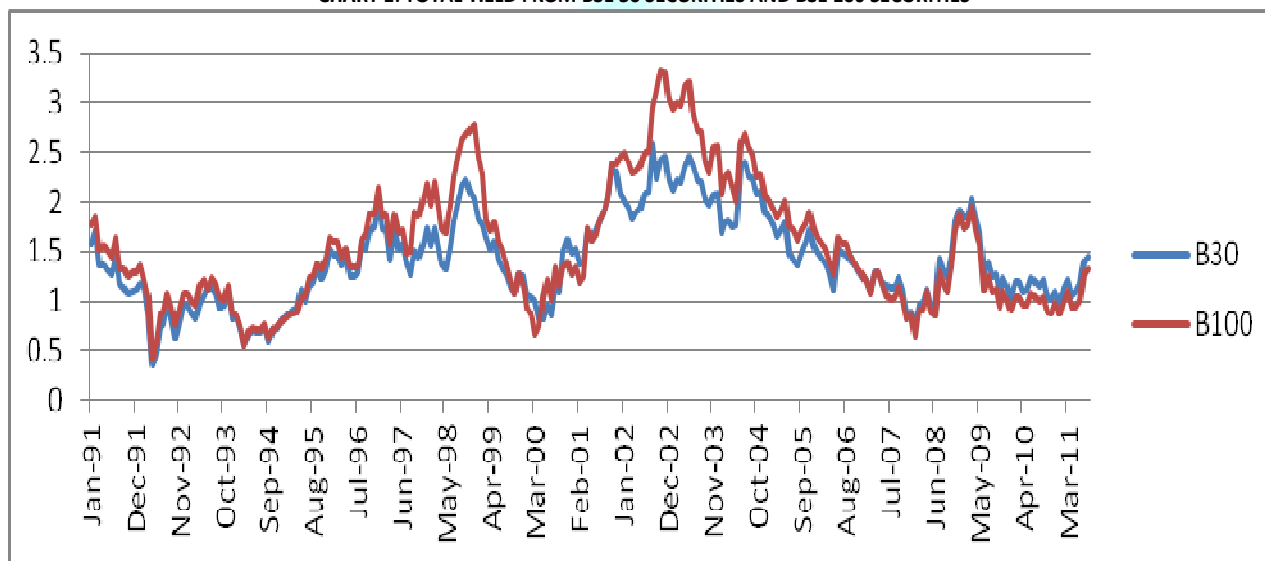
**TABLE 1: COMPARISON OF MEAN OF MONTHLY YIELD OF THE SCRIP OF BSE 30 AND BSE 100**

Year	Average monthly yield earned on	
	BSE 30	BSE 100
1991-1995	0.9799	1.0688
1996-2000	1.4739	1.6664
2001-2005	1.9539	2.2884
2006-2011	1.2600	1.1902

Source: Official website of Bombay Stock Exchange

The following table substantiates the cointegrating relationship of the yield of BSE 30 and BSE 100. Monthly yield on BSE 100 has been higher than the monthly yield of BSE 30. And the difference has been on the same line since 1991.

**CHART 1: TOTAL YIELD FROM BSE 30 SECURITIES AND BSE 100 SECURITIES**



Source: Official website of Bombay Stock Exchange

The two variables are clearly related. Total yield on BSE 30 i.e. Sensex is significantly lower than BSE 100. This is due to risk diversification and the comparatively better performance of the remaining 70 companies in the BSE 100 index. The two variables R30 and R100 are not stationary since the means are varying. Both variable appear to be I(1), though we should test for unit roots.

Analysis and discussion:

The results of Augmented Dickey – Fuller test for the random variable- B30

Statistics	Value
estimated value of (a - 1)	-0.0607032
test statistic: tau_c(1)	-2.35422
asymptotic p-value	0.1551

This is the unit root test for B30. The p value is greater than 0.05 and therefore we cannot reject Ho. This means B30 is probably I(1).

The results of Augmented Dickey – Fuller test for the random variable- B100.

Statistics	Value
estimated value of (a - 1)	-0.0487359
test statistic: tau_c(1)	-2.4068
asymptotic p-value	0.1398

This is a unit root test for B100. The p value is greater than 0.05 and therefore we cannot reject Ho. This means that B100 is probably I(1).

The following are the results of co-integrating regression.

Particulars	Coefficient	Std Error	t-ratio	p-value
Constant	0.342275	0.0230041	14.88	3.82e-036 ***
B100	0.693752	0.0138183	50.21	2.83e-131 ***

Particulars	Value	Particulars	Value
Mean dependent	1.411862	S.D. dependent	0.457396
Sum squared residual	4.594902	S.E. of regression	0.136669
R-squared	0.911081	Adjusted R-squared	0.910719
Log-likelihood	142.6749	Akaike criterion	-281.3499
Schwarz criterion	-274.3230	Hannan-Quinn	-278.5211
rho	0.869056	Durbin-Watson	0.267619

It is unlikely that Feldstein's (1996) estimates suffer by problems of spurious correlation due to R squared not exceeding 0.99, as reported by Feldstein. The following is the result of the Dickey- Fuller test on variables

Statistics	Value
estimated value of $(a - 1)$	-0.140488
test statistic: $\tau_c(1)$	-3.17046
asymptotic p-value	0.07506

The p value is less than 0.05 and therefore we can reject  $H_0$  and it follows that B30 and B100 are co-integrated during the period between January 1991 and July 2011.

### JOHANSEN TEST RESULTS

Number of equations = 2; Lag order = 12; Estimation period: 1992:01 - 2011:08 (T = 236); Case 3: Unrestricted constant

Log-likelihood = 1084.73 (including c: 414.989)

Rank	Eigenvalue	Trace test	p-value	Lmax test	p-value
0	0.043947	17.825	[0.0203]	10.606	[0.1779]
1	0.030123	7.2184	[0.0072]	7.2184	[0.0072]

Corrected for sample size (df = 211)

Rank	Trace test	p-value
0	17.825	[0.0210]
1	7.2184	[0.0075]

eigenvalue 0.043947 0.030123

Based on the Johansen test results, the null hypothesis that there is no cointegrating relationship between BSE 30 yield and BSE 100 yield is ruled out.

### CONCLUSION

There is evidence for a cointegrating relationship if:

(a) The unit-root hypothesis is not rejected for the individual variables.

(b) The unit-root hypothesis is rejected for the residuals ( $\hat{u}$ ) from the cointegrating regression.

The p-value is less than 0.05 and therefore we can reject  $H_0$  and it follows that B30 and B100 are co-integrated.

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## A STUDY ON ROLE OF SHG'S IN DEVELOPMENT OF WOMEN ENTREPRENEUR

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### ABSTRACT

SHG-Bank Linkage Model has emerged in India as a core strategy for the banking system to extend their outreach to the poorest among poor. The financial needs of the SHGs are catered by various financial institutions like commercial banks, co-operative banks, co-operative credit societies and regional rural banks (RRB). The program has come a long way from the pilot stage of financing 500 SHGs across the country. Of the total SHGs formed more than 1.6 million have been linked with 35,294 bank branches of 560 banks in 563 districts across 30 States of the Indian Union. Cumulatively, they have so far accessed credit of Rs.6.86 billion. About 24 million poor households have gained access to the formal banking system through the program. This study focuses on the role of Self help group in developing microfinance activity in general and women entrepreneur in particular.

### KEYWORDS

Economic Growth, small entrepreneur, SHGs, Financing.

### INTRODUCTION

 Self-Help Group (SHG) is a small voluntary association of poor people, preferably from the same socioeconomic background. They come together for the purpose of solving their common problems through self-help and mutual help. The SHG promotes small savings among its members. The savings are kept with a bank. This common fund is in the name of the SHG. Usually, the number of members in one SHG does not exceed twenty.

Self-help group model works in fashion where it will have 15 to 20 members in a group; these members will have affinity to each other and have homogeneous behavior. This group will have financial support from NGOs, Commercial Banks and other financial institutions. In India many state governments and central government are facilitating the growth of SHGs. Self Help Groups play a major role in poverty alleviation in India. NABARD defines SHGs as "small, economically homogeneous affinity groups of rural poor, voluntarily formed to save and mutually contribute to a common fund to be lent to its members as per the group members' decision".

A Self-Help Group is a small voluntary association of people from below poverty line, generally from the same socio-economic background. As Indian women do not generally have the same opportunities to migrate for wage work as men due to social obligations, it is particularly important for women to improve employment and income earning opportunities within their living context.

As Indian women do not generally have the same opportunities to migrate for wage work as men due to social obligations, it is particularly important for women to improve employment and income earning opportunities within their living context.

### LITERATURE REVIEW

World Bank reports that societies that discriminate on the basis of gender have greater poverty, slower economic growth, weaker governance, and a lower standard of living. Women are poorer and more disadvantaged than men. The UNDP's Human Development Report, 1995 found that 70% of the 1.3 billion people living on less than \$ 1 a day are women. Studies in Latin America and elsewhere show that men typically contribute 50-68% of their salaries to the collective household fund, whereas women "tend to keep nothing back for themselves." Because "women contribute decisively to the well-being of their families, investing in women brings about a multiplier effect."

Author Kim Wilson in his article Self Help Groups in India - A Study of Lights and Shades wrote that The Self-Help Group approach "combines access to low-cost financial services with a process of self management and development for the women who are SHG members".

Mr. Morgan jasmie, olsen, wendy, capital & class in their article "Aspiration problems for the Indian rural poor: Research on self-help groups and micro-finance" (Jun.2011) in *Academic journal* examines how micro-finance initiatives and local self help groups are contributing to the growing debt of the poor rural households in India.

Swain, Ranjula Bali, Wallentin, Fan Yang, in their article 'Does microfinance empower women? Evidence from self-help groups in India' (Sept 2009) *International journal of applied economics* wrote that microfinance programmes like the SHG Linkage program in India have been increasingly promoted for their positive economic impact and the belief that they empower women. Khavul, Susanna in *Academy of Management perspectives*, (Aug.2010) wrote that microfinance is an emerging phenomenon that opens access to capital for individual previously shut out from financial services.

Rahman, Sayma; Junankar, P.N.; Mallik Girijasankar, *Journal of the Asia Pacific Economy*, (Aug.2009) in their research "Factors influencing women's empowerment in relation to microcredit borrowers; a case study in Bangladesh" examines that the women empowerment in relation to microcredit program is a prominent issue in the literature of microcredit.

### OBJECTIVES OF SELF HELP GROUPS

- 1 Self-help supplemented with mutual help can be a powerful vehicle for the poor in their socioeconomic development;
- 2 Participative financial services management is more responsive and efficient;
- 3 Poor need not only credit support, but also savings and other services;
- 4 Poor can save and are bankable and SHGs as clients, result in wider outreach, lower transaction cost and much lower risk costs for the banks;
- 5 Creation of a common fund by contributing small savings on a regular basis;
- 6 Flexible democratic system of working;
- 7 Loaning is done mainly on trust with a bare documentation and without any security;
- 8 Amounts loaned are small, frequent and for short duration;
- 9 Defaults are rare mainly due to group pressure; and
- 10 Periodic meetings non-traditional savings

### OPERATIONS OF SELF HELP GROUPS

The typical SHG is a voluntary organization, which focuses on the development of the group members by carrying out the following activities:

1. An SHG meets regularly and addresses the problems of the group members
2. They insist the group members to make small saving in the SHG
3. They mutually agree to contribute to a common fund
4. This fund they use for emergency needs

5. They elect the group leader on rotation basis
6. They take collective decisions relating to the activities
7. They solve their conflicts through mutual discussion
8. They provide loan without any collateral security
9. Some of the SHGs will enhance their activity by insuring their group members
10. SHG group members will impart training with the help of financial institutions like NABARD (National Bank For Agricultural and Rural Development), SFMC (Sid. Foundation for Micro Credit) etc.

## METHODOLOGY

The study is based on the secondary data which are collected from the website of NABARD. The other information is from books, journals and news papers. The data are analyzed by using statistical tools like growth rate, percentage and common size statements.

## ANALYSIS OF FINANCING OF SMALL ENTREPRENEURS THROUGH SHGS

**TABLE 1: POSITION OF WOMEN SHGS TO TOTAL NUMBER OF SHGS IN INDIA**

Particular	Year wise position					
	2008			2009		
	Total No of SHGs	Total No of Women SHGs	%of women SHGs	Total No of SHGs	Total No of Women SHGs	%of women SHGs
Savings Linked to SHGs	5009794	3986093	79.57	6121147	4863921	79.46
Loan Disbursed	1227770	1040996	84.79	1609586	137479	85.39
Loan outstanding	3625941	2917259	80.46	4224338	3277355	77.58

### INTERPRETATION

The above table shows that the participation of women SHGs constitutes almost 80% of the total SHG's in the year 2008 and 2009, and loan disbursement is about 85% in both years positively there is a reduction in loan outstanding.

**TABLE 2: POSITION OF WOMEN SHGS TO TOTAL SHGS IN INDIA IN TERMS OF AMOUNT OF SAVINGS, LOAN DISBURSED AND LOAN OUTSTANDING (Rs. in crores)**

Particular	Year wise position					
	2008			2009		
	Total No of SHGs	Total No of Women SHGs	%of women SHGs	Total No of SHGs	Total No of Women SHGs	%of women SHGs
Savings Linked to SHGs	3785.39	3108.65	82.12	5545.62	4434.03	79.96
Loan Disbursed	8849.26	7474.26	84.76	12253.51	10527.38	85.91
Loan outstanding	16999.91	13335.61	78.45	22679.84	18583.54	81.93

### INTERPRETATION

The above table shows that the savings linked to SHGs constitutes almost 80% of the total SHG's in the year 2008 and 2009, and loan disbursement is about 85% in both years positively there is a reduction in loan outstanding

**TABLE 3: BANK WISE SAVINGS OF SHGS IN INDIA**

Banks	Year wise Savings					
	2008			2009		
	Total No of SHGs	Amount (Rs.in crores)	Savings per SHGs(Rupees)	No of SFGs	Amount (Rs.in crores)	Savings per SHG(Rupees)
Commercial Banks	2810750 (56.11)	2077.73 (54.89)	7392	3549509 (57.99)	2772.99 (50.00)	7812
Regional Rural Banks	1386838 (27.68)	1166.49 (30.81)	8411	1628588 (26.60)	1989.75 (35.88)	12218
Cooperative Banks	812206 (16.21)	541.17 (14.30)	6663	943050 (15.41)	782.88 (14.12)	8302
Total	5009794 (100.00)	3785.39 (100.00)	7556	6121147 (100.00)	5545.62 (100.00)	9060

### INTERPRETATION

The above table shows the bank wise savings of SHG's in India in the year 2008 and 2009 about 55% of SHGs savings goes to commercial banks and 31% goes to RRBs and 14% goes to Co-operatives banks and in the year 2009 about 50% to commercial bank, 36 to RRBs and 14% to Co-operatives banks it shows that there is reduction in commercial bank and increase in RRB's

**TABLE 4: BANK WISE LOAN DISBURSED TO SHGS IN INDIA**

Banks	Year wise loan disbursed					
	2008			2009		
	Total No of SHGs	Amount (Rs.in crores)	Loan per SHGs(Rupees)	No of SFGs	Amount (Rs.in crores)	Loan per SHG(Rupees)
Commercial Banks	735119 (59.87)	5403.90 (61.07)	73511	1004587 (62.41)	8060.23 (65.78)	80237
Regional Rural Banks	327650 (26.69)	2651.84 (29.97)	80935	405569 (25.20)	3193.49 (26.06)	78741
Cooperative Banks	165001 (13.44)	793.52 (08.96)	48092	199430 (12.39)	999.49 (08.16)	50117
Total	1227770 (100.00)	8849.26 (100.00)	72076	1609586 (100.00)	12253.51 (100.00)	76128

### INTERPRETATION

The above table shows the bank wise loan disbursement to SHG's in India in the year 2008 and 2009 about 61% of disbursement of commercial bank loan goes to SHGs and 30% goes to RRBs and 9% goes to Co-operatives banks and in the year 2009 about 65% to commercial bank, 26 to RRBs and 8% to Co-operatives banks it shows that there is increase in commercial bank and decrease in RRB's

TABLE 5: BANK WISE LOAN OUTSTANDING AGAINST SHGs IN INDIA

Banks	Year wise loan outstanding					
	2008			2009		
	No of SHGs	Amount (Rs.in crores)	per SHGs(Rupees)	No of SFGs	Amount (Rs.in crores)	per SHG(Rupees)
Commercial Banks	2378847 (65.61)	11475.47 (67.50)	48240	2831374 (67.03)	16149.43 (71.21)	57037
Regional Rural Banks	875716 (24.15)	4421.04 (26.00)	50485	977834 (23.15)	5224.42 (23.04)	53428
Cooperative Banks	371378 (10.24)	1103.39 (06.50)	29711	415130 (09.82)	1306.00 (05.75)	31460
Total	3625941 (100.00)	16999.90 (100.00)	46884	4224338 (100.00)	22679.85 (100.00)	53689

Source: www.nabard .org: Figure in parentheses indicate percentages to respective column totals

#### INTERPRETATION

The above table shows the Bank wise Loan outstanding against SHGs in India in the year 2008 and 2009 . Commercial bank has got 67% of loan outstanding and 26% goes to RRBs and 7% goes to Co-operatives banks and in the year 2009 about 71.% to commercial bank , 23% to RRBs and 6% to Co-operatives banks it shows that there is increase in commercial bank and decrease in RRB's

#### FINDINGS

1. More number of SHGs are formed by women entrepreneurs, they have major share in amount of savings, loan taken and loan outstanding.
2. The loan per SHGs in India from commercial banks is higher than RRBs and Co-op. banks in 2008 and 2009.
3. More than 95 percent of MFIs are financed by commercial banks in India.
4. The recovery performance of loan sanctioned to the SGSY SHGs is low as on 31-03-2009.
5. The NPA in cooperative and regional rural banks was 6.8 percent and 4.2 percent respectively.

#### SUGGESTIONS

1. The members of the SHG should be more active, enthusiastic and dynamic to mobilise their savings by group actions. In this process NGOs should act as a facilitator and motivator.
2. The office bearers managing the group should be given nominal financial benefits, which will enable them to be more involved in the activities of the Group.
3. The bank should advance adequate credit to the SHG according to their needs.
4. Uniformity should be maintained in formation and extension of financial assistance to them by banks in all blocks.
5. The procedure of the banks in sanctioning credit to SHG should be simple and quick.
6. Marketing facilities for the sale of products of SHG may be created.
7. Periodical exhibitions at block-level may be organised where the products of SHG can be displayed.
8. Meetings and Seminars may be organised where the members will get a chance to exchange their views and be able to develop their group strength by interactions.

#### CONCLUSION

The self help group concept enabled many entrepreneurial persons to carry their activities by taking loan from institutional sources of finance on group responsibility. There has been a lot of progress in terms of SHGs linked and financed in India. There is a lot of scope for growth and development of entrepreneurship through SHG.

Mahatma Gandhiji said that "the development of every village is nothing but the development of nation." To bring this well-known fact to reality, it is essential to finance the poor people who are willing to run entrepreneurial activities. Women in India constitute 48.15 percent of total Indian population, but their participation in entrepreneurial activities in India is hardly 6.3 percent of total women working force. "25 percent of business in China, 40 percent of business in Hungary, 38 percent of business in Poland, 32 percent of business in Mexico, 25 percent of business in France and 38 percent of business in USA, 23 percent of private firms in Japan, 33 percent of business in Germany and Europe and 25 percent of self employed sector in UK are established by women." The government of India has highlighted the need for entrepreneurship programmes for women in industrial policy.

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**PERCEPTION TOWARDS ADVERTISEMENTS AND ITS IMPACT ON SOCIETY - AN EMPIRICAL ANALYSIS**

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**ABSTRACT**

*The role of advertisements and the various media for advertisements are occupying the major portion of everyone's life due to the fact that it stimulates the customers to buy the product and gives the knowledge about the product/brand. Though there are various media for advertisements, the impact of advertisements is well understood based on the effectiveness of media to deliver the advertisements. The manufacturers, advertisers who advertise their products mainly concerned with overcoming the competition and holding market share for their products. In such a situation some advertisements are creating strong impact on the minds of consumers but still some of them create negative impact as in the form of annoyance, irritation or unwanted advertisements, etc. With the advent of Information Technology and media exposure the viewing/listening/reading of advertisements are unavoidable. But in the fast moving world many people fail to realize the value of advertisements in terms of money, time, economy etc while purchasing the product. Thus, the study explores advertisement effect on society, analyze about how advertisement influence the mindset of old ages, youngsters and children, its role in creating demand and standard of living of people.*

**KEYWORDS**

Advertisements, Advertisers, Impact of advertisement, Media, Product, Society.

**INTRODUCTION**

Advertisement is a form of communication intended to persuade its viewers, readers or listeners to take some action. It usually includes the name of a product or service and how that product or service could benefit the consumer, to persuade potential customers to purchase or to consume that particular brand. Modern advertising developed with the rise of mass production in the late 19th and early 20th centuries.

Commercial advertisers often seek to generate increased consumption of their products or services through branding, which involves the repetition of an image or product name in an effort to associate related qualities with the brand in the minds of consumers. Different types of media can be used to deliver these messages, including traditional media such as newspapers, magazines, television, radio, billboards or direct mail. Advertising may be placed by an advertising agency on behalf of a company or other organization.

**ADVERTISING MEDIA**

Virtually any medium can be used for advertising. Commercial advertising media can include wall paintings, billboards, street furniture components, printed flyers and rack cards, radio, cinema and television adverts, web banners, mobile telephone screens, shopping carts, web popups, skywriting, bus stop benches, human billboards, magazines, newspapers, town criers, sides of buses, banners attached to or sides of airplanes ("logojets"), in-flight advertisements on seatback tray tables or overhead storage bins, taxicab doors, roof mounts and passenger screens, musical stage shows, subway platforms and trains, elastic bands on disposable diapers, doors of bathroom stalls, stickers on apples in supermarkets, shopping cart handles (grabvertising), the opening section of streaming audio and video, posters, and the backs of event tickets and supermarket receipts. Any place an "identified" sponsor pays to deliver their message through a medium is advertising.

**TELEVISION**

The TV commercial is generally considered the most effective mass-market advertising format, as is reflected by the high prices TV networks charge for commercial airtime during popular TV events. The annual Super Bowl football game in the United States is known as the most prominent advertising event on television. The average cost of a single thirty-second TV spot during this game has reached US\$3 million (as of 2009). The majority of television commercials features a song or jingle that listeners soon relate to the product. Virtual advertisements may be inserted into regular television programming through computer graphics. It is typically inserted into otherwise blank backdrops or used to replace local billboards that are not relevant to the remote broadcast audience. More controversially, virtual billboards may be inserted into the background where none exist in real-life. Virtual product placement is also possible.

**RADIO ADVERTISING**

Radio advertising is a form of advertising via the medium of radio. Radio advertisements are broadcasted as radio waves to the air from a transmitter to an antenna and a thus to a receiving device. Airtime is purchased from a station or network in exchange for airing the commercials. While radio has the obvious limitation of being restricted to sound, proponents of radio advertising often cite this as an advantage.

**PRINT ADVERTISING**

Print advertising describes advertising in a printed medium such as a newspaper, magazine, or trade journal. This encompasses everything from media with a very broad readership base, such as a major national newspaper or magazine, to more narrowly targeted media such as local newspapers and trade journals on



very specialized topics. A form of print advertising is classified advertising, which allows private individuals or companies to purchase a small, narrowly targeted ad for a low fee advertising a product or service.

#### ONLINE ADVERTISING

Online advertising is a form of promotion that uses the Internet and World Wide Web for the expressed purpose of delivering marketing messages to attract customers. Examples of online advertising include contextual ads that appear on search engine results pages, banner ads, in text ads, Rich Media Ads, Social network advertising, online classified advertising, advertising networks and e-mail marketing, including e-mail spam.

#### IMPACT OF ADVERTISEMENTS ON SOCIETY

In recent times, the word 'Advertising' has become a fiercely mooted topic. Advertising has positive as well as negative, social and economic impacts on our society. Considering advertising as a public welfare is a positive social impact whereas exposing women as a sex tool comes at the negative side. As far as economic factors are concerned, funding for the media and stimulating an active and competitive economy, are the major examples.

Assorted techniques are enforced for persuading consumers that they want the product which is being advertised. These techniques usually give attention to the benefits that would be brought to the consumers rather than focusing on the actual products. For instance, an automobile advertisement advertising the mechanical attributes of a vehicle, most likely concentrates the exhilaration, reputation and social progression it may bring to the buyer. This swarming advancement is habitually sexual, or involving the opposite gender to attract the consumers with the glamorous women/men's fancy car.

There are various blames that advertising is causing a negative social impact on the lives. The chief unfavorable judgment for advertising is that it hales the public to buy things that they are not their real want. It is arrogated that advertising plays with emotions and encourages people to think that buying and depleting are the activities of life.

According to advertisers, they state that people are capable enough to set their mind and no one can force them to buy anything which they dislike or which they think is not a necessity. Advertisers also think that there are positive impacts of advertising on our society and culture. For example, it can be used to generate awareness among the public that which product is OK or to which they should say NO. In other words, advertising also acts as an educator in the sense that it educates people what is good and what is bad for them and puts a ceiling on the harmful products like smoking and drinking etc.

There are not only social benefits of advertising, but it also has some economic advantages. Without advertising, the media, including newspapers, television and radio would never be much strong. Advertising provides revenue for commercial mediums which would otherwise need to be funded by the actual consumer of these mediums. So, we can see a major economic infrastructure based around advertising, in which the big companies fund and subsidize the commercial media by the way of advertisements.

The major economic negative aspect of advertising is that it boosts the price of goods and services. The source of this contention is that, when organizations subsidize the mass media with advertising, we, the purchaser, subsidize advertising by compensating a grossly increased price for heavily advertised goods and services. An easy example of this is that a box of Omo washing powder generally costs around two to three dollars while the market price of the product would be seven to eight dollars. The fact behind this is that the remaining proportion goes in heavy advertising in television and print media.

So, the impact of advertising on our society is in a jumble form, depending on the functions and implementations of numerous campaigns. Our society and the marketing of products depend very badly upon advertising. The companies have become much dependent of advertising that even its negative impacts can never outweigh the many positive social and economic effects.

#### RESEARCH DESIGN

This study is based on an exploratory analysis and the required data for analysis were collected through a well structured questionnaire.

#### STATEMENT OF THE PROBLEM

The role of advertisements and the various media for advertisements are occupying the major portions of the everyone's life due to the fact that it stimulates the customers to buy the product and gives the knowledge about the product/brand. Though there are various media for advertisements, the impact of advertisements is well understood based on the effectiveness of media to deliver the advertisements. The manufacturers, advertisers who advertise their products mainly concerned with overcoming the competition and holding market share for their products. In such a situation some advertisements are creating strong impact on the minds of consumers but still some of them create negative impact as in the form of annoyance, irritation or unwanted advertisements, etc. With the advent of Information Technology and media exposure the viewing/listening/reading of advertisements are unavoidable. But in the fast moving world many people fail to realize the value of advertisements in terms of money, time, economy etc while purchasing the product. Hence, there is need for present study to explore on impact of advertisement on society and to provide suggestions for the further improvement. In order to know the depth of impact, the present research was undertaken.

#### OBJECTIVES OF THE STUDY

1. To study the effect of Advertisement on Society.
2. To know how advertisement influence the mind set of old ages, youngsters and children.
3. To investigate how does advertisement create the demand for the products?
4. To study the impact of Advertisement on standard of living of people.
5. To offer suggestion for the improvement of Advertisement.

#### SIGNIFICANCE OF THE STUDY

The recent era of Liberalization, Globalization and Privatization (LPG) policies is witnessing a lot of changes and betterments frequently not only in the development of nation's economy but also the individual's life style. One such development is advertisement. Advertisements have started arresting each and every individual towards buying goods. In those days people run behind products and search for shops whereas, the present scenario has been changed that the manufacturers and retailers chase and convince customers to promote their product. Today, 80% of the product manufacturers are depending upon the advertisements to deliver the product information and create product awareness among the general public.

Most of the advertisements shown on television and other media are having greater impacts that make customers to believe whatever they convey. No doubt advertisements are now-a-days a strong driving force for the betterment of the society. But on the other side, it creates unnecessary desire, wants, spending on the products. So, it becomes necessary to analyze about what it exactly does to the society and how people react to the advertisements and the channel which has greater influence. Today, people are also much concerned about pride, brand and physical look of the product as they believe that these factors improve their lifestyle. They are not aware about negatives of the advertisement because the attractive presentations, claims, themes, appeals energize and bring them the confidence to buy products.

Thus, the study explores advertisement effect on society, analyze about how advertisement influence the mindset of old ages, youngsters and children, its role in creating demand and standard of living of people.

#### SAMPLING TECHNIQUE

People with various categories of occupations have been clustered together. Among the cluster, random sampling has been applied to identify the target group of respondents. The Coimbatore city has chosen as study area and 150 respondents were fixed as sample size. The required data were collected from these 150 respondents using random sampling technique and questionnaire method of data collection was applied for collecting these primary data.

#### STATISTICAL TOOLS

The tabulated data were formulated using the statistical tools of simple percentage analysis and chi square to interpret the data.

## ANALYSIS AND INTERPRETATION

The collected data were analysed using the appropriate statistical tools mentioned in the research methodology. The objective-wise analysis and their interpretations are presented in this section.

### ANALYSIS ON THE VARIOUS FACTORS OF ADVERTISEMENTS AND ITS IMPACT ON SOCIETY

The following section deals with the percentage analysis on the various factors of advertisements such as type of advertisements mostly preferred to view in the various media, the type of product advertisements mostly preferred to view in the various media, its influence on the respondents purchase decision etc. Also, the percentage analyses were done in the case of analyzing the impact of advertisements on the society and its well being.

**TABLE 1: TYPE OF ADVERTISEMENT VIEWED BY THE RESPONDENTS**

S.No	Type of Advertisement you watch	No of respondents	Percentage
1	Consumer products	74	49.33%
2	Baby products	22	14.67%
3	Business ads	24	16%
4	Vehicles	30	20%
	<b>Total</b>	<b>150</b>	<b>100</b>

Source: Primary data

From the above table, it can be noted that 49.33 % i.e. (74 out of 150) of the respondents are watch Advertisement about Consumer products, and 14.67% i.e. (22outof150) of the respondents are watch Advertisement about Baby products, and 16% i.e. (24outof 150) of the respondents are watch Business ads, and 20% i.e. (30outof 150) of the respondents are watch Advertisements about Vehicles.

**TABLE 2: THE ATTRACTIVENESS OF THE VARIOUS TYPES OF PRODUCT ADVERTISEMENTS**

S.No	Attractive Advertisement	No of respondents	Percentage
1	Paints	12	8%
2	Electronics	37	24.67%
3	Mobiles	71	47.33%
4	Others	30	20%
	<b>Total</b>	<b>150</b>	<b>100</b>

Source: Primary data

From the above Table 2 it can be noted that 47.33% i.e. (71outof150) of the respondents are attracted towards Mobile Advertisement and 24.67% i.e. (37outof150) of the respondents are attracted towards Electronic goods, and 8% i.e. (12outof 150)of the respondents are attracted towards Paints ,and 20% i.e. (30outof150)of the respondents are attracted on Other products.

**TABLE 3: INFLUENCE OF THE ADVERTISEMENT FOR PURCHASE DECISION**

S.No	Purchase by seeing Advertisement	No of respondents	Percentage
1	Yes	135	90%
2	No	15	10%
	<b>Total</b>	<b>150</b>	<b>100</b>

Source: Primary data

From the above table it can be noted that 90 % i.e. (135outof150) of the respondents are purchase by seeing Advertisements, and 10 % i.e. (15outof150) of the respondents are do not purchase by seeing Advertisement.

**TABLE 4: TYPE OF PRODUCT PURCHASED AFTER SEEING THE ADVERTISEMENT**

S.No	Type of product purchased based on the advertisement	No of respondents	Percentage
1	Food items	36	24%
2	Furniture	8	5.33%
3	Electronic goods	49	32.67%
4	Dress items	48	32%
5	Others	9	6%
	<b>Total</b>	<b>150</b>	<b>100</b>

Source: Primary data

From the above table it can be noted that 32.67% i.e. (49outof150) of the respondents are purchase Electronic goods ,and 24% i.e. (36outof150) of the respondents are purchase Food items, and 32% i.e. (48outof150)of the respondents purchase Dress items , and 5.33% i.e. (8outof 150)of the respondents purchase Furniture, and 6% i.e. (9 out of 150)Other products.

**TABLE 5: QUALITY LEVEL OF ADVERTISEMENT**

S.No	Quality of Advertisement	Total	Percentage
1	Excellent	19	12.67%
2	Good	77	51.33%
3	Satisfactory	53	35.33%
4	Poor	1	0.67%
	<b>Total</b>	<b>150</b>	<b>100</b>

Source: Primary data

From the above table it can be noted that 51.33% i.e. (77outof150) of the respondents are feel that Quality of Advertisement is Good, and 35.33% i.e. (53outof150) of the respondents are feel that Quality of Advertisement is Satisfactory, 12.67% i.e. (19outof150) of the respondents are feel that Quality of Advertisement is Excellent, and 0.67% i.e. (1outof150) of the respondents are feel that Quality of Advertisement is Poor.

**TABLE 6: IMPACT OF ADVERTISEMENT ON PURCHASE DECISION**

S.No	Purchase decision	No of respondents	Percentage
1	Yes	136	90.67%
2	No	41	9.33%
	<b>Total</b>	<b>150</b>	<b>100</b>

Source: Primary data

From the above table it can be noted that 90.67 % i.e. (136outof150) of the respondents are convinced to take purchase decision by seeing Advertisement, and 9.33 % i.e. (41outof150) of the respondents are not convinced to take purchase decision by seeing Advertisement.

**TABLE 7: TABLE SHOWING NO OF RESPONDENTS BELIEVE IN ADVERTISEMENT**

S.No	Advertisements are believable	No of respondents	Percentage
1	Yes	111	74%
2	No	39	26%
	<b>Total</b>	<b>150</b>	<b>100</b>

Source: Primary data

From the above table it can be noted that 74 % i.e.(111outof150) of the respondents are believe the information's given in Advertisement, and 26 % i.e. (39outof150) of the respondents are do not believe the information's given in Advertisement.

**TABLE 8: RESPONDENTS' PREFERENCE OF TIME FOR SEEING THE ADVERTISEMENTS**

S.No	Timing of Advertisement	No of respondents	Percentage
1	Morning	1	0.67%
2	Afternoon	4	2.67%
3	Evening	40	26.67%
4	Night	105	70%
	<b>Total</b>	<b>150</b>	<b>100</b>

From the above table it can be noted that 70% i.e. (105outof150)of the respondents are watch Advertisement during Night time, and 26% i.e. (40outof150) of the respondents are watch Advertisement during Evening time, and 2.67% i.e. (4outof150) of the respondents are watch Advertisement during Afternoon time, and 0.67% i.e. (1outof150) of the respondents are watch Advertisement during Morning time.

**TABLE 9: IMPACT OF MODEL'S ADVERTISEMENT**

S.No	Model's Advertisement	No of respondents	Percentage
1	Yes	140	93.33%
2	No	10	6.67%
	<b>Total</b>	<b>150</b>	<b>100</b>

Source: Primary data

From the above table it can be noted that 93.33 % i.e. 140outof150) of the respondents are like to watch Model's Advertisement, and 6.67 % i.e. (10outof150) of the respondents do not like to watch Model's Advertisement.

**TABLE 10: MEDIA OF ADVERTISEMENT AND ITS REACHABILITY**

S.No	Media of Advertisement	No of respondents	Percentage
1	TV	148	98.67%
2	Radio	1	0.67%
3	Poster	1	0.67%
4	Questionnaire	-	-
	<b>Total</b>	<b>150</b>	<b>100</b>

Source: Primary data

From the above table it can be noted that 98.67 % i.e. (148 out of 150) of the respondents are prefer TV, and 0.67 % i.e. (2outof 150) of the respondents prefer Radio and Poster Media of Advertisement respectively.

**TABLE 11: TARGET OF THE ADVERTISEMENT TOWARDS DIFFERENT GROUP OF PEOPLE**

S.No	Advertisement target	No of respondents	Percentage
1	Business people	17	11.33%
2	Children	16	10.67%
3	Youngsters	116	77.35%
4	Old age people	1	0.67%
	<b>Total</b>	<b>150</b>	<b>100</b>

Source: Primary data

From the above table it can be noted that 77.35 % i.e. (116outof150) of the respondents are feel that the Advertisement target Youngsters, and 11.33% i.e. (17outof 150) are feel that the Advertisement target Business people, and 10.67% i.e. (16outof150) of the respondents are feel that the Advertisement target Children, and 0.67% i.e. (1outof150) of the respondents are feel that the Advertisement target Old age people.

**TABLE 12: THE ENTERTAINMENT LEVEL OF ADVERTISEMENT**

S.No	Entertainment level of the advertisement	No of respondents	Percentage
1	Yes	141	94%
2	No	9	6%
	<b>Total</b>	<b>150</b>	<b>100</b>

Source: Primary data

From the above table it can be noted that 94 % i.e. (141outof150) of the respondents are feel that Advertisement entertain the people, and 6 % i.e. (9outof150) of the respondents are feel that it doesn't entertain the people.

TABLE 13: OPINION OF THE CLARITY OF ADVERTISEMENT

S.No	Clarity of Advertisements	No of respondents	Percentage
1	Excellent	22	14.7%
2	Good	77	51.3%
3	Average	51	34%
4	Poor	-	-
	<b>Total</b>	<b>150</b>	<b>100</b>

Source: Primary data

From the above table it can be noted that 51.33 % i.e. (77outof150) of the respondents are feel that the Clarity of advertisement is Good, and 34% i.e. (51outof 150) of the respondents are feel that the Clarity of advertisement is Average, and 14.77 % i.e. (22outof150) of the respondents are feel that the Clarity of advertisement is Excellent.

TABLE 14: OPINION ON THE REACHABILITY OF ADVERTISEMENTS TO ILLITERATES

S.No	Advertisement reach to Illiterates	No of respondents	Percentage
1	Yes	120	80%
2	No	30	20%
	<b>Total</b>	<b>150</b>	<b>100</b>

Source: Primary data

From the above table it can be noted that 80 % i.e. (120outof150) of the respondents are feel that advertisement reach to Illiterates, and 20 % i.e. (30outof150) of the respondents are feel that it doesn't reach to Illiterates.

TABLE 15: IMPACT OF ADVERTISEMENT ON THE STANDARD OF LIVING OF PEOPLE

S.No	Advertisement increase Standard of living	No of respondents	Percentage
1	Yes	120	80%
2	No	30	21%
	<b>Total</b>	<b>150</b>	<b>100</b>

Source: Primary data

From the above table it can be noted that 80 % i.e. (120outof150) of the respondents are feel that advertisement increase the Standard of living of people, and 20 % i.e. (30outof150) of the respondents are doesn't feel that the advertisement increase the Standard of living.

## ANALYSIS ON THE RELATIONSHIP BETWEEN PERSONAL FACTORS OF THE RESPONDENTS AND THE ADVERTISEMENT FACTORS CONSIDERED FOR IMPACT ON SOCIETY

In this section the chi-square analysis was used to test the relationship between the personal factors of the respondents such as income level and age group vs the type of advertisement viewed by the respondents and the type of product purchased after seeing the advertisement. The calculated value arrived out of the chi-square test is compared with table value at 5% level of significance and based on the result the hypotheses are either accepted or rejected. For this purpose the null hypothesis ( $H_0$ ) and alternative hypothesis ( $H_1$ ) are framed. The results and interpretations are given below:

### RELATIONSHIP BETWEEN INCOME LEVEL AND TYPE OF ADVERTISEMENT VIEWED BY THE RESPONDENTS

#### Null hypothesis ( $H_0$ )

There is no significant relationship between Income level and type of Advertisement viewed by the respondents.

#### Alternative hypothesis ( $H_1$ )

There is significant relationship between Income level and type of Advertisement viewed by the respondents.

TABLE 16: RELATIONSHIP BETWEEN INCOME LEVEL AND THE TYPE OF ADVERTISEMENT VIEWED BY THE RESPONDENTS

Income level	Type of advertisement viewed by the respondents				Total	Chi-square value
	Consumer products	Baby products	Business ads	Vehicles		
Below 8000	42	14	2	20	78	28.28
8000-15000	13	5	7	4	29	
15000-25000	13	2	13	4	32	
Above 25000	6	1	2	2	11	
<b>Total</b>	<b>74</b>	<b>22</b>	<b>24</b>	<b>30</b>	<b>150</b>	

Source: Interview schedule

A significant level of  $\alpha = 0.05$  chosen for the test.

Degree of freedom=9

The table value of  $\chi^2$  at 5% level of 9 degrees of freedom is 16.919

From the above chi-square analysis, calculated value 28.28 is greater than table value 16.919. So the Null hypothesis is rejected. There is significant relationship between the Income level of the respondents and the type advertisements viewed by the respondents.

### RELATIONSHIP BETWEEN INCOME LEVEL AND THE TYPE OF PRODUCT PURCHASED AFTER SEEING ADVERTISEMENT

#### Null hypothesis ( $H_0$ )

There is no significant relationship between income level and type of product purchased after seeing advertisement.

#### Alternative hypothesis ( $H_1$ )

There is significant relationship between Income level and the type of product purchased after seeing advertisement.

TABLE 17: RELATIONSHIP BETWEEN INCOME LEVEL AND THE TYPE OF PRODUCT PURCHASED BY THE RESPONDENTS AFTER SEEING THE ADVERTISEMENTS

Income level	Type of product purchased after seeing Advertisement					Total	Chi-square value
	Food items	Furniture	Electronic goods	Dress Items	Others		
Below 8000	29	5	19	23	2	78	31.323
8000-15000	4	1	10	11	3	29	
15000-25000	2	2	14	11	3	32	
Above 25000	1	-	6	3	1	11	
<b>Total</b>	<b>36</b>	<b>8</b>	<b>49</b>	<b>48</b>	<b>9</b>	<b>150</b>	

Source: Interview schedule



A significant level of  $\alpha = 0.05$  chosen for the test.

Degree of freedom = 12

The table value of  $\chi^2$  at 5% level of 12 degrees of freedom is 21.026

From the above analysis, calculated value 31.323 is greater than table value 21.026. So the Null hypothesis is rejected. There is significant relationship between the Income level of the respondents and the type of product Purchased by seeing Advertisement.

#### RELATIONSHIP BETWEEN AGE GROUP AND THE TYPE OF ADVERTISEMENT VIEWED BY THE RESPONDENTS

Null hypothesis ( $H_0$ )

There is no significant relationship between age group and type of advertisement viewed by the respondents. Alternative hypothesis ( $H_1$ )

There is significant relationship between age group and type of advertisement viewed by the respondents.

TABLE 18: RELATIONSHIP BETWEEN AGE GROUP AND THE TYPE OF ADVERTISEMENTS VIEWED BY THE RESPONDENTS

Age group	Type of advertisement viewed by the respondents				Total	Chi-square value
	Consumer products	Baby products	Business ads	Vehicles		
Under 30	55	20	15	10	100	34.22
30-45	14	2	4	16	36	
45-58	3	-	5	2	10	
Above 58	2	-	-	2	4	
Total	74	22	24	30	150	

Source: Interview schedule

A significant level of  $\alpha = 0.05$  chosen for the test.

Degree of freedom=9

The table value of  $\chi^2$  at 5% level of 9 degrees of freedom is 16.919.

From the above analysis, calculated value 34.22 is greater than table value 16.919. So the Null hypothesis is rejected. Therefore, it is proved there is significant relationship between the age group and type of advertisement viewed by the respondents.

## SUMMARY OF FINDINGS AND SUGGESTION

### MAJOR FINDINGS

Based on the above analysis, the following are the major findings of the study:

- It is found that, out of the sampled respondents, majority of them, say 98.67% are watch Advertisements in TV.
- It is found that, out of the sampled respondents, majority of them, say 49.33% are interest in view consumer products Advertisement.
- It is found that, majority of the respondents say 47.33% are attracted by Mobile Advertisement.
- It is found that, majority of the respondents say 90% are purchase by seeing Advertisement.
- It is found that, majority of the respondents say 32% are purchasing Electronic goods by seeing Advertisement.
- It is found that, majority of the respondents say 51.33% are feel that quality of Advertisement is good.
- The study revealed that, say 90.67% of the respondents feel that Advertisement convinces them to take purchase decision.
- The study revealed that, say 76% of the respondents feel that information given in Advertisement are believable, and 24% of the respondents feel that information are exaggeration.
- It is found that, majority of the respondents say 70% are watch Advertisement at Night time.
- The study revealed that, say 93.33% of the respondents are like Model's Advertisement.
- The study revealed that, say 98.67% of the respondents are chosen TV as their Media of Advertisement.
- It is found that, majority of the respondents say 77.33% are feel that Advertisement targets on Youngsters.
- It is found that, majority of the respondents say 94% are feel that Advertisement entertain the people.
- It is found that, majority of the respondents say 51.3% are feel that the Clarity of Advertisement is good.
- The study revealed that, say 80% of the respondents feel that Advertisement reach to illiterates.
- It is found that, majority of the respondents say 86.67% do not imitate on seeing Advertisement.
- The study revealed that, say 80% of the respondents are accept that Advertisement increase the Standard of living of people.
- It is found that, majority of the respondents say 40% are feel that they watch Innovative Advertisements rarely.
- There is significant difference between the Income level of the respondents and the type of Advertisement viewed by the respondents.
- There is significant difference between the Income level of the respondents and the type of product Purchased by seeing Advertisement.
- There is significant difference between the age group of the respondents and the type of Advertisement viewed by the respondents.

### SUGGESTION

On the basis of the major findings of the present study, following suggestions are proposed to the various media owners, advertisers for improving the quality of advertisements:

- Most of the people have Television at their home, advertising through television media will reach easily to rural and urban areas.
- For excellent quality level of Advertisement the contents and information about product and services should be believable and easily understandable to the people to satisfy their needs and wants.
- Frequent innovative advertisement about the product and services will create a grand image among the consumers to purchase the product or services.
- The advertisement provider should advertise about their products or services to target children, old age people and business people other than youngsters.
- Providing easily understandable information and advertisement in symbolic manner will reach to illiterates.
- Proper information about the day-to-day improvisation of product and services provided to people will help them to satisfy their needs and wants and it will increase their standard of living by gaining knowledge.

### CONCLUSION

Thus, it can be well-understood that advertisement is a well defined source of information through which the awareness/knowledge about the products is reached to the end-users. Compared to other products, consumer products are highly influenced or promoted only through advertisements. Majority of consumers watch only consumer products where it is a very big advantage to the marketers of these products. Further, majority of the customers purchase products by seeing advertisements. This is the strong driving force behind huge investments on advertisement by the marketers. No one can escape from watching today's advertisements as it arrests the eye movement of consumers.

When analyzed about quality, it is also being accepted by the consumers as 'good'. The accepting fact is that few ads are really playing role in improving lifestyle of the society and few are not very excellent.

From the investigation, it is also clear that most of all the consumers believe that the information given through advertisements is realistic. So, these marketers concentrate more on giving confidence to the customers through various means in purchasing products. Among so many media, television plays an important role in giving advertisements. Starting from very small children, youngsters, till old age people, it attracts all category of society. Today's trendy advertisement targets more on youngsters and also the illiterate people. On the whole, the advertisement has more positives than the negatives. Since, it is proven that it has strong influence on society, few aspects to be improved like approach, decent themes, clarity and exaggerations. Finally the quality of advertisement is 'Good' not 'Excellent'. So if advertisers set right few areas, it will rock and reach 'Excellent'.

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## PERCEPTION OF CUSTOMERS TOWARDS SERVICES OF BRANCHES OF NATIONALISED COMMERCIAL BANKS OF SEMI URBAN AREAS WITH SPECIAL REFERENCE TO E-TECHNOLOGY

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### ABSTRACT

*Due to adoption of privatization and globalization policies, the nationalized commercial banks of India come under pressure in their business. One of the reasons is the presence of private banking companies in this endeavor. Maintaining a good relationship with the customers is the primary functions of the banking business and to increase the profitability of the banking unit; it is necessary to emphasis on the business which is located in rural and semi urban areas in particular. So, the banking units have to satisfy the customer of semi urban areas along with the customers of urban and metropolitan cities. Keeping in mind the above fact, the present study has undertaken to examine whether the customers of semi urban area are satisfied with the banking services especially in the modern era. The study includes 60 customers of Barpeta district of Assam; a semi urban area who is the customers of different nationalized commercial banks of India. The data are classified and interpreted with the help of tabulation and graphs. The result shows that the customers are not satisfied with the banking services at all and especially with the ATM services. Therefore, awareness program should conduct in different time regarding the use of other e-technology devices to make smooth and prompt business transaction. Moreover, some remedial measure should necessary to adopt by the top management of banking unit to ensure better quality services.*

### KEYWORDS

Customer Service, Semi Urban Areas, E-Technology, ATM.

### INTRODUCTION

Due to liberalization and privatization, the nationalized commercial banks facing stiff competition from their rivals. To survive, the banks have to satisfy their customers. Today the development in technology and innovation in financial services, impact on both domestic and cross border transactions. Now-a-days financial institutions can no longer rely on these committed relationships or established marketing techniques to attract and retain customers. As markets break down into heterogeneous segments, a more precisely targeted marketing technique is required, which creates a dialogue with smaller groups customers and identifies individual needs. The advent of new technologies in the business of bank, such as internet banking and ATMs, Tele Banking, Electronic Fund Transfer, Anywhere Banking, satisfied the customers to a large extent.

Thus, in this era of increased competition, in order to prosper it will be imperative for banks to focus on developing long-term relationships with their rural and semi-urban areas customers. The focus of banks should be to shift their orientation from transaction marketing to the cultivation of relationship marketing. Realizing the need of customer relationship management in banks, this article focuses on the customers' perception regarding the semi urban branches of nationalized commercial banks especially with the e-technology services.

### STATEMENT OF THE PROBLEM

The motivation for the present study started with the observation threat all over the world there is a growing concern towards attracting and maintaining long term relationship with customers as an important corporate strategy for success and survival. The forces of deregulation, globalization and advancing technology have increased the competitive pressures in the banking industry.

Banks are concentrating only on acquiring new customers. In this concern it is felt necessary to make a study on services provided in small towns. How far customers are satisfied with services of banks in semi urban area? To improve the performance of banks; giving concentration only in big cities will not serve the purpose because large sections of people are residing in semi urban as well in rural areas.

### OBJECTIVES OF THE STUDY

- To examine Customer's perception on services of branches of nationalized commercial banks located in semi-urban area.
- To understand the level of use of e-technology tools by the customers of branches of nationalized commercial banks.

### RESEARCH METHODOLOGY

The study is based mainly on primary data which have been collected through structured questionnaire to the customers. A sample of 60 customers selected from four nationalized commercial bank on the basis of convenient sampling method. The study area is limited to Barpeta District of Assam. It is poised for a spectacular growth in the near future. The area, being a commercial place, many public and private sector banks has established its branches.

### ANALYSIS AND FINDINGS

The data are analyses with the help of different tables and graphs in the following manner.

**TABLE- 1.1: SEX OF RESPONDENT**

Sex	No. of Respondent	% age of Respondent
Male	40	67
Female	20	33

Source: Field Survey

**TABLE- 1.2: AGE OF RESPONDENT**

Age	No. of Respondent	% age of Respondent
18-24	12	20
25-30	16	27
31-39	12	20
40 & above	20	33

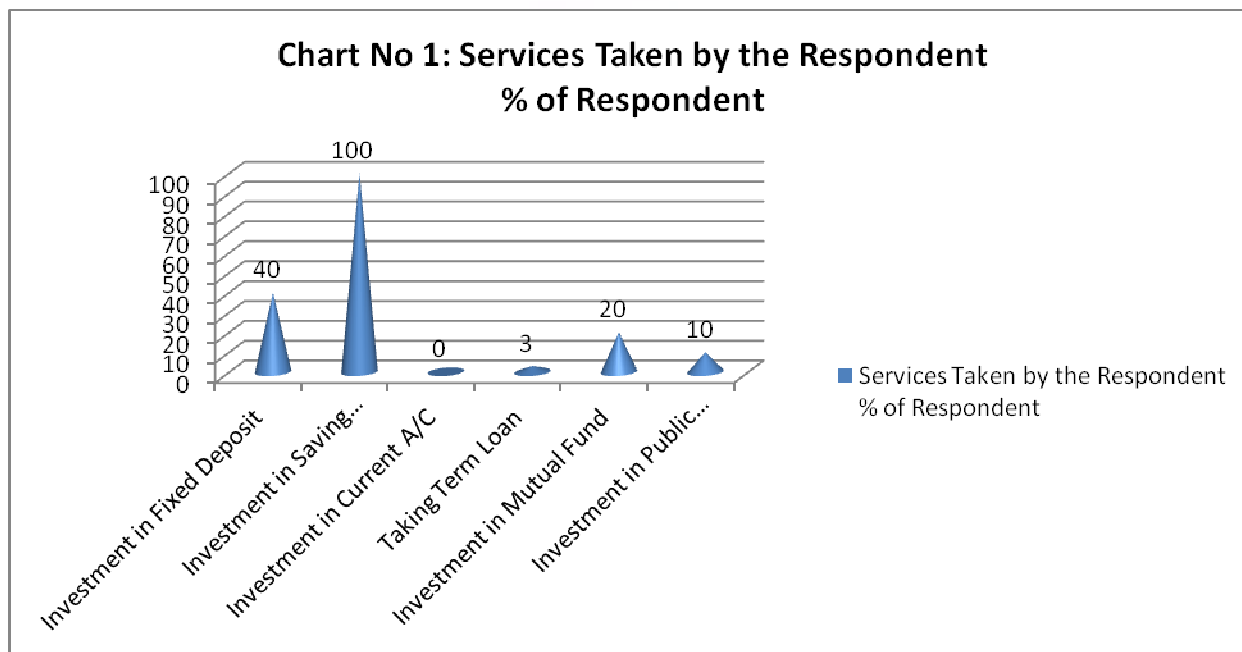
Source: Field Survey

TABLE- 1.3: QUALIFICATION OF RESPONDENT

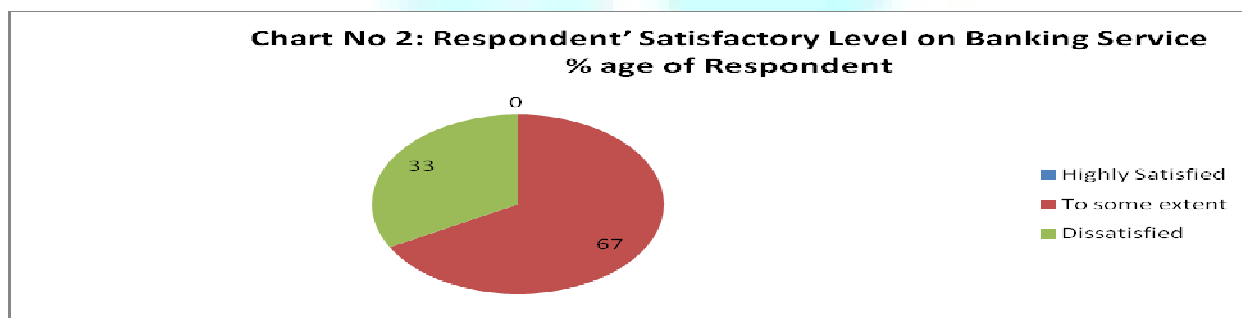
Qualification	No. of Respondent	% age of Respondent
HSLC	04	7
HSC	12	20
Graduate	24	40
Post Graduate	20	33

Source: Field Survey

In the sample 67% respondent are male and 33% respondent are female. About 20% of the respondent fall under the age category of 18-24 years, 27% of the respondent falls under 25-30 years of age category whereas 20% of the respondent falls under 31-39 years and 33% of the respondent belongs to the age category 40 and above. The qualification of respondent in case of HSLC passed is found to be 7%; 20% of the respondent are H.S.C passed, whereas 40% of the respondent are graduate and 33% of the respondent are post graduate.



It is seen that 40% of the respondent take services in investment in fixed deposit, whereas 100% of the respondent invest in saving bank account. Investment in current account deposit is nil; 3% of the respondent takes term loan; 20% of the respondent invest in mutual fund and 10% respondent invest in public provident fund. In this regard the bank officials should take some steps to attract the customers in investing different schemes.



It shows that regarding customer satisfaction level with banking services; the level of highly satisfied by respondent is nil. On the other hand 67% of the respondents are satisfied for to some extent and 33% of the respondents are fully dissatisfied. It implies the customers are not satisfied with banking services.

TABLE 2: REASONS FOR OPENING A/C

Reasons	No. of Respondent	% age of Respondent
Near	02	03
Required	40	67
Facility	20	33
Attractive	00	00

Source: Field Survey

From the table above it is found that 3% of the respondent opens account because it is near to them, whereas 67% of the respondent opens account because they feel that it is required and 33% of the respondent opens account due to facility. No one is opening an account in this area because of attractive services provided by the banking branches like car parking facility, seating arrangement, drinking water facility.

TABLE 3: WAITING TIME TAKEN FOR DEPOSIT

Duration (In Mints.)	No. of Respondent	% age of Respondent
5 min- 15 min	06	10
15 min- 30 min	14	23
30 min- 60 min	12	20
60 min & above	28	47



It is revealed that according to the 10% of the respondent; they have to wait for 5-15 minutes in depositing there money, 23% respondent opined those 15-30 minutes required for depositing the money. Similarly, 20% respondent agrees that 30-60 minutes required and according to 47% respondent 60 minutes and above are require for such purpose.

**TABLE 4: WAITING TIME TAKEN FOR WITHDRAWAL**

Duration (In Mints.)	No. of Respondent	% age of Respondent
5 min- 15 min	12	20
15 min- 30 min	24	40
30 min- 60 min	15	25
60 min & above	09	15

Source: Field Survey

The above table shows that waiting time taken for withdrawal of money is 5-15 minutes on the basis of 20% respondent. Again, 40% respondent wait for 15-30 minutes and 15% respondent has to wait for 60 minutes and above for withdrawal transaction.

**TABLE 5: SATISFACTORY LEVEL OF RESPONDENT REGARDING BANKING EMPLOYEE ATTITUDE**

Level	No. of Respondent	% age of Respondent
Highly Satisfied	04	6
To Some Extent	28	47
Dissatisfied	28	47

Source: Field Survey

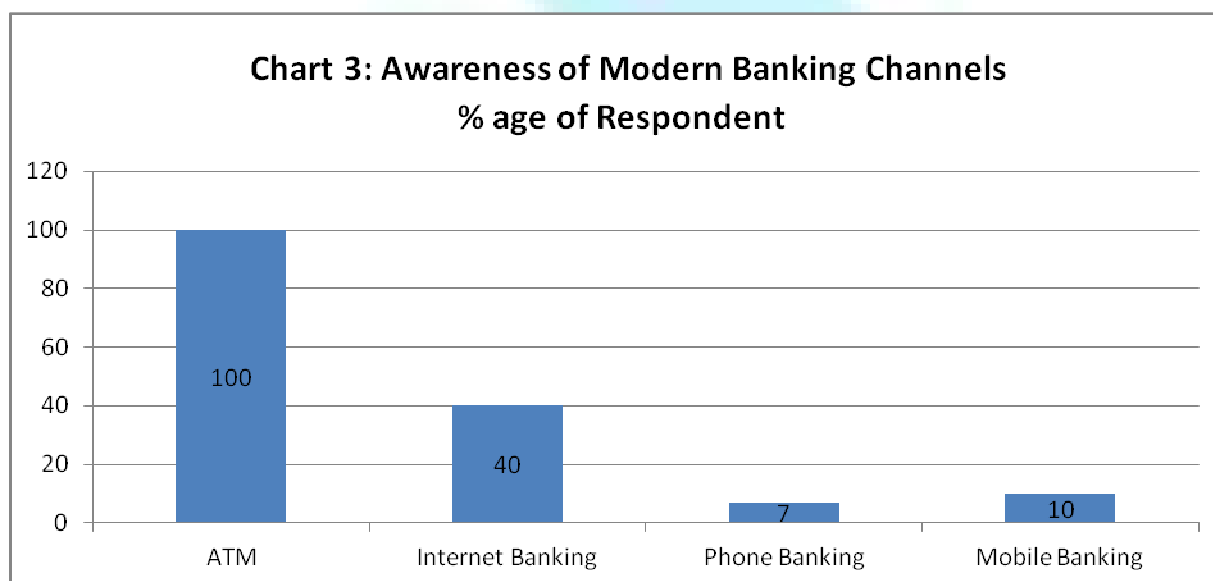
Regarding banking employee attitude, the number of satisfied respondent is found to be 6%, whereas 47% of the respondents are satisfied for to some extent. A peculiar thing has been noticed that 47% of the total respondents are fully dissatisfied with employee attitude. The maximum respondent believes that the employees are getting fixed salary so shows no effect on their job and also because of unaware of banking different services.

**TABLE 6: AWARENESS ABOUT E-TECHNOLOGY IN BANKING**

Awareness	No. of Respondent	% age of Respondent
Little	24	40
High	08	13
No	28	47

Source: Field Survey

It is revealed that 40% of the respondent are little aware about e-technology in banking, 13% of the respondent are highly aware and 47% of the respondent are not aware about e-technology in banking.



In case of awareness of modern banking channels; 100% respondent are aware about ATM, 40% respondent are aware of internet banking, 7% respondent are aware of phone banking and 10% respondent are aware of mobile banking.

**TABLE 7: FREQUENCY OF USE OF BANKING CHANNELS**

Channels	Frequency
ATM	Very often (40) [67%]; Rarely (20) [33]; Not at all (00) [00]
Internet Banking	Very often (12) [20%]; Rarely (04) [7%]; Not at all (44) [73%]
Phone Banking	Very often (00) [00%]; Rarely (00) [00%]; Not at all (60) [100%]
Mobile Banking	Very often (00) [00%]; Rarely (00) [00]; Not at all (60) [100%]

Source: Field Survey

The table clearly shows that 67% respondent use almost regularly the services of ATM and 33% respondent use it rarely. In case of internet banking, 20% respondent use it very often, 7% respondent use rarely and 73% respondent does not use at all. Again, no person is using the services of mobile banking.

**TABLE 8: REASONS FOR NOT USE OF BANKING CHANNELS**

Channels	Frequency
Internet Banking	Risky (00) [00]; High charge (00) [00]; Don't feel necessary (32) [53%]; Inadequate Knowledge (20) [34%]; Don't have facility (08) [13%]
Phone Banking	Risky (00) [00]; High charge (00) [00]; Don't feel necessary (50) [83%]; Inadequate Knowledge (20) [33%]; Don't have facility (10) [17%]
Mobile Banking	Risky (00) [00]; High charge (00) [00]; Don't feel necessary (20) [33%]; Inadequate Knowledge (40) [67%]; Don't have facility (00) [00%]

Source: Field Survey

Here, it is seen that 53% respondent do not feel necessary, 34% respondent have inadequate knowledge and 13% respondent says that this facility is not available in this region. In case of phone banking, 83% respondent does not use because they do not feel necessary, 33% respondent have inadequate knowledge and 17% respondent replies that there is no facility. Again, majority of the respondent (67%) have not been using mobile banking because of lack of adequate knowledge.

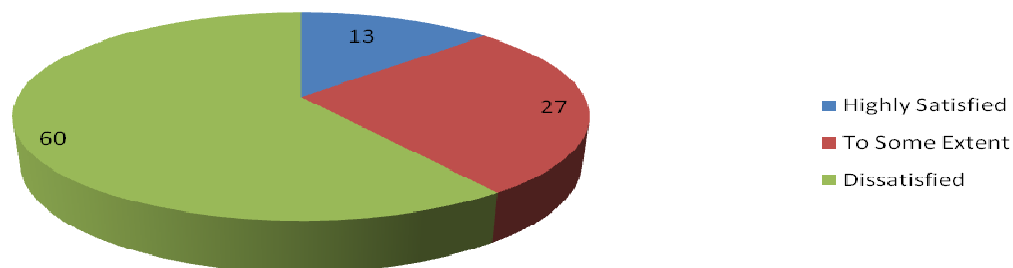
**TABLE 9: OPERATIONAL PROBLEM S IN THE USE OF MODERN TECHNOLOGY**

Problem	No of Respondent	% age of Respondent
Hacking Problem	08	13
Unskilled employees	04	07
Lack of training and guidance	00	00
Out of order problem	44	73
Crime and cheating problem	12	20
Lack of Knowledge	06	10
No reception Facility	02	03
No detail information of services	00	00

Source: Field Survey

From the table, it is revealed that 13% respondent thinks hacking problem is the main problem in modern technology, 7% respondent believes that existence of unskilled employees affects the smooth operation of modern technology. Again, 20% respondent argues that adoption of modern technology invites crimes and cheating problem where as majority of 73% respondent faces out of order problem in using modern e-technology.

**Chart 4: Level of Satisfaction with ATM Services**  
% age of Respondent



It depicts that only 13% respondents are highly satisfied with ATM services whereas 27% respondent replies that to some extent they are satisfied with ATM services. On the other hand a majority of 60% respondent are fully dissatisfied.

## SUGGESTIONS

- "May I help you?" counters should be installed in those banks which do not have it. The person posted to this counter should have good communication skill, patience, knowledge about bank working and be fully conversant with various types of forms and vouchers and should keep with him ready stock.
- In some banks, there is great rush during peak hours and their transactions get delayed due to this. So, to overcome this situation, more cash counter should be opened and therefore more personnel should be employed to man these counters.
- Training should be imparted to the staff in connection with customer relationship management
- Proper monitoring of performance standard of the staff is necessary
- Grievance cell is to be opened
- Bank employees should properly behave with the customers
- There should be sufficient seat arrangement with AC facility
- There should be enquiry/ reception counters in every bank
- There should be a liaison manager in every bank to deal with customer grievance.
- More number of ATM should be established and opened everywhere
- There should be separate counter for women and senior citizen
- The staff should be alert when there is a customer
- Special strategies are to be taken for positive consequences like special training for individual behavior to the employees
- Awareness programme should be conducted regarding adoption of e-technology
- Annually some gifts like wallets, executive dairies, small bags, calendar etc. should be given to the customers having fixed deposit.

## CONCLUSION

It is concluded that to maintain stable growth in the business, the nationalized commercial banks should provide better services to the customers especially in the semi-urban and rural areas. The study disclosed that in the semi urban areas the customers are not satisfied with employee attitude and with services provided by the banks. In this area, awareness program may be conducted frequently regarding the use of e-technology. The development and use of technology only can help to provide better services particularly in reducing time taken for making transaction with customers. Since the customers of this area are more rely on ATM services hence more ATM counter should be opened with a staff that helps to minimize the hacking problem. Moreover, in ATM counters, cash is not available in time when some customers demand amount and it becomes major reasons of their dissatisfaction. So some remedy should be worked out by top management at least the customers may able to withdraw the amount from the ATM counters whenever necessary.

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## SHORT SEA SHIPPING - POTENTIALS, BENEFITS AND CHALLENGES IN INDIA

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### ABSTRACT

In recent years, it has been a global phenomenon that there is an increasing freight transport demand, where the primary modes of transport such as road and rail were struggling to cope up with the situation. An alternative mode of transportation is inevitable to curb the problems of pollution and congestions backed with fuel efficiency and measures to reduce transport costs. The concept of Short Sea Shipping could be a favorable solution for the problems aroused. India is one of the fastest growing economies in the world with a balanced GDP growth rate. The transport demand in the country is rising day to day and the poor transport infrastructure is resisting the expected economic development. India has a vast coastline of 7500 km having access to the sea on the three sides with 12 major and 187 minor ports. The geographical advantages envisage the country with a wide scope for the development of Short Sea Shipping. But the utilization of Short Sea Shipping in the country is minuscule compared to other developed and growing economies such as EU, Russia, China etc. As a result it is essential to explore the potentials of Short Sea Shipping in India in relation with the cost, environment and congestion compared to road and rail transport. The challenges of implementing the project in the country have to be analyzed with inland water ways, Port development and legal restrictions existing in India.

### KEYWORDS

European Union, Multi modal Transportation, Gross Domestic Product, Twenty Feet Equivalent Units, Inland Water Transport

### INTRODUCTION

Short Sea Shipping has been subject to diverse interpretation in different contexts. The round table conference of European commission in 1992 provided a suitable trendy term - 'short sea shipping'. Coastal Shipping or Short sea shipping means the movement of people and cargo by sea in between the domestic ports of a country.

There does not exist any concise definition for short sea shipping. In the words of Lombardo, "short sea shipping is a commercial waterborne transportation that does not transit on ocean. It is an alternative form of commercial transportation that utilizes inland and coastal waterways to move commercial freight from major domestic ports to its destination".

Short Sea Shipping encourages the regional trade and transport. It facilitates the delivery of cargoes distributed to regional centers such as Hong Kong, Rotterdam, Antwerp etc. This is very different from deep sea shipping where the vessels used for it is smaller in size compared to the deep sea vessels size from 400 DWT to 6000 DWT. The short sea routes are too small and it visits so many ports than a deep sea vessels visit in a year. The major cargo involves grain, fertilizers, coal, steel, containers, lumber, clay, aggregates etc. (Stapford, 2009)

Short Sea Shipping is seen as an effective alternative to reduce road congestions and air pollutions all over the world. (Lowe, 2005).

### EMERGENCE OF SHORT SEA SHIPPING

The concept of Short Sea Shipping became significant from last two centuries. As a result of industrial revolution, the Shipping industry made fundamental growth by utilizing larger vessels to carry increased cargo volumes and developed more fixed schedules. The technological developments improved the safety of vessels and the crews which enabled the shipping industry to be an integral part of world economy.

During the period from 1950's, the advent of automobiles and trucks led to the development of national highway systems in many countries which discouraged the use of Short Sea Shipping. The reduced transit times and the flexibility of road transport have replaced the Short Sea Shipping.

Today, the extreme use of road transport resulted in road congestions, heavy capital investment for construction works, environmental impacts, increased fuel costs, where the experts give the impression of being with Short Sea Shipping as a perfect complement for road and rail transport.

The European Union made initial steps in the promotion of short sea shipping concept. Yonge (2004) clearly defines the EU measures for the development of short sea shipping.

The EU has geographical advantages on short sea shipping where the efficient handling of water routes will reflect the economic development of the region. EU is enriched with 67,000 km of coastline and an addition of 25,000 km of navigable rivers and canals.

Freight transport demand in EU is estimated to grow at a higher rate in the next 10 years. Over the last decade 50% of the freight transport demand in EU was met by road transport. But at this stage it will be almost impossible for road transport to satisfy the growing demand. A modal shift from road to water or rail is inevitable for meeting the future demands.

The Short Sea Shipping provides various advantages over other modes of transport. Over the next 15-20 years the volume of cargo transferred between the major cities are supposed to get doubled in quantity where the primary modes of transport (road and rail) will affect badly by huge congestions and there by environmental degradation. The Short Sea Shipping offers a better complement for other major modes of transport with cost and energy efficient, safer and environmental friendly movement of cargo.

### COST BENEFITS

The cost for development of Short Sea Shipping is low compared to road and rail transport. Port investments and maintenance costs are very low where the road and rail require huge investments on its construction works on road lines, rail networks, tunnels and bridges. Short Sea Shipping has the comparative advantage in minimizing the overall freight costs in the feasible sea routes.

There are similar studies on the cost benefits of Short Sea Shipping over other modes of transport. The Four Corridor Case Studies of Short Sea Shipping services by MARAD in 2006 reveal the cost benefits of Short Sea Shipping over road and rail transport modes. The study was conducted on the 4 different trade corridors in United States.

TABLE 1: COST ADVANTAGES OF SHORT SEA SHIPPING IN FOUR CORRIDORS, USA

Routes	Truck	Rail	Short Sea Shipping
Gulf / North Atlantic	\$1.77	\$1.06	\$1.03
South Atlantic / North Atlantic	\$1.73	\$1.09	\$1.00
South Pacific / North Pacific			
San Deigo / Astoria	\$1.58	\$1.01	\$1.14
Oakland / Astoria	\$1.59	\$1.35	\$0.86
Oakland / San Deigo	\$1.56	\$1.90	\$1.75
Intra Great Lakes	\$1.51	NA	\$1.24

Source: MARAD, 2006

It could be easily identified that the Short Sea Shipping has the cost efficiency in all the four corridors with a perfect margin over road haulage. The study reveals the potentials for further development of Short Sea Shipping in the four corridors with several recommendations for improvement.

## ENVIRONMENTAL BENEFITS

The Short Sea Shipping proves to be environmental friendly mode of transport. Road traffic emissions in the form of carbon monoxide, carbon dioxide, nitrous dioxide etc are harmful to human health, nature and buildings. Critical steps have to be taken to substitute the road with other modes of transport and thereby reducing the harmful emissions.

Even though the maritime vessels produces similar forms of pollutants to that of road freight, the quantity level of emission is much lower where the emissions occurs in different eco systems. The road freight emissions directly affect the land based ecosystem which will be harmful to mankind and other living beings around us.

The concerns on air pollution and global warming are increasing day by day. The global focus has become the reduction of Carbon dioxide (CO<sub>2</sub>) and Methane (CH<sub>4</sub>) which are the major greenhouse gases intensifying the temperature of the atmosphere. Sulphur dioxide and Nitrogen oxides cause severe problems for nature and living habitat.

The report of Organization of Economic Co-operation and Development (OECD) states that the maritime transport or short sea shipping form less emissions compared to other major modes transport. (OECD, 2008).

Table 2 shows an exact comparison of emission level of short sea shipping over other modes of transport:

**TABLE 2: EMISSIONS FROM DIFFERENT TRANSPORT MODES**

Emissions	Truck	Rail	Maritime / Short Sea Shipping
Co	0.2 - 2.4	0.02 - 0.2	0.02 - 0.2
CO <sub>2</sub>	50 - 133	9 - 102	7.7 - 31
NO <sub>x</sub>	0.24 - 3.6	0.07 - 1.9	0.11 - 0.72
SO <sub>2</sub>	0.03 - 0.4	0.04 - 0.4	0.05 - 0.51
CH <sub>4</sub>	0.2 - 0.9	0.02 - 0.9	0.04 - 0.08
Nm-VOC	0.025	0.01 - 0.1	0.01 - 0.02
PM10	0.005 - 0.20	0.01 - 0.08	0.002 - 0.04

Source: Jacob, 2009

Short sea shipping is seen as environmental friendly mode of transport as the level of emissions are less compared to road and rail with an exception of SO<sub>2</sub> and NO<sub>x</sub>, which is vaguely higher. So at this stage, it will be sensible to have a look at a modal shift from road freight to short sea shipping of goods.

Energy efficiency is one of the major factors for the maintenance of environmental friendly atmosphere. The increased usage and wastage of fuel which are non – renewable resources such as fossil fuels will finally result in total depletion. Water transport is found as most cheapest and energy efficient mode of transport.

## ALLEVIATE CONGESTION PROBLEMS

Traffic congestion in major cities and high ways are one of the major concerns on optimal delivery of the goods. It will result in delays, increased costs and unreliable journey times for both individuals and firms. The potentials of Short Sea Shipping in reducing the congestions in other modes of transport have to be analyzed.

Traffic congestion plays a significant role in increased emissions, fuel consumption, delayed delivery and incurs huge losses. The effects of congestions are rising day by day as the demand for freight increasing rapidly. In US, the estimation states that 60% of trucks carry domestic cargo tonnage which is the major reason for highway congestions in the country. In 2007, the US economy had a drain of \$78 billion resulting from traffic congestions as per the estimation of The Texas Transportation Institute (Jacob 2009)

## INLAND WATER WAYS

Inland water ways is essential for the potential development of Short Sea Shipping. India is enriched with 25000 km of navigable water ways, where 60% - 70% of the manufacturing process locates within 150 -200 km of the coastline. This geographical advantage enables India to facilitate door to door delivery of cargoes to utilize the inland water ways which could be a boost for Short Sea Shipping in the region.

India has problems with road congestions, increased tolls in highways and recommendations for greening the supply chain. The Inland water transport plays a crucial role for the solutions for these concerns. The major ports of JNPT, Kolkata, Kandla and Cochin have around 30% of their transshipment cargoes on to the inland waterway with a consistent growth in the market.

## CHALLENGES OF SHORT SEA SHIPPING

The Short Sea Shipping concept provides several advantages over other modes of transport. At the same time, there are several challenges that hinder the development of Short Sea Shipping in the countries with vast potentials for it. The obstacles from operational, financial, administrative and legal grounds are a sort of concern for Short Sea Shipping development.

The prime challenge for Short Sea Shipping is in providing the door to door transport service. The Short Sea Shipping is a part of broken chain where it has to depend on road and rail services to do the pre carriage and on carriage of goods (to the terminal and from the terminal). It is essential for Short Sea Shipping to integrate with the multi modal transport system resourcefully. The modal transfer may results in high cost and time if they are efficiently implemented in inter modal transport.

The shipping route where the Short Sea Shipping has the advantage on delivery time is minuscule. Traditionally, the water transport is the slow and unreliable mode where the shippers will be reluctant to this mode. The lack of integration with multimodal transport and the inefficiency of ports add up the delayed delivery time and additional costs.

It is clear that the delivery time could be improved only by the development of port or infrastructure and efficiency to facilitate the multi modal transport. Short Sea Shipping has to face several challenges from a port environment. One of the major concerns is the port capacity where the number of berths is limited for loading and unloading process. The ships are expected to wait for long time in a queue until they get served. There are also chances for technological inefficiencies in a port with its outdated and inadequate cargo handling equipments. These all factors will hinder the easy movement of goods with additional handling costs which is followed by high port charges.

The port charges for the short trades are comparatively high which constitutes around 70 - 80% of the overall transport costs. The lack of transparency in the port charges is also forming problems for the shippers to identify the real port costs.

There are several cost components which are dealt with multi modal transport. The terminal handling costs are payable at load and discharge ports. It can be divided in to two: Cargo related costs and Vessel related costs. The various cargo and vessels related costs in a port are as follows:

### Cargo related Costs

Stevedoring

Crane hires

Carting / stacking

Wharf age

### Vessel related Costs

Port Dues

Pilot age

Berth hire

Agency costs



Apart from the terminal handling costs, the short sea shipping has to take care of the cost incurred for the sea freight. It involves the vessel costs, fuel costs (bunkers), and port costs.. It could be stated that the Short Sea Shipping involves complex procedures where efficiency is very important in all grounds. Any difficulties will form additional costs and delay of cargo.

The Short Sea Shipping involves a complex process involved of pre carriage and on carriage of goods. This is the point where unimodal transport viz, road haulage have the advantage. Shippers have the higher flexibility level in a unimodal transport and they will be reluctant to a modal shift.

### SHORT SEA SHIPPING - INDIA

India has vast coast line of about 7517 km with 12 major ports and 187 minor ports on the eastern and western coasts of the country. The utilization of Short Sea Shipping in the country will reduce the pressure on road and rail freight movements which are badly affected by congestions, capacity constraints and environmental pollution. It is estimated that a modal shift of 5 % of cargo from road to Short Sea Shipping will gain the country with Rs 15 – 20 billion excluding the fuel efficiency and facilitates a sustainable environment.

Short Sea Shipping concept is lesser utilized in the country where it constitutes only 7 % of the total cargo movements. The government policies for development are also scarce where the share of the public sector investment in shipping is only 5% against 51% and 32 % for rail and road.

The country has tremendous potentials for a healthy Short Sea Shipping industry which could meet a substantial portion of transportation demand aroused. An optimal mix of road, rail, inland water transport and Short Sea Shipping is essential to build up a sustainable transport infrastructure with mobility, flexibility, cost and energy efficiency.

The Director General of Shipping in India explains the major factors that hinder the development of short sea shipping in the country: (dgshipping, 2010)

- Absence of basic infrastructure terminals.
- Poor road connectivity
- High tariff for cargo handling in ports
- Awkward cargo clearance procedure
- Lack of active policies
- Competition from road and rail transportation
- High import duties on bunker oil and spares
- Lengthy customs procedure

### INDIA: ECONOMIC DEVELOPMENT AND TRANSPORT DEMAND

India has noticed a remarkable development after the economic reforms of 1991. The BRIC report (2003) predicts that the country's GDP growth rate between 2015 and 2050 will exceeds major economies in the world. The country has seen a significant growth rate which reached up to a record of 9.4 % in 2007. The growth rate has diminished in the last couple of years as a part of recession and it is expected to grow in the coming years.

The economic developments resulted in the increased physical transactions and the transport demand started to surpass the infrastructure obtainable. The transport demand increased at a rate of 10% from 2004 with a carriage of 800 million tonne km of freight every year. In India, road is the primary mode of transport for the carriage of cargo which sum ups around 65% of the whole. The transport demand is rising at higher rate where the road and rail transport is affected by congestions, increased emissions and there by additional costs.

The following figure shows the estimated rise of GDP and there by freight transport demand in a global perspective over the next 4 decades

TABLE 3: GLOBAL MARKET SHIFTS

2000	2010	2020	2030	2040	2050
USA	USA	USA	USA	USA	China
Japan	Japan	China	China	China	USA
Germany	Germany	Japan	Japan	India	India
UK	UK	Germany	India	Japan	Japan
France	China	UK	Russia	Russia	Brazil
Italy	France	India	UK	Brazil	Russia
China	Italy	France	Germany	UK	UK
Brazil	India	Russia	France	Germany	Germany
India	Russia	Italy	Brazil	France	France
Russia	Brazil	Brazil	Italy	Italy	Italy

### MAJOR CHALLENGES IN INDIAN TRANSPORT SECTOR

At this stage of economic development, the country is faced by major infrastructure problems in freight transports with congestions, poor accessibility and quality.

#### ROADS

India has the second largest road network in the world with a length of 3,516,452 km. It is the primary transport mode for freight movement as most of the production and consumption centers are being land locked and also provide door to door delivery of goods. But the increased demand for road haulage resulted in economic losses from congestions, capacity constraints, road accidents, and energy consumption and adverse environmental costs.

The national highways in the country are limited two lanes or less and it is stated that only one-third of the maintenance needs are met. This will leads to deterioration of roads and increased transportation cost for users. The country is eagerly looking at the Eleventh Five year plan involved of National highway development program which is to be completed by 2012.

TABLE 4: TRANSPORT STATISTICS: INDIA

India: Transport Sector – Key Statistics		
	Units	As of 2009
<b>Length of Roads</b>	<b>Km.</b>	<b>3,516,452</b>
Main Roads	Km.	666,452
Paved Roads	%	47.3
Access to all Season Roads	%	61
Road Density	Km/1,000 Sq Km	1115
<b>Rail Track Length</b>	<b>Km.</b>	<b>63,327</b>
<b>No. of Ports</b>		<b>199</b>
Turnaround time	Days	3
<b>Airports</b>		<b>125</b>
International		11

Source: World Bank, 2010

## RAILWAY

India has the largest railway system in Asia due to the vastness of the country. The thing of interest is that the whole network is under a single management. But the rate of freight transportation through rail is seen diminishing over the years.

**Chaudhury (2005)** state that the road took major part of freight movements from railway as it is adapted to the Indian market conditions. There are several reasons for the superiority for the road transport such as the door to door delivery and easy tracking facilities. But the major problem faced by the rail industry is because of underinvestment made by the government and lack of customer oriented approaches.

The rail infrastructure is affected by severe capacity constraints. The railway does not have enough infrastructures to cope with the increasing demand of freight and passenger movements. The transportation costs for the freight movement in the country is also high compared to other countries. (**World Bank, 2010**)

## PORTS

The Indian port traffic has doubled since 1990's to reach 521 million tonnes in 2004-05 and it is expected to reach 900 million tonnes by 2011-12. But the ports are inefficient to meet the growth of port traffic which may hinder the economic development of the country (World Bank, 2010).

Indian ports have various weaknesses in the form of outdated infrastructure, limited water depth, high tariffs, poor hinterland connectivity, labor problems, lack of capacity and extension possibilities and also faces threats from private ports and bureaucracy. (Indian Ports Association, 2007)

## COMPARATIVE ADVANTAGES OF SHORT SEA SHIPPING IN INDIA

### TRANSPORT COST

The cost of carriage of goods through coastal vessels is much economical compared to road and rail transport in India. The Tata Consultancy services (TCS) study in 2003 states that the cost of carriage of good by Short Sea Shipping is only 21% of the cost by road and 42 % by rail. This study does not include the external costs involved of accidents, air pollution, congestions etc. In the addition of these external costs makes the cost of carriage even lower in Short Sea Shipping compared to road and rail.

The following table shows the cost of carriage per tonne km in 3 modes of transport. (TCS, 2003)

**TABLE 5: COST OF CARRIAGE PER TONNE KM IN 3 MODES OF TRANSPORT**

Mode	Cost of Carriage / t km (1000 km lead)
Road	Rs1.20
Rail	Rs.0.60
Short Sea Shipping	Rs.0.25

SOURCE: TCS, 2003

Ernst & Young (2010) states that Gujarat is India's key carbon and cost cutting trade hub by the integration of multi modal trade between north and south Indian states. The Coimbatore textile manufacturers are depending on road freight for the transfer of goods to New Delhi.

There is an alternative of multi modal transport by utilising Short Sea Shipping in the carriage of these goods. The goods could be transferred to Cochin by road transport and then utilise Short Sea Shipping to deliver goods to Kandla in Gujarat. Again, through road haulage the goods could be delivered to the retailers in New Delhi. It seems to be a complex process. But looking at the cost rates seems to be interesting part. The Coimbatore – New Delhi road freight transport is estimated to be Rs 4,442 per tonne where as the multi modal transport involves only Rs 4,256 per tonne. This provides a cost advantage of Rs 186 per tonne. (Ernst & Young, 2001)

The time taken in the shipment of the goods is one of the problems faced by the coastal trade. Ernst & Young recommends that the removal long documentation procedures could improve the transit times and thus it forms a sustainable mode of transport.

The report of TCS and Ernst & Young (2010) reveals the potential for Indian Short Sea Shipping with favorable cost advantages. The cost of carriage in Short Sea Shipping is less than half of the road and rail transport. Inter modal connections with feasible routes (Coimbatore - Cochin – Kandla – New Delhi) of industrial regions will encourage bulk cargo movements through Indian coastal vessels.

## FUEL EFFICIENCY AND EMISSIONS

The Short Sea Shipping is economical in terms of fuel consumption and rate of emissions compared to road and rail transport. The TCS report shows that the fuel consumption in Short Sea Shipping forms only 15% of the consumption level of road and 54% of rail which is calculated by ton kilometre. The Short Sea Shipping has the comparative advantage in relation to the amount of emissions with an exception to SO<sub>2</sub>.

Table 6 gives a clear picture of fuel consumption and emission levels of Short Sea Shipping and other modes of transport in India. (TCS, 2003)

**TABLE 6: FUEL CONSUMPTION AND EMISSION LEVELS OF SHORT SEA SHIPPING AND OTHER MODES OF TRANSPORT IN INDIA**

Mode	Fuel consumption	Emission (gm / t km)					
		Co <sub>2</sub>	Co	Hc	Nox	So <sub>2</sub>	Particula
Road	31.330	98.30	0.47	0.23	0.98	0.03	0.08
Rail	8.911	28.33	0.20	0.10	0.47	0.03	0.03
Short Sea Shipping	4.828	15.45	0.03	0.01	0.31	0.29	0.006

Source: TCS, 2003

The report shows that the Short Sea Shipping has perfect advantages in terms of fuel efficiency and rate of emissions. The CO<sub>2</sub> factors form the major portion of the emissions where the Short Sea Shipping is far ahead of road with 15.45 gm / t km against 98.30 gm / t km. This difference reveals the urgency for the development of Short Sea Shipping in the lights of global warming and highly polluted cities in the country.

An analysis of CO<sub>2</sub> emissions in the last decade shows the similar results where the road and rail stands higher than that of water transport. The table shows the CO<sub>2</sub> emissions from different transport modes in the country during the last decade:

Table 7 reveals the CO<sub>2</sub> emission from all transport modes in India (million tonnes of carbon equivalent)

**TABLE 7: CO<sub>2</sub> EMISSION FROM ALL TRANSPORT MODES IN INDIA (MILLION TONES OF CARBON EQUIVALENT)**

Year	Road & other	Rail	Air	Shipping	Total
2000-01	17.85	5.28	1.58	0.53	25.24
2001-02	18.34	5.00	1.49	0.49	25.32
2003-04	22.31	3.53	1.55	0.49	27.88
2004-05	29.63	2.76	1.91	0.47	34.77

The above data shows that the Shipping constitutes only a small portion of CO<sub>2</sub> emissions compared to road and rail. In Indian Short Sea Shipping also similar results are arising as per the report of TCS which reveals a need for development of Short Sea Shipping in the country with optimum utilization of energy and encourages environmental friendly mode of transport.

## CONGESTIONS

The primary modes of freight transport in India are undoubtedly the road and rail haulage. The pressure imposed on to these modes resulted in heavy congestions backed with capacity constraints and increased chances for accidents and mishaps. The World Bank (2009) says that the road transport alone carries 65 % of freight in and 90 % of passengers in the country. The most of the country's highways are narrow and only around a one – third of the maintenance work are met. The congestions will reduce the fuel efficiency of the trucks which leads to higher operating costs and increased pollution. The Indian Railway is second largest in the world under a single management. It carries 2 million tonnes of freight and 17 million passengers as per the data on 2007. There have been problems with capacity constraints in the major corridors which seek for enhancement plans. (World Bank, 2009).

These congestions will affect the distribution chain with delay in delivery times. The major industries in the country will be affected by congestion problems as they do not receive the raw materials and timely delivery of finished goods. The road freight is over pressured with limited infrastructure provisions. The national highway of the country is only 2 % of the whole road network but it forms 40 % of total road traffic in the country. This forms congestions in major highways which results in delayed transit times and accidents. (National Highway Authority of India, 2010)

The national highways are highly congested that a truck could move only at an average speed of 30 - 40 km per hour where the expected speed demanded is almost double of that. It is estimated that a truck trip from New Delhi to Kolkata (1500 km) takes around 5 days to reach the destination. As a solution to these problems Govt of India is implementing a National Highway Development Project (NHDP) called "Golden Quadrilateral" interlinking four major cities of Mumbai, New Delhi, Kolkata and Chennai. This will have good effects on Indian road freight movements. But it alone would not be enough for a country with a freight transport growth of 10% per annum. An integration of multi modal transport utilizing the potentials of Short Sea Shipping in the country would be a favorable solution to reduce the congestions problems.

## INDIA: COASTAL CARGO MOVEMENTS

The coastal cargo movement in India constitutes only 7% of the total cargo movement in the country. The Short Sea Shipping tonnage by the end of the year 2009 is 991715 GT and 10109370 DWT with 657 vessels. The Short Sea Shipping in India is highly fragmented industry where the 9 companies in the coastal trade form 60% of the total fleet in terms of DWT (Dead weight tonnes). The major players in cargo movements are Shipping Corporation of India Ltd, Seasa Goa Ltd, and Poompuhar Shipping Corporation. The average fleet size of the Indian Short Sea Shipping companies are limited to 80000 DWT where as the international shipping fleet is involved of average sizes excess of 100000 DWT.

Dry cargo vessels form the majority in terms of DWT along with tugs and offshore vessels which are in a large number. The other categories include passenger vessels and port trusts vessels. The annual report from ministry of shipping, India gives a clear picture of coastal vessels in the country. (Ministry of shipping, India, 2010)

TABLE 8: COASTAL TRADE IN INDIA (31<sup>ST</sup> DEC 2009)

S.No	Type of Vessel	No of Vessel	G.T	D.W.T
01	Dry Cargo Liner	72	121821	179301
02	Tug	212	61392	20658
03	Dry cargo Bulk Carrier	12	237220	364928
04	Tankers (product carriers)	14	54995	66723
05	Tankers (crude oil carriers)	2	50080	82246
06	Passenger cum Cargo	30	82912	27232
07	Passenger services	50	16423	1925
08	Ethylene Gas Carriers	3	8727	6558
09	Ro – Ro	1	956	1386
10	Dredgers	25	113761	72652
11	Offshore Supply Vessels	106	110737	129876
12	Specialized vessels for offshore services	37	87492	50183
13	Port trusts & Maritime Boards	93	45199	15702
	<b>Total (vessels) coastal trade</b>	<b>657</b>	<b>991715</b>	<b>1019370</b>

Source: Ministry of shipping, India, 2010

The TCS (Tata Consultancy Services) research (2003) studies the coastal trade projections with the reference to major commodities involved. The Table: gives a picture of major commodities in Indian coastal trade and its expected growth rate until 2011- 12.

TABLE 9: COASTAL CARGO MOVEMENTS IN INDIA

Commodity	In million tones		
	2001-02	2006-07	2011-12
Crude	16.00	16.00	16.00
POL	12.70	25.00	32.50
Coal	15.90	20.00	25.00
Iron ore	4.66	9.75	13.30
Iron & steel	0.28	0.76	1.04
Cement	3.16	8.65	13.00
Sub total	52.70	80.16	100.84
Others	0.26	0.52	1.04
Sub total	52.96	80.68	101.88
Containers	1.04	2.60	5.20
Total	54.00	83.28	107.08

Source: Jaiswal, 2004

It is seen that the cargo quantity may be almost doubled from the period of 2001-02 to 2011-12. So there should be more faster initiative to deal with this demand in terms of infrastructure and vessel capacity.

## ISSUES IN PORT DEVELOPMENT

The developments of Sea/ Inland ports are essential to encourage Short Sea Shipping in a country. The efficiency of ports in terms of berth and terminal facilities, technological cargo handling equipments and flexible hinterland connectivity through primary modes transport are essential to encourage Short Sea Shipping with better transit times.

In India, the ports are lacking efficient infrastructure inputs. Most of the Indian ports have outdated berth layouts and terminal facilities. The storage facilities are not capable to handle the regular flow of cargo. The cargo handling equipments such as mobile cranes, trailers, fork lifting trucks, quay cranes are insufficient

to the amount of cargo being handled. Inter modal connectivity of road and rail transport is limited in the minor ports of the country. All these mentioned barriers discourage easy flow of goods backed by increased transport cost. The poor infrastructure in Indian ports has resulted in maritime trade loss of around Rs 1400 per annum. (Dredging today, 2010)

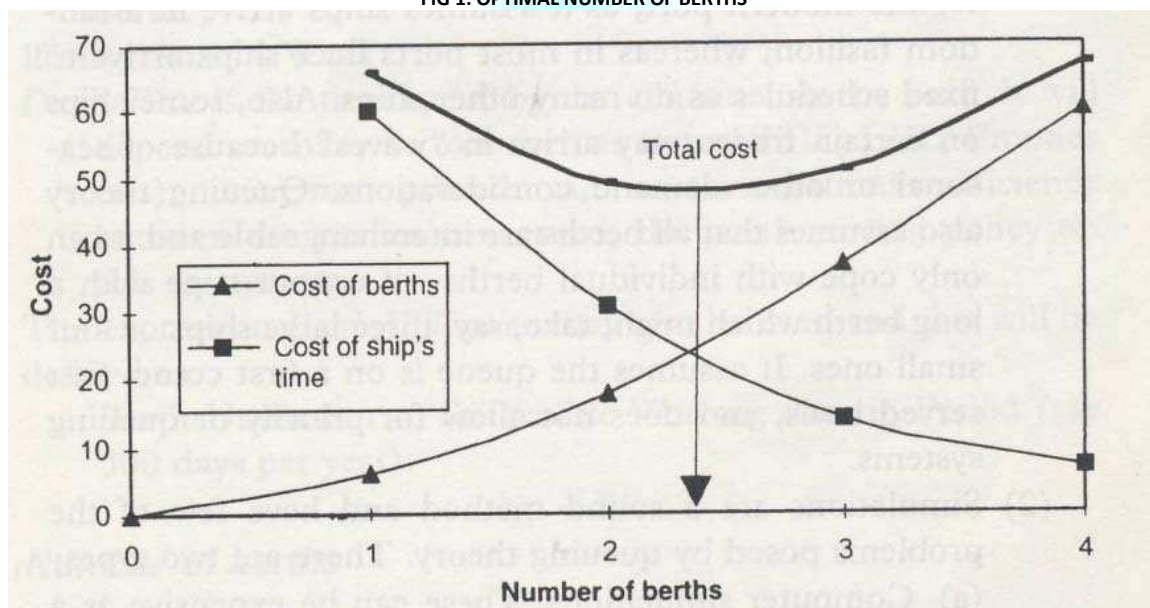
The TCS research identifies 14 minor ports in the country to encourage Short Sea Shipping. It is also essential to efficient hinterland connectivity with road and rail transport with these minor ports. The Short Sea Shipping requires efficient hinterland connectivity which will enable the flexible deliveries with improved transit times.

The port of Pipavav in Gujarat was languished because of inefficient connectivity problems. The hinterland connection via Surendranagar by double stacked container trains with a capacity of 180 TEUs gave improved throughput to the port interlinking the North West states. Similar forms of hinterland connection have to be implemented in the other minor ports of the country which is essential for an improved multi modal transport. (Pipavav, 2010) Similarly, the road connectivity to the ports has to be improved. The country is looking at the five Phases of National Highway Development Programme (NHDP) which is promised to provide better hinterland connectivity from the major and minor ports in India.

The capacity utilization in major ports are above 100% which is not efficient as ports like Singapore and Colombo have spare capacity available. The low productivity along with frequent breakdown of cargo handling equipments and the inefficient utilization of port resources are the major challenges in Indian ports (Lloyd's list, 2007). The capacity utilization in major Indian ports involves Chennai (135%), Vishakapatnam (128%), Kolkata (124 %), Kandla (119%), and Paradeep (106 %). Measures have been taken by port authorities to minimize these problems but they have a long way to go.

The efficiency of the terminals and berths in the ports has to be developed for improving the capacity of the ports. According to Alterton (1999), the optimum number of berths required in a port will be at the equilibrium point of cost of berths and cost of ship's time as shown in Fig 1:

FIG 1: OPTIMAL NUMBER OF BERTHS



Source: Alterton, 1999

These theories could be implemented in the Indian ports to identify the optimal number of berths required to handle the ship traffic. Unless the port authorities take a systematic approach there are chances for regular congestions and delayed delivery.

The privatization efforts on the major and minor ports could be a feasible solution for the infrastructure bottlenecks. The experience of JNPT (Jawaharlal Nehru Port Trust) better resemble the privatization success stories in Indian industry. JNPT is India's first privatization program.

Presently, the port is in top 25 container ports in the world which is most efficient port in the country with a turn over time of 1.72 days. The need for privatizing the minor ports of the country is essential to improve port efficiency, productivity and to provide better quality of service for the coastal trade. The main challenge is to find private investors under BOT contracts where many of the minor ports such as Cochin, Kandla failed in their attempts. (Port Technology International, 2004).

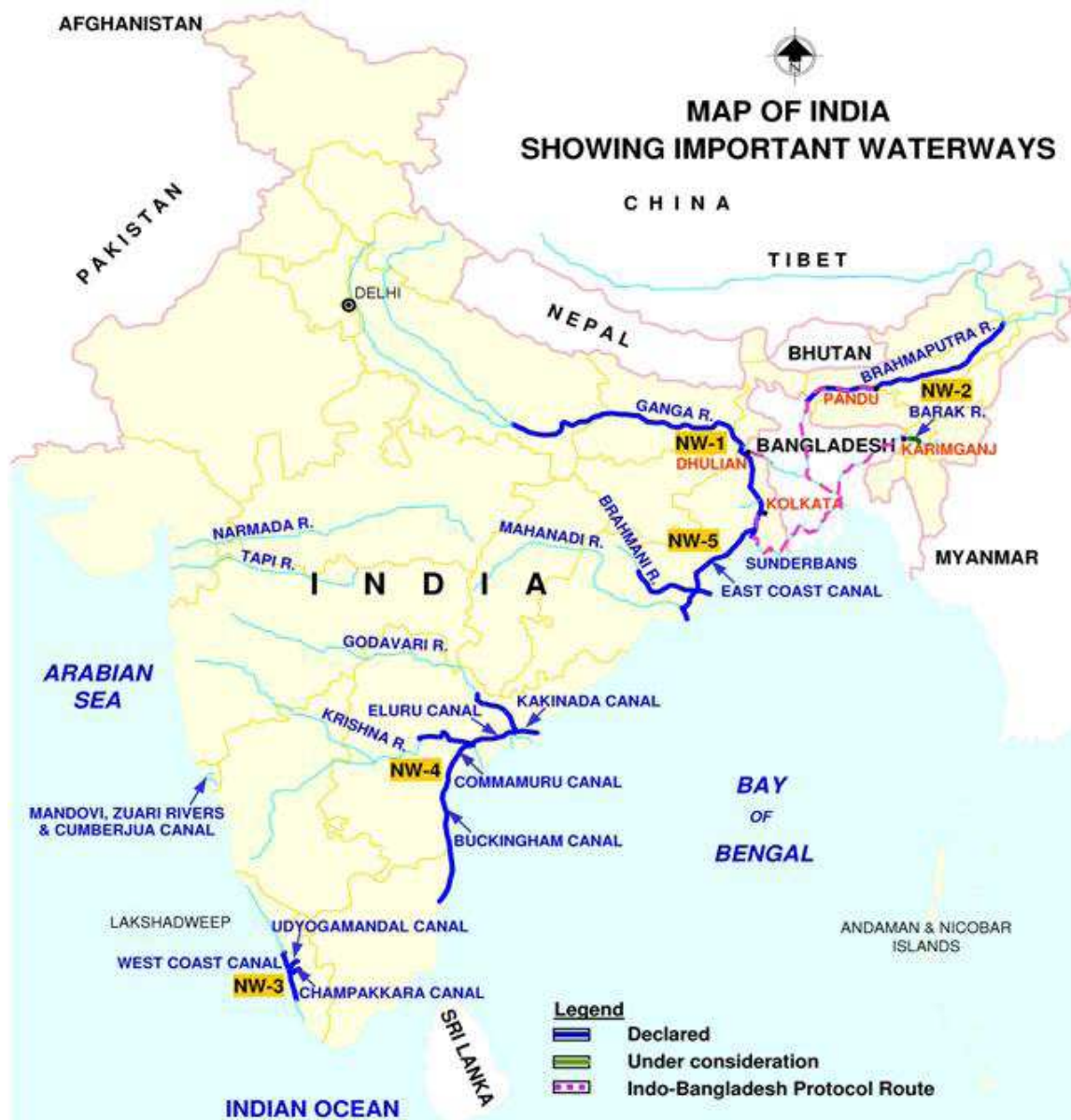
The development of transshipment hubs with private partnership such as the upcoming projects of Vizhinjam, Vallarpadam will eliminate the dependence on foreign ports for transshipments. It gains an annual loss of \$200 million for the country and most importantly it encourages Short Sea Shipping in India. (Dgshipping, 2003)

### INLAND WATER TRANSPORT (IWT)

India has a vast 14500 km of navigable water ways. The utilization of these waterways is miniscule compared to other developed and developing nations in the world. The cargo movements through inland water ways is only 0.36% in the country. An integration of inland waterways and Short Sea Shipping will be beneficial enough to supply potential cargo to the industrial and commercial regions situated in the river coasts. The country is enriched with five major waterways which are named as NW - 1, NW - 2, NW - 3, NW - 4 and NW - 5 (See Fig - 2). The NW - 4 and NW - 5 has been included very recently by 2008 and 2009 respectively. (IWAI, 2009)



FIG 2: INLAND WATERWAYS OF INDIA (IWAI)



Source: Inland Waterway authority of India, 2010

As the road and rail transport are congested and overburdened backed with high capital investments for its further development. An effective utilization of existing waterways and measures to explore the scope for finding new feasible routes could be favorable solution.

The Vallarpadam International Transshipment Terminal (VITT) in Cochin (Kerala) will pave the way for the development of NW -3. The Cochin port is developing Ro – Ro terminals in Bolgatty and Wellington Islands in association with IWAI. There is scope for barging between major trading provinces in the region such as Cochin, Alappuzha, Kottayam, Kollam and Kannur. It is estimated that out of the total volume of 18500 TEU, 6000 containers will be shifted from road to water transport in the initial stages itself. This will reduce the container transport cost by 40 – 50 % using the cost effective barge movement of cargo. (Economic times, 2010).

The country has the scope of integrating the Inland Water ways with Short Sea Shipping. The TCS report on the development of Short Sea Shipping states that the integration could be initiated at the ports of Haldia and Cochin. The integration is also possible in the Neendakara and TT Sheds at Kolkata of NW- 2 if additional infrastructure has been acquired. In this respect "Kaladan Multimodal transit transport and project could be implemented to explore a new route to north eastern states utilising Short Sea Shipping, IWT and road. It interlinks Kolkata to Mizoram which consists of 539 km of Short Sea Shipping to reach Sitwae (Myanmar), 224 km of IWT and 62 km of road transport to reach the state of Mizoram. ( IWAI, 2009)

For the integration of IWT and Short Sea Shipping there is a better scope in utilizing the Coastal - Cum - River vessels (CR) in the waterways having increased depth. In NW-1, Haldia – Farakka route is having 3 metre water depth for 9 months in a year. It is possible for a carriage of CR vessels from 2500 to 3000 tonnes with a minimum of 2.5 metre draft. In NW - 2, the Indo – Bangladesh protocol route could be used for CR vessel voyage during the monsoon season from June to October. In NW - 3, the CR vessel voyage is possible for few kilometres from Cochin to Udyogmandal canal. But it could be efficiently utilized for the movement of Salt, Coal, Sulphur and other raw materials to the industries located in the region. (IWAI, 2009)

The major challenge to IWT in the country is the navigational hazards faced by the shallow and narrow water resources. There is supposed to be a 2 metre draft for the easy movement of vessels. But most of the Indian rivers do not have that naturally. The cost for dredging purpose to maintain the IWT routes is very high. To site an example, the cost for dredging activities in the banks of Sabaramathi River in India constituted \$ 300000, which is a huge amount to handle. (Narayan.et.al, 2005) The scarcity of good infrastructure is another problem. The number of IWT vessels in the country is very low. There should be better provisions for the procurement of vessels with needed capacity in a quick succession. Meanwhile, the infrastructure at the banks of these waterways such as terminals, improved connectivity etc. should be made capable of handling the increased amount of cargo. CIWTC (Central Inland Water Transport Corporation) could be sited as a perfect example in terms of infrastructure provided. (S.Sriraman, 2010)

There are limitations in the budgetary support to provide funds for the development of basic infrastructure. At this stage, it would be preferable to allow the private players to take part in the IWT. There should be projects for building IWT vessels within the country. The government has to provide subsidies to ship yards specifically working on the construction of IWT vessels. At the same time, there should be better training inputs to the manpower concerned with IWT operations. (Narayan.et.al, 2005)

## LEGAL RESTRICTIONS

The following discusses the legal restrictions that hinder the development of Short Sea Shipping in India:

### CABOTAGE LAW

Cabotage means the port to port navigation of vessels with in a country. The Cabotage law reserves the country's own flag vessels to carry out the coastal trade. As a result the foreign vessels cannot under take the coastal cargo movement which avoids them from tax rebate on that particular country. China was the first country to introduce Cabotage law which was followed by various nations.

In India, the Cabotage laws are restrictive in nature as per the Merchant Shipping Act, 1958. Only the Indian flag ships are allowed to conduct coastal trade in the country. It is done as a part of protecting the domestic shipping industry. If the Cabotage laws are liberal there are opportunities for international ships to take over the coastal trade where they are not liable for taxes and duties. It is viewed that the Cabotage rules in India discourages the scope for Short Sea Shipping in the country where the Indian tonnage is inadequate. The involvement of foreign vessels will improve the efficiency level of coastal cargo movements.

### IMPORT DUTIES

In India, the coastal ships are liable to pay duties on the bunker oil which is supposed to increase the overall cost of transportation. The cost for usage of bunker fuels in a coastal ship is much higher compared to international vessels. The cost will be higher at a rate of 28% for bunker fuel and 26% for High Flash High Speed Diesel. Short Sea Shipping has the weakness in comparison to road transport where they are provided subsidies for the use of Diesel. At the same time, the import of spares and capital goods for the vessel maintenance is also liable for import duties. This will form a big burden for ship owners.

### CUSTOMS FORMALITIES

Indian coastal cargoes are entitled to complex customs formalities. The coastal cargoes are treated as similar to ocean going vessels where they have cumbersome customs procedures. It will results in increased transit time of goods and costs for dealing with customs formalities. Neighboring ports like Colombo takes only half a day to unload a container vessel and to load the cargo in to a feeder vessel. But in India it is an intricate process. There should be a simpler form of customs and documentation procedure to reduce delays and increased costs.

### TAXATION

The Indian shipping companies were supposed to pay the corporate tax of 35 % on their net profits or minimum alternative tax at 7.5 %. The Union Budget of 2004/05 initiated tonnage tax where the annual taxation will be based on the net registered tonnage. But the tonnage tax was not exempted for coastal cargo movements. This has discouraged the Shipping companies to take coastal cargo movements which adversely affected the Short Sea Shipping in the country. (Union Budget, 2004)

Service tax is another concern. The coastal vessels are subject to double taxation. To site an example, a vessel carrying cargo from Mumbai to Goa is liable to pay service tax at Mumbai port at the time of loading and payable at Goa port at the time of discharge. (India Maritime Summit, 2008)

The personal income tax is restrictive for coastal sea fearers in India. As per the income tax rules, whoever is outside the country for 183 days or more in a year will be considered as non – resident and pay no taxes. It is applicable for the sea fearers in ocean going vessels as they cross the geographical boundary of the country for sailing. This discourages the officers and seafarers in the coastal ships and seems to be reluctant to accept the voyage in Short sea vessels.

### LEGISLATION

The Merchant Shipping Act of 1958 is exists in the country which deals with both coastal vessels and international vessels. This has resulted in similar standard and norms for both these vessels. The coastal vessels are subject to have inconvenience as its result. A recommendation was made by pinto committee to have separate legislation for Short sea Shipping. A committee has been organized by 1998 to draft the legislation. But the government does not take the initial steps to enact the law in favor of Short Sea Shipping in the country. The legislation should be enacted in a quick succession to avail the benefits to Short Sea Shipping removing the inefficiencies in the rule.

## CONCLUSION

A comparative analysis of Short Sea Shipping with other transport modes in Indian context was reviewed in relation to cost, energy efficiency, environmental friendliness and congestion problems. The Indian Short Sea Shipping also showed favorable advantages over road / rail transport existing in the country. The analysis of coastal cargo movements in India shows that the utilization of Short Sea Shipping in India is minuscule compared to EU or neighboring countries like China.

It gives a clear picture of inefficient handling of Indian ports which not only discourages the Short Sea Shipping but also the whole maritime trade. The legal and documentary bottlenecks of Indian Short Sea Shipping have been analyzed and recommendations were made from reviews of experts in the industry.

## RECOMMENDATIONS

It is recommended that the implementation of Short Sea Shipping could be successful only if there emerges longstanding policies and researches from the Government of India. There should be researches to find feasible routes in the Indian Short Sea Shipping / IWT which have potentials for development in future. There should be further researches on the potential cargoes which could be shifted to Short Sea Shipping. A detailed study of environmental issues of Short Sea Shipping should also be conducted to analyze its impacts. The number of researches on Short Sea Shipping in India is very limited compared to other countries. The government must focus on innovative researches to explore the potentials of Short Sea Shipping in the country.

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## LIST OF ABBREVIATIONS

BOT	:	Build Operate Transfer
DWT	:	Dead Weight Tonnes
EU	:	European Union
IWT	:	Inland Water Transport
NW	:	National Waterways
POL	:	Petroleum, Oil and Lubricants
SSS	:	Short Sea Shipping
TCS	:	Tata Consultancy Services



## DETERMINANTS OF CAPITAL STRUCTURE DECISION IN INDIAN MANUFACTURING INDUSTRIES - AN EMPIRICAL ANALYSIS

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### ABSTRACT

*The objectives of this paper is to examine the important determinants of capital structure decision of the select private sector manufacturing industries in India for the period 1991-92 to 2009-10. The investigation is conducted on a panel of 9 private sector manufacturing industries in India. The empirical results of this study justified our hypothesis. The econometric analysis shows that variables like profitability, size of the firm, cost of debt, debt service capacity and liquidity are the important determinants of capital structure of the select private sector manufacturing industries in India. The results indicate that most of the determinants of capital structure suggested by capital structure theories appear to be relevant for Indian firms. In this paper, Debt Equity Ratio has been used as the proxy for capital structure.*

### KEYWORDS

Capital Structure, Manufacturing Industries, India.

### INTRODUCTION

Corporate sector growth is vital to economic development. The issue of finance has been identified as an immediate reason why businesses in developing countries fail to start or to progress. Corporate capital structure remains a controversial issue in modern corporate finance. Directors to make decision on capital structure should make a choice between debt and equity. Many studies were carried out on description of factors influencing capital structure decisions since Modigliani-Miller as an expression of a choice between debt and equity. As a result of these studies based on rationality within the framework of traditional finance, different theories were seen regarding description of capital structure in parallel with change in expectations and preferences of firm directors and shareholders.

Capital structure refers to the relationship between various long- term sources of financing such as debenture, preference share capital and equity capital including reserves and surplus. Financing firm's assets is a very crucial problem in every business and as a general rule there should be a proper mix of debt and equity capital in financing them. The use of long term fixed interest bearing debt and preference share capital along with equity shares is called "Financial Leverage or Trading on Equity". The long term fixed interest bearing debt is employed by a firm to earn more from the use of these sources than their cost, so as to increase the returns on the owner's equity. It is true that capital structure cannot affect the total earnings of the firm, but it can affect the share of earnings available to the equity shareholders.

### THEORIES OF CAPITAL STRUCTURE

The literature review provides a summary of various views and theories held with regard to capital structure. David Durand in 1952 propounded **Net Income Approach** in which he states that the firm can increase its value by using debt capital. **Net Operating Income Approach** contends that the value of the firm is independent of capital structure. In 1963, Solomon developed the **Intermediate Approach** which states that the value of the firm increased to a certain level of debt capital and after that it tends to remain constant with the moderate use of debt. **Modigliani Miller** (1958) proved that a firm's value is unaffected by its capital structure with the assumptions of no corporate taxes and risk. In 1963, MM contend that in the presence of corporate tax the value of the firm varies with the variations in the use of debt.

**Pecking Order theory** (1984) by Myers & Mjulf proposes that firms follow a hierarchy in their capital structure choice, especially with regard to debt. **Trade-Off theory** states that firms endeavour to maximize returns by balancing the benefits of the tax shield that debt afford the firm against the possibility of bankruptcy brought upon by increased debt. **Agency Cost theory** asserts that the capital structure of a firm is influenced by management personnel who are conflicted by their pursuit of personal enrichment before the maximization of shareholder value i.e., Debt and the accompanying interest payments, however, may reduce the agency conflict between shareholders and managers. **Information Asymmetry theory** (1977) by Rose states that since managers have more information on the future of the firm, their decisions on capital structure could provide signals to the market on the firm's future.

### STATEMENT OF THE PROBLEM

Capital structure is very important decision for firms so that they can maximize returns to their various stakeholders. Moreover an appropriate capital structure is also important to firm as it will help in dealing with the competitive environment within which the firm operates. Modigliani & Miller, (1958) argued that an 'optimal' capital structure exists when the risks of going bankrupt is offset by the tax savings of debt. Once this optimal capital structure is established, a firm would be able to maximize returns to its stakeholders and these returns would be higher than returns obtained from a firm whose capital is made up of equity only (all equity firm).

The studies on developing countries have not even agreed on the basic facts. They found that firms in developing countries made significantly more use of external finance to finance their growth than is typically the case in the industrialized countries. They also found that firms in developing countries rely more on equity finance than on debt finance. These findings seem surprising given that stock markets in developing countries are invariably less well developed than those in the industrial countries, especially for equities.

Neither theory nor empirical research has been able to provide satisfactory explanation as to what factors affect the capital structure decision. The theories suggest that the firms select capital structure depending on characteristics that determine the various costs and benefits associated with debt and equity financing. Empirical work in this area lagged behind the theoretical work as the relevant firm characteristics are expressed in abstract concepts and are rarely directly observable. Moreover, the theories that have been developed in the context of mature economies need to be tested for their adoptability in developing economies for the firms are facing different environments. Clearly, more empirical work needs to be done before any financial theory and or any behavioral theory of capital structure can be fully recognized. With this background, this paper seeks to enquire into the major determinants of capital structure decision in the sample industries chosen for the present study.

### OBJECTIVE OF THE STUDY

To analyze the important determinants of capital structure decision in Indian private sector manufacturing industries.



## HYPOTHESES OF THE STUDY

This study has tested the following null hypotheses on relation between the defined variables and capital structure of listed companies:

- Ho1:** There is no significant relation between capital structure and Tangibility.  
**Ho2:** There is no significant relation between capital structure and Non tax shield  
**Ho3:** There is no significant relation between capital structure and Size of the firm  
**Ho4:** There is no significant relation between capital structure and Dividend Pay Out  
**Ho5:** There is no significant relation between capital structure and Profitability  
**Ho6:** There is no significant relation between capital structure and Growth  
**Ho7:** There is no significant relation between capital structure and Debt Service Capacity  
**Ho8:** There is no significant relation between capital structure and Cost of Debt  
**Ho9:** There is no significant relation between capital structure and Liquidity.

## METHODOLOGY

The study covers a period of 19 years from 1991-92 to 2009-10. The present study is based on secondary data. The main source of data is PROWESS, the database of Centre for Monitoring Indian Economy (CMIE). And then, official website of BSE Annual reports of individual companies, various issues of magazines and journals, working papers and newspapers were also accessed for the relevant data.

For the purpose of the study, the population has been defined in terms of number of manufacturing companies listed in Bombay Stock Exchange (BSE) under the private corporate sector. The total number of companies falling under this category was 704. It was decided to include only those companies having continuous and uniform data throughout the period 19 years from 1991-92 to 2009-10 and whose total assets were more than Rs.500 crores as on 31st March 2010. Based on the above criteria, 73 companies belonging to nine selected group of manufacturing industries were selected for this study under judgment sampling method.

## SPECIFICATION OF THE MODEL

The following regression model is developed to investigate the effect of chosen variables on the capital structure.

$$DER = \alpha + \beta_1 TANG + \beta_2 NDTS + \beta_3 SIZE + \beta_4 DPO + \beta_5 PROF + \beta_6 GROWTH + \beta_7 DSC + \beta_8 COD + \beta_9 LIQ + U$$

Where,

- DER = Debt Equity Ratio  
 TANG = Tangibility  
 NDTS = Non-Debt Tax Shield  
 SIZE = Size  
 DPO = Dividend Payout  
 PROF = Profitability  
 GROWTH = Growth  
 DSC = Debt Service Capacity  
 COD = Cost of Debt  
 LIQ = Liquidity  
 $\alpha$  = Constant  
 $\beta_1 \dots \beta_n$  = Estimated coefficients  
 U = Error Term

## DEFINITION OF VARIABLES

### DEPENDENT VARIABLE

The most commonly used measure of financial leverage i.e., Debt-Equity Ratio is used as the dependent variable. The Debt Equity Ratio is computed as the ratio of debt (long-term borrowings) and Equity consist of Share Capital and Reserves. Book value figures have been used to measure both Debt and Equity, because the use of market value measure of leverage could introduce bias into the regression analysis.

### INDEPENDENT VARIABLES

#### 1. Tangibility (TANG)

The tangibility is measured in terms of the nature of the ratio of fixed assets to total assets. It measures the level of collateralizable assets a firm can offer to lenders.

#### 2. Non-Debt Tax Shields (NDTS)

The non debt related corporate tax shields relating to depreciation, investment allowance etc would be treated as substitutes for the tax benefits of debt financing.

It is given by:  $NDTS = PBIT - (1 - t) / T$ .

#### 3. Size of the firm (SIZE)

The natural logarithm of sales has been used as a measure of firm size as it was felt that it is the level of sales that determines ultimately the productive activity of the firm.

#### 4. Dividend Payout (DPO)

It is defined as the ratio of dividend to total income available to shareholders. Here, dividend includes only cash dividend not stock dividend and other forms of dividend.

#### 5. Profitability (PROF)

The rate of generation of earnings determines the efficiency of capital employed. To the extent that highly profitable firms are able to retain earnings and finance further investment, such firms can be expected to use less debt in their capital structure. The ratio of Earning before Interest and Taxes scaled over Invested Capital is used as an indicator of profitability.

#### 6. Rate of Growth (GROWTH)

Growth has been defined in this exercise as the annual compounded rate of growth in invested capital. It is given by:

$$\text{Rate of Growth} = TA_n / TA_0 - 1$$

#### 7. Debt Service Capacity (DSC):

This is defined in term of interest coverage ratio. The higher the debt coverage, the greater the likelihood of a firm having a higher debt component in its financial structure. The ratio between EBIT and Interest has been taken as measures of Debt Service Capacity.

#### 8. Cost of Debt (COD)

The contractual or coupon rate of interest forms the basis for calculating the cost of any form of debt. The payment on account of interest is tax-deductible expenses. The after tax cost of debt is otherwise called as cost of debt.

It is given by:

$COD = Wk_d$  Where,  
 $Wk_d$  = Weighted Cost of Debt

### 9. Liquidity (LIQ)

The extent to which the firm has to bring outside funds also depends on the composition of current assets in its portfolio. The measure considered here is the ratio of current assets over current liabilities.

### THEORETICAL PREDICTIONS OF KEY VARIABLES THAT AFFECT THE LEVERAGE OF A FIRM

As per available literature following factors have been identified that affect the capital structure decision of the firm. Enumerated below are the key variable along with the relationship with leverage of the firm.

**TABLE 1: RELATIONSHIP BETWEEN DETERMINANTS AND LEVERAGE RATIO**

Variable	Variable Definitions	Expected Sign
Tangibility	Fixed Asset / Total Asset	+ (ve)
Non-Debt Tax Shield	$EBIT \cdot (1-t) / T$	- (ve)
Size of the Firm	Log (Sales)	+ (ve)
Dividend Pay-out	Dividend / PAT	+ (ve)
Profitability	$EBIT / \text{Capital Employed}$	- (ve)
Rate of Growth	$((Tan / TAO) - 1)$	- (ve)
Debt Service Capacity	$INT / EBIT$	+ (ve)
Cost of Debt	Weighted Cost of Debt	- (ve)
Liquidity	Current Asset / Current Liabilities	- (ve)

In this study, positive relationship of Tangibility, Size, Dividend Pay out, Debt Service Capacity with Leverage, and negative relationship of Growth, Profitability, Non Debt Tax Shield, Cost of Debt and Liquidity with Leverage is expected.

### EMPIRICAL RESULTS

The regression results are shown in Table 2 and it discloses that the regression equations estimated for all the sample industries seem to satisfy all the specifications. This is because of the co-efficient of determination adjusted for the degree of freedom is statistically significant in all the sample industries as is evident from their F values. The value of  $R^2$  is found to be very high ranging in between 0.70 to 0.97 in the sample industries. This very high value of  $R^2$  showed that the estimated regression equation explain well the capital structure behavior of the sample industries to a significant extent.

The results of the analysis showed that Tangibility has negative effect on leverage. According to trade-off and pecking order theory, as tangibility increases, firms should be able to be financed by more debt. However, according to our findings, tangibility is inversely related with leverage. Non-debt tax shield as expected negatively correlated with capital structure in all the sample industries except Cement and Sugar industries. With the increase in Non Debt Tax Shield the firm tends towards less debt finance.

**TABLE NO. 2: DETERMINANTS OF CAPITAL STRUCTURE – REGRESSION RESULTS**

$$DER = a + \beta_1 TANG + \beta_2 NDTS + \beta_3 SIZE + \beta_4 DPO + \beta_5 PROF + \beta_6 GROWTH + \beta_7 DSC + \beta_8 COD + \beta_9 LIQ + U$$

Industry	Constant	TAN	NDTS	SIZE	DPO	PROF	DSC	GROWTH	LIQ	COD	R2 square	Adj. R sq	F-Value
Cement	3.88 (2.49)	1.32 (0.81)	16.85 (2.96)*	-1.14 (2.20)*	-0.22 (1.21)	-6.74 (2.32)*	0.15 (2.31)*	0.00 (0.38)	-0.16 (1.84)	22.45 (3.08)**	0.95	0.90	17.97**
Electrical	0.28 (0.19)	1.27 (1.10)	-41.46 (3.46)**	0.10 (0.23)	-0.12 (0.81)	25.83 (5.20)**	-0.16 (1.53)	0.00 (0.43)	0.72 (2.99)*	-7.52 (0.98)	0.94	0.87	13.17**
Fertilizer	13.65 (3.38)	-2.13 (1.57)	-41.25 (1.79)	-2.63 (2.18)*	0.02 (0.32)	4.40 (2.68)*	0.00 (2.77)*	0.00 (0.73)	-0.21 (1.02)	15.55 (2.30)*	0.91	0.82	9.42**
Paper	12.03 (3.82)	0.78 (0.52)	31.78 (1.77)	-3.44 (3.19)**	0.18 (1.41)	0.46 (0.06)	-0.47 (4.74)**	0.00 (3.00)**	0.19 (0.59)	-17.60 (1.75)	0.90	0.80	8.34**
Steel	5.34 (1.14)	-1.28 (0.37)	27.72 (0.83)	-0.59 (0.46)	0.06 (0.33)	-3.91 (2.04)*	0.00 (0.55)	0.00 (0.01)	-0.56 (1.41)	-11.96 (0.98)	0.70	0.36	2.06
Sugar	2.83 (5.07)	-2.09* (3.87)	33.84 (7.50)**	-0.08 (0.45)	-0.02 (0.51)	1.18 (0.72)	-0.14 (1.73)	0.00 (0.20)	-0.20 (3.62)**	-37.50 (4.62)**	0.97	0.94	32.40**
Textile	3.75 (1.88)	-0.86 (0.41)	25.28 (1.62)	-0.75 (1.45)	0.01 (0.26)	8.83 (3.05)**	-0.43 (2.46)*	0.00 (3.86)**	0.10 (0.68)	-21.72 (1.80)	0.96	0.91	20.08**
Transport	9.62 (3.75)	-2.88 (0.89)	16.07 (1.31)	-1.62 (1.92)	0.19 (2.17)*	-3.60 (2.03)*	-0.00 (0.27)	0.00 (0.60)	-0.20 (0.93)	-13.06 (1.72)	0.93	0.86	12.22**
Diversified	7.65 (3.66)	0.02 (0.30)	0.29 (0.73)	-1.28 (2.26)*	0.01 (0.98)	-1.73 (0.66)	-0.06 (0.72)	0.00 (1.91)	-0.62 (3.71)**	-7.68 (1.19)	0.83	0.65	4.47**

\* Significant at 5% level

\*\* Significant at 1% level

A figure in parenthesis denotes t-value.

Non-debt tax shield is found significant in determining the Capital Structure of Cement, Electrical Fertilizer and Sugar industry

The Size was found to be important determinants of capital structure in Cement, Fertilizer, Paper, Transport and Diversified industries. Size of the firm has negative sign in all the cases except Electrical and Sugar Industry. This may indicate that large firms are having sufficient funds to finance its investments and they do not prefer long term debt. The Dividend Payout factor found to be negatively related with capital structure in the case of Cement and Electrical Industry, while it was positively associated with capital structure ratios in all other industries. Dividend Pay Out has significant impact on capital structure behavior of Transport industry only.

The profitability is negatively correlated with leverage ratio, which is line with the pecking-order hypothesis; firms prefer using surplus generated by profits to finance investments. This result may also indicate that firms in general always prefer internal funds rather than external funds, irrespective of the characteristic of an asset shall be financed.

The Growth of the firm has negative impact on leverage in most of the sample industries which indicate that growing companies do not rely on debt to finance their new investment opportunities. The regression co-efficient of Growth was almost zero in all the industries, which does not have significant impact on capital structure decision.

The other explanatory variable Debt Service Capacity has the negative sign in all the industries except Cement, Fertilizer and Steel industry. This result is inconsistent with Mittal and Singla (1993) who have argued that there is a positive relationship between Debt Service Capacity and level of debt. They suggest that higher the capacity of the company to serve debt, greater is the likelihood of the debt ratio.

The Cost of Debt has negative relationship with capital structure ratios in all the sample industries except Cement and Fertilizer industry which evidences that the Cost of Debt plays an important role in determining the capital structure decision of these industries. It is found that high cost of debt charges discourage the use of debt finance.

Further, the capital structure decision is primarily influenced by the Liquid Ratio in the case of Electrical, Sugar and Diversified industries. The result signifies that firms with sufficient level of liquid assets do not prefer long term debt.

### TEST OF HYPOTHESES

Table 2 demonstrates clearly about the relationship and accept or rejection of hypothesis.

TABLE 2: TESTING OF HYPOTHESES

Variable	+ (ve)	- (ve)	Ho accepted	Ho rejected
Tangibility	Cement, Electrical, Paper & Diversified	Fertilizer, Sugar, Steel, Textile & Transport	Cement, Electrical, Fertilizer, Paper, Steel, Textile, Transport & Diversified	Sugar
NDTS	Cement, Paper, Steel, Sugar, Textile, Transport & Diversified	Electrical & Fertilizer	Paper, Steel, Textile, Transport & Diversified	Cement, Electrical, Fertilizer & Sugar
SIZE	Electrical	Cement, Fertilizer, Paper, Steel, Sugar, Textile, Transport & Diversified	Electrical, Steel & Sugar, Textile,	Cement, Fertilizer, Paper, Transport & Diversified
DPO	Fertilizer, Paper, Steel, Textile, Transport & Diversified	Cement, Electrical & Sugar	Cement, Electrical, Fertilizer, Paper, Steel, Sugar, Textile & Diversified	Transport
Profitability	Electrical, Fertilizer, Paper, Sugar, & Textile,	Cement, Steel, Transport & Diversified	Paper & Diversified	Cement, Electrical, Fertilizer, Steel, Sugar, Textile & Transport
Growth	Cement, Electrical, Fertilizer, Paper, Steel, Sugar, Textile, Transport & Diversified	-----		-----
DSC	Cement, Fertilizer & Steel,	Electrical Paper, Sugar, Textile, Transport & Diversified	Electrical, Steel, Transport & Diversified	Cement, Fertilizer, Paper Sugar and Textile
COD	Cement & Fertilizer	Electrical, Paper, Steel, Sugar, Textile, Transport & Diversified	Electrical, Paper, Steel, Textile & Diversified	Cement, Fertilizer, Sugar & Transport
Liquidity	Electrical, Paper & Textile	Cement, Fertilizer, Steel, Sugar, Transport & Diversified	Cement, Fertilizer, Paper, Steel, Textile & Transport	Electrical, Sugar & Diversified

### SUMMARY AND CONCLUSION

This study investigates the determinants of capital structure of select private sector manufacturing industries in India cover the period of 19 years from 1991-92 to 2009-2010. The sample of this study consists of panel data for all industrial companies listed in Bombay Stock Exchange, a total of 73 companies belonging to nine groups of manufacturing industries. The findings of this study contribute towards a better understanding of financing behavior in Indian corporate sector. This study considered nine explanatory variables including Tangibility, Non-debt tax shield, Size of the firm, Dividend Pay Out, Profitability, Growth, Debt Service Capacity, Cost of Debt and Liquidity

The independent variables- Tangibility is inversely related with leverage and Non-debt tax shield proves to be statistically significant determinants of capital structure decision of Cement, Electrical, Fertilizer and Sugar Industry. The Size of the firm has negative relationship with leverage it has significant impact on the capital structure decision of Cement, Fertilizer, Paper, Transport & Diversified industries. The beta coefficient of Dividend Payout positively related with leverage in Fertilizer, Paper, Steel, Textile, Transport & Diversified industries but it has significant impact on capital structure only in Transport sector. The other explanatory variable Profitability has significant impact on determination of capital structure in the case of Cement, Electrical, Fertilizer, Steel, Sugar, Textile & Transport industry. Growth of the firm does not have significant impact on capital structure decision of the sample industries. The Debt Service Capacity was found to be the important determinants of capital structure of Cement, Fertilizer, Paper Sugar and Textile industry. The Cost of Debt negatively related with leverage in case of Electrical, Paper, Steel, Sugar, Textile, and Transport & Diversified industries. The liquidity played important role in determining capital structure pattern in the case of Electrical, Sugar & Diversified industries.

Important observations of this study is that both agency cost model and static trade-off model help describe the capital structure pattern of the Indian private corporate sector as because most of the determinants have shown desired sign as predicted by these two theories. Yet, some independent variables show mixed results. Financing pattern and choice of individual company, legal and regulatory environment, corporate tax policies, tax holiday treatment, study period, sampling error etc. might cause some variables of this study to show mixed behavior and not to explain the capital structure in a better way. Further future study on capital structure determinants may be extended and this will surely lead to significant new insights.

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