Chapter 2

LITERATURE REVIEW

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Chapter 2
LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of literature of working papers, published papers, both conceptual and empirical, and edited books sourced from different libraries and the internet.

This literature review is organised into four sections. First, a review of studies related to distribution strategies, supply chain and logistics has been presented. Second, studies focussing on the distribution strategies of different industries in the Indian context have been presented. In the third section, studies focussing on the distribution strategies adopted by organisations for the distribution of mobile handsets in India have been reviewed and presented. Lastly, studies addressing different dimensions that have an impact on distribution strategies have been reviewed and presented.

Based on the literature survey, an attempt has been made to identify the research gaps, which, then has become the basis for this research.

2.2 Studies on Distribution, Logistics and Supply Chain

Distribution is a fundamental virtue of marketing. Be it cigarettes, passenger cars, footwear, toothpaste, or any other product, proper distribution is essential for efficiently and effectively satisfying the needs and wants of the customers or the end users.

Distribution strategies play a crucial role in the launch of new products to the market. Distribution is crucial in the eventual acceptance and sales of a new product in the market as it determines the availability of the new product to customers.

Distribution and logistic operations are responsible for the efficient, effective and proper handling of a firm’s goods and services with the ultimate aim to minimise any cost, to improve customer service and to create a competitive advantage (Christopher,
Managing these operations has become a challenge for modern corporations considering the vast range of logistic functions, the inherent complexity when dealing with large product ranges and stock keeping units and the large capital investment needed for logistic operations. Principally, firms could perform the logistic operations by using their own assets or have the option to outsource part or the whole logistic functions to a specialised organisation called the logistics service provider (LSP) which becomes responsible for the provision of these logistic operations (Razzaque and Sheng, 1998). These LSP’s have become major organisations over the past few decades, have developed strong efficiency and expertise and support both the domestic and international expansion of various chain members such as manufacturers and retailers (Bourlakis, 1998; Bourlakis and Bourlakis, 2005).

Selecting the proper distribution channel strategy, as one of the key elements of a company’s success, has been a focal point in both supply chain and marketing channel structure research and managerial practices. The distribution channel strategy decision is usually based on finding the most profitable way to reach a market and serve the needs and wants of the customer.

Successful distribution channel strategy selection, implementation, and management cannot only help to meet the shopping needs and habits of the target customers efficiently under the cost constraints of the seller; they must also tone down the drawback caused by distribution channel conflicts such as double marginalisation.

Distribution decisions are crucial because changing them demands both resource and time and, therefore, firms have to take great care in designing their distribution strategies during the launch of innovations (Stern and Sturdivant, 1987). In this regard, it is worth mentioning that the fit between product and the delivery system is the single most vital variable, affecting the success of new products and services (Easingwood and Storey, 1991).

Supply chain management is one of the most important activities that establish the success of a company (Cambra and Polo, 2008; Quayle, 2003). Increasingly complex, dynamic and competitive markets require a global vision of the supply chain that integrates all the agents and elements of the system (Lee et al., 2010; Closs and
Mollenkopf, 2004; Alvarado and Kotzab, 2001). It is important to consider all the existing flows in the supply chain, from the origin to the final customer, and in the demand chain, from the market to the producers and suppliers (Collin et al., 2009).

Considering customers’ preferences and needs is a key factor to understand the firms’ success. Working together, demand and supply chains create the demand-supply chain and, when it is efficiently and properly managed, supply is well in line with demand and provides value for all consumers and suppliers (Cambra and Polo, 2008; Hoover et al., 2001).

It is well established that an important factor for the success of any company is the appropriate design and management of its supply chain (MacFarland et al., 2008). Factors such as customer service, supply chain integration, production and operations, distribution and storage, technology, reverse logistics and green supply chains and strategic alliances must be taken into account in the design of any supply chain system. These factors become even more critical in the case of multinational companies that have the option either to duplicate its supply chain in foreign countries or to adapt it to the new market.

One of the key and familiar concepts for the management of a supply chain is customer service: utilising the logistics system to provide the right product/service at the right place and time (Reiner, 2005; Vickery et al., 2003). It is highly related to the customer quality perception and company image and is directly linked to the company’s marketing strategy through the distribution variable. Armstrong et al. (2009) advocate the employment of demand-supply chain rather than distribution for a better managing of flows between the firm and its markets.

Supply chain integration represents the joint efforts of all the agents towards a common goal (Flynn et al., 2010; Kim, 2009). It implies activities such as joint planning, exchange of information, data and information systems, coordination, long-term partnership, and risks and benefits sharing, among others (Allesina et al., 2010; Kannan and Tan, 2010). Chain integration allows, for instance, reduction of the Bullwhip effect caused due to improper communication and lack of information flow among the channel partners.
Distribution and storage make a product or service available for use or consumption (Lowe, 2003). They help overcome differences in required quantities and timing, ensuring that products are available when customers are ready to buy them.

Some models normally comprise of activities such as transportation and inventory management, striving for efficiency in terms of customer service, prices, delivery performance (punctuality and reliability) and avoiding stocks-out.

Technology and information management represent the set of processes, people and technology that allow sharing of information and communication with market and between firms (Rao et al., 2006). Due to the progress made by technology in recent years (e.g. EDI, DSS, MRP), organisations have achieved significant advantages in the management of supply chains (e.g. e-commerce, e-logistics, JIT, traceability).

Reverse logistics controls activities such as faulty products, recycling activities, reuse and recollection of defective products and/or environmentally dangerous products (Genchev, 2008; Srivastava, 2008). Good reverse logistics practices and the application of green logistics principles could help an organisation to reduce the total management cost of the supply chain and allow up-gradation in market positioning and brand image. Green logistics takes in all the activities related with the selection of the best means of transportation, load carriers and transportation routes in order to reduce the environmental impact on whole of the supply chain. Both concepts may be crucial in order to create a sustainable supply chain.

Strategic alliances are taken as long-term accord with strategic partners for improving the entire Demand Supply Chain (Yang, 2009). Communication and the existence of a good relationship (flexible, personal and participative) with partners are essential. All members in the supply chain must look for excellence, interdependence, investment, integrity and integration.

Currently most of the supply chains are global, which means that raw materials and components are procured from all over the world, transformed into new products in some lucrative and competent regions, and ultimately sold on international markets (Christopher et al., 2006; Hilletofth, 2009). From a logistics point of view, globalisation started with the use of so-called focused factories. The idea behind these
factories is that each manufacturing unit produces only a limited range of products for the whole worldwide market (Skinner, 1974).

Lately, the globalisation has also led to enhanced competition, corresponding on increased product ranges, shorter product life cycles and increased customer specific adaptations of products (Christopher et al., 2004). Since suppliers still want to achieve economies of scale in production by the use of focused factories, and customers at the same time demand custom-made products and shorter lead-times, distribution becomes the important factor so as to ensure successful performance (Cohen and Lee, 1990; Fites, 1996; Waters, 2006).

Distribution is accomplished through a transportation-warehousing interface, which of late, has been under interest in global manufacturing research lately, due to ever larger manufacturing companies, transportation delays, accuracy, as well as new promising market opportunities (Tyworth and Zeng, 1998; Wilson, 2007; Taylor et al., 2008; Ivanova and Hilmola, 2009; Stalk, 2009).

In the logistics literature, there are conventionally two main strategies for distributing products to markets (Muckstadt and Thomas, 1983): the centralised distribution strategy and the decentralised one. The benefit of using the centralised distribution strategy is that it usually leads to higher service levels at lower cost; the disadvantage is that customers may have to wait longer for their products (Jonsson, 2008).

Decentralised distribution strategy often leads to shorter lead-times and higher flexibility, while as main disadvantage being that products may have to be stored at numerous places, which corresponds on considerably higher costs for warehousing (Harrison and van Hoek, 2008).

Depending upon how many central warehouses there are in the global distribution system, a change into distribution via local warehouses to central warehouses might have a significant effect on the lead-time, but could still be interesting from the point of view of cost and tied-up capital (Claesson and Hilletofth, 2010). In markets, where the customer is used to and might also be asking for short lead-times, there could often emerge disagreements. When these disagreements occur, it would be beneficial to have a substitute to the two main strategies that combine their advantages. In recent
times, the question has arisen about whether or not the in-transit distribution strategy might be exactly this sought after alternative (Hilletofth et al., 2010).

The ultimate goals of effective supply-chain management are to reduce cycle times, reduce inventory levels and, perhaps most significantly, increase customer awareness.

Distribution plays a significant role in a company’s performance in each of these areas and can represent a significant segment of logistics costs.

Distribution is an important logistics activity and contributes, on an average, the highest portion to the total logistics-related costs (Ballou, 1999). Distributors face complex problems of:

- Determining the optimal number, capacity, and location of facilities catering to more than one customers; and

- Discovering the optimal set of vehicle schedules and routes (Min et al., 1998).

The customer of the twenty-first century asks for products and services that are fast, right, cheap and easy (Dangayach & Deshmukh 2001). Advanced manufacturing technologies and distribution strategies have been heralded as a novel way for manufacturing companies to gain a competitive advantage (Pagell et al. 2000).

While processes such as stock control and warehouse management have been comprehensively investigated and supported by applications such as warehouse management systems (WMS), improvement opportunities still lie in the area of distribution management (Min et al., 1998; Ghiani et al., 2003; Ioannou et al., 2003). Companies require ample strategies for moving information and products quickly throughout their supply chain network. Supply chain management is currently viewed as an effective means of accomplishing successful competitive advantage.

Supply chain management involves controlling the flow of material, information, cash and services through several echelons of a supply chain network. Owing to the recent trends in international procurement, new technologies, increasing pressure from customers on responsiveness and dependability, and globalisation of operations as well as markets, supply chain management has become an increasing challenge and a
bigger opportunity. As the competitive context of business changes, it brings with it new complexities and concerns for the management of business (Christopher, 2003).

In a survey of supply chain practices in Indian industries, it was found that enhancing customer service/satisfaction outscores other supply chain objectives like expanding revenues, reducing inventory costs, lower product cost and improving on-time delivery, in terms of their effectiveness to the supply chain management (Sahay et al. 2001). A number of authors (Bowersox and Closs 1996; Cavinato 1991; Langley and Halcomb 1992; Stevens 1989) suggest that meeting customer demand is the eventual objective of supply chain management. To satisfy customers, industrial organisations have to reduce product development time, improve product quality, and reduce production costs and lead-times.

Marketing textbooks that deal with channels do not provide much guidance in discovering the diverse distribution strategies adopted by organisations (Bowersox and Cooper 1992, Coughlan et. al. 2002, Pelton et al. 2002, Rosenbloom 2001). These texts discuss functions and flows in very common terms, and more often than not focus on a single industry/sector. Not only the focus is contracted, but also the organisation of texts is an issue with chapters organised around different sectors. An instance would be a chapter that focuses on retailing, industrial marketing or consumer goods channels. This action, as an opinion, does not recognise fully the similarities and differences that one finds across sectors in marketing channels. A thorough identification and recognition of these commonalities or lack thereof may prove beneficial to businesses in making strategic and operational decisions concerning leveraging existing channels to their “fullest potential” by adding or deleting products and services. They may also decide to adjust channels to suit their product and service portfolios.

2.3 Studies Focussing on Channel Structures of Some Industries

2.3.1 Automobile Industry

The Automobile industry in India is one of the largest in the world and globally one of the fastest growing. India's passenger car and commercial vehicle manufacturing
industry is the seventh largest in the world, with an annual production of more than 3.7 million* units in 2010. According to recent reports, India is set to go past Brazil to become the sixth largest passenger vehicle manufacturer in the world, growing 16-18 per cent to sell around three million units in the course of 2011-12*. In 2009, India became Asia's fourth largest exporter of passenger cars, behind only Japan, South Korea, and Thailand.* (*Source: OICA Report)

As of 2010, India is home to 40 million passenger vehicles. More than 3.7 million automotive vehicles were manufactured in India in 2010 (an increase of 33.9%)*, thereby making the country the second fastest growing automobile market across the globe (Gulati, 2010). According to the Society of Indian Automobile Manufacturers, annual vehicle sales are projected to increase to 5 million by 2015 and more than 9 million by 2020. By 2050, the country is expected to top the world in car volumes with approximately 611 million vehicles on the country's roads.

The Indian Automobile industry has observed major changes in the past few years. India has become a favourable destination for foreign companies to establish their facilities and form alliances with domestic companies. Low cost of manufacturing and conducive environment have been the major drivers for foreign companies investing in India. (www. Cygnudindia.com/ Background note on Supply Chain management In Automotive Industry, Auto SCM India 2006, Chennai). Particularly after liberalisation of the market, many global automobile manufacturers such as Ford, General Motors, Suzuki, Honda, Mercedes (in the car segment) and Piaggio, Suzuki, Honda, Yamaha, Kawasaki (in the motorbike segment) have established production bases or international purchase centres in India (Dangayach and Deshmukh, 2001).

The Indian Automobile Industry manufactures over 11 million vehicles and exports about 1.5 million each year.* The dominant products of the industry are two wheelers with a market share of over 75% and passenger cars with a market share of about 16%.* Commercial vehicles and three wheelers share about 9% of the market between them. About 91% of the vehicles sold are used by households and only about 9% for commercial purposes*. The industry has a turnover of more than US $35 billion and provides direct and indirect employment to over 13 million people.* (*Source: SIAM)
The distribution network of automotive industry in India is very akin to that of Europe and America. The orders of the industry arise from the bottom of the supply chain, i.e., from the consumers and go through the automakers and climbs up until the third tier suppliers. The products, as channelled in every conventional automotive industry, flow from the top of the supply chain to reach the consumers. Automakers in India are the key to the supply chain and are responsible for the products and modernisation in the industry. However, there are many problems existing in the management of supply chain. For instance, the issue of high logistic cost is pre-dominant. In this respect many companies have implemented supply chains and were able to accomplish a reduction of inventory by 50% and also reduce lead time from 52 to 19 days (www.cygnudindia.com).

Automotive manufacturers have been investing in the use of internet for managing and controlling the upstream supply chain but its use in the downstream supply chain has been very restricted (Adebanjo, 2008). Customers are now making use of the internet for gathering information on automobiles (Morita and Nishimura, 2006; Morton et. al., 2006). It is understood that the use of internet is also driven by their uncertainty about dealers and lower satisfaction with previous dealers (Dellaert and Haubl, 2004). The internet seems like a threat to dealers mainly because it has increased visibility, reduced difficulty in purchasing and getting better deals which eventually lead to dealers' profits being reduced in the face of amplified competition (Yoon and Kim 2001; Janson and Cecez-Kecmanovic 2005; Morita and Nishimura 2006; Zettelmeyer et al 2006).

With competition increasing in the Indian automotive market and the automobile industry becoming more globalised, much change is desired not only at the manufacture (assembler) level but also at the level of OEMs. Critical issues involve to become more competitive are managing JIT in in-bound logistics, frequent upgradation of product and increasing frequency of new product introductions, process improvements, outsourcing of warehousing, packaging and inbound logistics and above all an end to end supply chain management. (www.kmpg.doc/Indian Automotive Supply Chain)
2.3.2 FMCG Industry

The Indian Fast Moving Consumer Goods (FMCG) industry is more than Rupees 1300 billion in size. It touches the life of every Indian and therefore has perhaps the widest reach among all industries in India. The industry has tripled in size over the last 10-12 years, growing much faster than in past decades. The industry’s prospective to grow further and faster is tremendous, given the low penetration of most categories and rising consumer incomes (*CFS Report, 2010).

The industry began to shape during the last fifty odd years. The FMCG sector is a foundation of the Indian economy. This sector touches every part of human life. Indian FMCG market has been divided for a long time between the organised and unorganised sectors. Unlike the US market for FMCG which is dominated by a handful of international players, India’s Rs. 1300 billion FMCG market* remains highly fragmented with roughly half the market going to unbranded, unpackaged home made products. This presents a fantastic opportunity for makers of branded products who can motivate consumers to buy branded products.

India is currently rated the twelfth most lucrative emerging retail market and by 2025, it is poised to become the world’s fifth-largest consuming country^. It has been ranked second in the Global Retail Development Index (GRDI) of 30 developing countries (AT Kearney). Well-established distribution networks, as well as strong competition between the organised and unorganised segments are the characteristics of this sector. In India it has a strong and competitive presence of MNCs across the entire value chain. (^FMCG, India Brand Equity Foundation, November, 2010).

FMCG companies are among the most visible across the globe. Unlike several other sectors where multinationals have entered after 1991, they have been active in India for a long time in this sector. Distribution and channel management has been the competitive advantage for this sector ever since. The FMCG sector is the fourth largest sector in the Indian economy with a total market size in excess of Rs. 1300 billion*. The FMCG industry today has a substantial presence in every part of the country.
Given the uneven nature of the Indian retailing industry and the problems of infrastructure, FMCG companies have to develop far-reaching distribution networks to achieve a high level of access in both the urban and rural markets. Distribution in this sector was pioneered in India in the 1940’s by Hindustan Lever Limited.

Distribution and channel management has been the competitive advantage for this sector ever since. The $6.1 billion Indian foods industry, which forms 44 per cent of the entire FMCG sales, is growing at nine per cent. In the second quarter of 2006, the branded food segment was among the top movers in the FMCG category.

FMCG’s have a short shelf life, either as a result of high consumer demand or because the product deteriorates rapidly. Some FMCG’s – such as meat, fruits and vegetables, dairy products and baked goods – are extremely perishable. Other goods such as alcohol, toiletries, pre-packaged foods, soft drinks and cleaning products have high turnover rates.

The following are the main characteristics of FMCGs (Majumdar, 2004):

From the consumers' perspective:
- Frequent purchase
- Low involvement (little or no effort to choose the item – products with strong brand loyalty are exceptions to this rule)
- Low price

From the marketers' angle:
- High volumes
- Low contribution margins
- Extensive distribution networks
- High stock turnover

2.3.3 Textile Industry

The Indian Textiles Industry has an overwhelming presence in the economic life of the country. Apart from providing one of the basic necessities of life, the textiles
industry also plays a pivotal role through its contribution to industrial output, employment generation, and the export earnings of the country.

In the one trillion dollar Indian economy, the textile and garment industry has emerged as one of the key sectors in the Indian Economy in terms of investment, production and employment. It is directly linked to the rural economy and to the agriculture sector. It has been calculated that one of every six households in the country, either directly or indirectly depends upon this sector (Dhanabhakyam and Shanthi, 2008).

This industry is robust and well established, enjoying huge demand in domestic as well as the global market. Its capacity has been incessantly increasing after dismantling of quota regime. The major factors in determining success of this industry are economies of scale with higher productivity and low cost. India has a plus point with the existence of a complete value chain of textiles with the production of yarn, fibre, fabric, and readymade garments.

Only 5% of fabric emanates from the organised mills and 57% comes from the disorganised power looms. In an industry, which is dynamic and ever changing because of volatile demand (uncertainty of demand), which is significantly seasonal, where short product life cycles dominate, competitive intensity is high, only those companies that can organise for functional integration (right from sourcing to final sale) would excel. Flexibility is need and that too in small lots. Power looms are better suited as suppliers as compared to organised mills as they cannot competitively produce. Yet the textile and garment sector is characterised by low productivity because of a highly fragmented supply chain (Varma, 2002).

Indian textile industry has one of the most complex and lengthy supply chains in the world with 15 intermediaries between the farmer (grower) and the final consumer (of garments). This leads to increased costs and higher lead times.

It is also highly fragmented mainly because of its policies and lack of coordination between industry and relevant trade bodies. The government policy favouring SSI, preventing modernisation, quality investment, scale adoption, and change in product mix from exclusive reliance on cotton garments to mass clothing items based on
synthetics and man-made fibres has added to its woes. Further, inadequate development of retail industry in India, has added to the low level of competitiveness in the entire manufacturing value chain. Countries which have a robust supply chain have proved to be successful (Varma, 2002).

Currently, it contributes about 14 percent to industrial production, 4 percent to the GDP, and 17 percent to the country's export earnings*. It provides direct employment to over 35 million people, which includes a substantial number of SC/ST, and women. The Textiles sector is the second largest provider of employment after agriculture. Thus, the growth and all round development of this industry has a direct bearing on the improvement of the economy of the nation. (*Ministry of Textiles, Annual Report, 2009-10). This sector is the second largest employment provider after agriculture employing about 35 million people in the country*. Moreover, it is also estimated that 50 million people are associated with this industry for related activities. The industry attracted investment of Rs.33000 crore in the financial year 2006-07, which rose by 51% from the investment in previous year. The textile industry in India is worth $47 billion which constitutes $30 billion in domestic market and $17 billion for exports market (Report by ASSOCHAM, 2007).

Textile and garments is the second largest export sector in value terms in India after engineering goods. They jointly contribute 15.56% in the total merchandise exports which comprises of 7.51% textiles and 8.15% readymade garments. In the financial year 2006-2007, this industry grew by 6.76% and 0.83% amounting to $8.3 billion and $8.6 billion in comparison to 9% and 28% growth in fiscal 2005-2006 (Apparel Export Promotion Council, 2008). It is also India’s largest earner of foreign exports accounting for 35% of the gross export earnings in trade (Report by ASSOCHAM, 2007). Government has made commendable efforts to boost this sector by developing various schemes such as Technology Upgradation Fund Scheme (TUFS), and Scheme for Integrated Textile Parks (SITP) which will further fortify the manufacturing base in textile and garment sector as a whole.

### 2.3.4 Footwear Industry

During the 1980s and 1990s, an increasing number of footwear producers engaged in contract manufacturing for a declining number of global buyers. In this overall
constellation, captive relationships became the custom. This came out clearly in a study on how global buyers source footwear from Brazil, China and India (Schmitz and Knorringa, 2000).

However, not all chains were or are captive. Hsing (1999) shows that some Indian fashion shoe companies export through small trading companies with whom they seem to have more smooth interactions. Bazan and Navas-Aleman (2004) in particular stress that there are huge variations in the organisation of chains. In their analysis of Indian footwear producers they found that: producers exporting to the US (main market) belong to captive chains; relationships with European buyers are also uneven but less so; exporters to Latin American countries are not dominated by their buyers, relationships are more market-based and some manufacturers have managed to operate simultaneously in different kinds of chains.

Footwear is said to be the engine of growth for the entire leather industry as it comprises of 60% of total leather exports. India is the second largest global producer of footwear after China, accounting for 14% of global footwear production of 14.52 billion pairs. India exports about 115 million pairs. Nearly 95% of its production goes to meet its own domestic demand. There is high domestic consumption of footwear within India, due to an expanding middle class, especially within urban areas (www.leathermag.com).

Supply chain in footwear is quite complex and different from supply chain of other industry. (Ioannou, 2010) It starts from raw hide production to cleaning to final sale through retail network. Though modern format for footwear retail is one of the most organised retail formats in India, there exists poor visibility in the supply chain.

Supply chain of footwear industry in India is highly fragmented (60% of companies are proprietorship or partnership firms which are highly labour intensive, and who lack scale, management know-how, IT deployment low). 4000 units are engaged in the manufacture of footwear which is dominated by SSI which contribute to 55% of overall production. Further, the supply chain is characterized by long lead time of 3-6 months, delayed deliveries (on-time deliveries being less than 70%; because of poor infrastructure-power, delay at ports), and lack of flexibility in product mix and
volume, and low visibility (companies do not share buyer information) and a very low level of collaboration among the various entities of the supply chain.

The footwear market in India is growing steadily and local manufacturers need to keep abreast of the latest trends happening in this industry to tap on the growing demand in the domestic as well as international market. This sector has received substantial support from the Indian government. There has been technology inflow and foreign direct investment. The entire leather sector is now 'de-licensed' and 'de-reserved'. Also setting up of Central Leather Research Institute (CLRI), Council for Leather Export (CLE), Footwear Design and Development Institute (FDDI), to name a few, is giving the right direction to this sector.

Bata has 60% share of the organised shoe market and sells 60 million pairs a year. The company has a network of 1600 showrooms (1100 owned and 500 franchised), 500 wholesalers and 30,000 small dealer shops to which it supplies 1200 product lines. Brand loyalty and reach have been the vital factors in the success of the firm for the 70 years of its existence.

To counter old fashioned image perceptions of the firm is a challenge that Bata is struggling with at the moment. The entry of several well known foreign brands has also had its impact although some of the firm’s showrooms stock Reebok, Nike etc. A large number of new footwear showrooms have opened up in the recent years and many of them are linked with and are dedicated to brands that compete with Bata. Sports and casual wear market is branded and differentiated, and this is an area that Bata cannot match the investments and promotion of multinationals like Nike and others.

2.3.5 Chemical Industry

The chemical industry, which comprises of basic chemicals and their products, petrochemicals, fertilisers, paints and varnishes, gases, soaps, perfumes and toiletries, and pharmaceuticals, is one of the most diversified of all industrial sectors covering thousands of commercial products. It plays an important role in the overall development of the Indian economy by contributing about 3% to the GDP of the country (Ministry of Chemicals and Fertilisers, Annual Report, 2010-11).
Chemical industry is one of the oldest industries in India which contributes significantly towards industrial and economic development of the country. The industry, comprising both small scale and large units (including MNC's), produces several thousands of products and bi-products, ranging from plastics and petrochemicals to cosmetics and toiletries.

This industry is sixth largest in the world and third largest in Asia (next to China and Japan) in the year 2008, providing important chemicals for a wide variety of products such as textiles, paper, paint and varnishes, and leather, etc. According to the latest available estimates of the UNIDO, the size of the Indian chemical industry in the year 2005 was $54.92 million. The chemical industry produced around 8 million metric tonnes each of basic chemicals and basic petrochemicals, and around 10 million metric tonnes of petrochemical intermediaries in 2005-06 (EXIM Bank of India, 2007).

Indian chemical sector has come a long way since its early days of independence. The sector has grown from a small-scale sector to multi-dimensional sector, which is taking on the challenges of globalisation. Now, Indian chemical industry holds a recognised position on the global map. However, there are few factors, which hinder the growth of the industry. These include:

**High prices of basic feed stock:** Basic raw materials add up to major portion of cost of production (30% to 60%) in the chemical industry. Indian chemical industry either uses natural gas or crude oil as feedstock for manufacturing process. The fluctuations in oil prices, therefore, affect the growth assessment of the firms.

**Fragmented nature of industry:** The Indian chemical industry is having a fragmented structure with more number of units in small-scale sectors spread in various parts of the country. The installed capacities in most of the small-scale units are smaller as compared to global scales. The limitation in capacity in the small scale industries sector put them in disadvantageous position while tapping export opportunities with large volume.

**Low R&D levels:** R&D intensity is assuming greater significance for many of the manufacturing segments. Since, chemical industry is a knowledge based industry, the
competitiveness of the units can be strengthened only through supply of new and innovative products. The areas for R&D in chemical industry include improvements in manufacturing process for reduction in cost of production, application development to diversify demand, and new product development.

2.3.6 Newspaper Industry

The Indian press is more than two centuries old. Its strengths have largely been shaped by its historical experience and, in particular, by its association with the freedom struggle as well as movements for social emancipation, reform, and amelioration. The long struggle for national emancipation; controversies and battles over social reform; radical and revolutionary aspirations and movements; compromising as well as fighting tendencies; and the competition between self-serving and public service visions of journalism – these have all found reflection in the character and performance of the Indian press over the long term (Ram, 2000).

Newspapers are sold in India at prices as low as Rs.2. Advertising revenue is said to be the main source of income for businesses in this sector. Margins to distributors, wholesalers, retailers, and hawkers account for as much as 50% of sale prices. This business requires “direct-to-consumer’s-door-delivery”.

India is a linguistically diverse country and the large array of languages in which newspapers are published is indicative of this. Hindi and English are the two languages that have greater national coverage, the others tending to be concentrated in particular states. There has been a remarkable rise in circulation of newspapers published in these regional languages with growing literacy following independence (Jeffrey, 2000).

In India, the growth trends in circulation and readership are especially strong in the Indian language sectors of the press, led by Hindi. But the buoyancy and implications of this development need not be exaggerated, as it comes on the back of extreme under pricing of cover prices and the dumping of hundreds of thousands of copies that go straight to the radhi market (Ram, 2011).
Timely delivery is essential, and unsold copies have little value. Firms clash for circulation figures which help in raising advertising revenues. Movement of goods is a key sales and distribution function. Main cities and towns are easy to serve when production (local editions) is local. The only precondition is minimum volumes or circulation levels as it reduces overhead costs.

Literacy, basic communications and adequate technology are essential to the development of a daily newspaper culture but momentous events provide the link between these developments and politics – the link that seems to send circulations shooting upwards. People need the stimulus of exciting times to hook large numbers of them on the daily newspaper habit (Jeffrey, 1987).

2.4 Studies Specific to Distribution of Mobile Handsets

Mobile telephony was introduced in India in 1995. The first call was made by Nokia 2110 on its own network. The start to this industry in India, however, was very slow. The Indian government was not supportive to the new companies of the industry. As a result of unfriendly telecom policies, high licensing fees and absence of a proper telecom regulatory body lead to exit of these private players in the next few years.

The industry emerged again in 1999, when the Government of India announced a new telecom policy. The plan was to provide telephones on demand by 2002. A major point of the policy was to allow unhindered private entry into almost all mobile service sectors. The mobile service providers were allowed to share their infrastructures with other operators. It also helped the private operators to break even faster by allowing them to migrate from fixed license to one-time entry fee with revenue sharing.

However, by 2001, there was steady increase in the demand for mobile services. The private companies concentrated on providing basic telephonic services to consumers.

By 2002, the industry was on a high, and with the attractiveness of mobile phones the customers started demanding better services and lower prices. This led to new innovations with better products and services. In 2002, the industry’s growth got
fuelled as incoming calls on mobile phones were made free. The sudden increase in growth on mobile phone subscriber can be seen in the following table:

<table>
<thead>
<tr>
<th>No. of Mobile Phone Subscribers</th>
<th>Time Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 1 Million</td>
<td>1995-1998</td>
</tr>
<tr>
<td>1 – 5 Million</td>
<td>1998-2001</td>
</tr>
<tr>
<td>5 – 10 Million</td>
<td>2001-2002</td>
</tr>
<tr>
<td>10 – 50 Million</td>
<td>2002-2005</td>
</tr>
<tr>
<td>50-100 Million</td>
<td>2005-2007</td>
</tr>
<tr>
<td>100-400 Million</td>
<td>2007-2009</td>
</tr>
<tr>
<td>400-&gt; 850 Million</td>
<td>2009-2011</td>
</tr>
</tbody>
</table>

Table 2.1 Growth of Mobile Phone Subscribers*

There were a few points noted in 2004 that showed great potential in Indian mobile phone market. Firstly, the mobile phones sales growth was amongst fastest in world by June 2005 with additional 2.57 million* subscribers being added. Further, in 2004, the mobile subscribers in India were 5 per hundred, which was meagre as compared to China (25.9 per hundred), Russia (42 per hundred), Brazil (37.5 per hundred) and other developing countries (Indu. P, 2005). (*Source: TRAI)

The benefits that come from the mobile usage can be functional, such as mobility, ease, availability, timeliness, practical-ness and/or psychological and social, above all security which, in turn, can be rational, emotional or experiential (Holbrook, 1999).

This is predominantly apparent in the mobile phone market, in which the very differentiating factors are no longer the core product innovations, that can be easily commoditised, but the additional attributes that bring added value. A wide range of value-added services, such as call-divert and mail box facilities, are now becoming standard. However, the intense competition has led to a sharp fall in prices, which have enhanced the commonality of mobile phone usage, and have led to the mobile phone becoming an increasingly common part of everyday life in most developed countries.

Branding offers the marketers the escape mechanisms from the commodity coil. It provides a higher value appealing the product with new dimensions. In fact, when the
product as driver of customer values begins to get commoditised, brand helps enhancing value by adding dimension and promotes discrimination (Verma, 2007).

The mobile phone industry has experienced an unanticipated growth rate due to the combination of various factors, such as technological change, market demand and the evolution of competition. Approximately 95 per cent of all nations have mobile phone networks, and the majority of these countries have more mobile phone than landline subscribers, and perhaps today more mobile phones than TVs (Botelho and Pinto, 2004).

Unlike any prior technology, mobile phone is now looked upon as a social necessity, especially among teenagers (Kasesniemi and Rautianinen, 2002; Skog, 2002).

The mobile phone has become a true “extension of man” (Castells et al., 2004). Its use and adoption in everyday routine fosters the positive attitude towards its role in life.

This might be credited to self-reinforcement and re-affirmation involved in attitude change and the adoption of innovations (Rogers, 1995). The rapid global adoption and use of the mobile phone challenge the traditional gender boundaries and other traditional dichotomies, such as work versus leisure, freedom versus control; old versus young; technology versus nature, etc.

From a simple status symbol positioning, mass mobile embracing has been repositioned in relation to the benefits it provides. In fact, it enables people to widen their communication capacity, creating new time and space relations. It grants omnipresent access to services (Watson et al., 2002). The status-symbol system itself has become experiential, where objects communicate as symbols since they are linked to status-symbolic experience (Kelly, 1987). Certainly, the mobile phone has become an everyday, highly regarded, multipurpose interpersonal communication device rather than a working tool (Levinson, 2004; Ling, 2004). Subscribers show heterogeneous demand influenced by significant variables, such as price sensitivity, specific product attributes, brand notoriety and individual lifestyle.

Previous studies on consumer behaviour related to mobile technology, although scarce, highlighted that, since mobile devices have become multi-functional consumer
products, bundling with other consumer products such as MP3 players and digital cameras, consumers' choices are oriented to acquire different entertainment opportunities. As a consequence, trust on technology, which can be reinforced through a strong brand, proves to be a primary factor affecting consumers' intentions of using a mobile system for enjoyment, that are representative of hedonic outcomes (Nah et al., 2003).

The uncertainty or perceived risk related to the usage of newly emerging technology raises the issue of trust of the technology (Doney and Cannon, 1997). The strength of influence of hedonic and utilitarian value is expected to depend on the mobile trust level. When highlighting the role of trust of technology, mobile technology trust lets customers shape their attitudes and behaviours on the utilitarian basis.

In this market corporate brands compete through distribution and promotion strategies, based mostly on a co-marketing approach with the service providers. In fact, the handset manufacturers, despite their strong brand identity, choose to strategically cooperate with the service providers in order to create a unique selling proposition. The strong relationship and interaction between firms and customers redesign the competitive advantage; the constant innovation driven approach, which is based on the technological paradigm, is combined with strong marketing actions to develop loyalty relationship with the market.

However, even though the mobile market is greatly subject to the commoditisation phenomenon, the brand is one of the most strategic elements in distinguishing the products as well as the consumer.

In developing a corporate imagery of a product, the importance of various marketing mix variables (e.g. product appearance, brand name, price) is firmly established, as well as that of the imagery elicited by a product’s Country of Origin (COO). In the words of Mort & Duncan (2000), “COO effects can be summarised as the effects generated by a product’s perceived geographic origin on the part of the customer and how it affects the latter’s purchasing patterns.” It’s a tendency of consumers to generalise their attitudes and opinions across products from a given country. The basis of this generalisation is product’s familiarity and background with the country, and
their own personal experiences of product attributes such as "technological superiority", "product quality", "design", "value for money", "status and esteem", and "credibility of country-of-origin" of a brand (Kinra, 2006). Thakor and Lavack (2003) believed that perceived origin associations are a powerful source of brand appeal. This can be noted as marketers have focused on origin associations in many product categories in the advertisements of their products. Brand has been considered as a purely extrinsic variable in COO effects and consumer perceptions of origin have been manipulated almost through "made in" label information (Mohamad et. al., 2007).

According to research works, COO image plays an important role in consumer's evaluation of foreign products and brands. It is also noted that product attributes such as product quality have favourable perception, if country perceptions are favourable. This indicates that consumer evaluations are governed by influences other than the quality of the product (Peterson and Jolibert, 1995). "Common sense has it that the stronger a country’s national image, the more useful is it likely to be as a marketing tool in that it may then be used more extensively in the export promotion of products originating from that country" (Niss, 1996).

Indians give very high value to brands. In India, a brand is a cue to quality because the quality of the unbranded products varies widely (Johansson, 1997).

Mobile phones today have moved beyond their fundamental role of communications and have graduated to become an extension of the persona of the user. We are witnessing an era when users buy mobile phones not just to be in touch, but to express themselves, their attitude, feelings and interests.

Customers continuously want more from their phone. They use their cellular phones to play games, read news headlines, surf the Internet, keep a tab on astrology, and listen to music, make others listen to their music, or check their bank balance. Thus, there exists a vast world beyond voice that needs to be explored and tapped and the entire cellular industry is heading towards it to provide innovative options to their customers. Spoilt by choice, the mobile phone subscribers are beginning to choose their operators on the basis of the value added services they offer. The increased
importance of VAS has also made content developers burn the midnight oil to come up with better and newer concepts and services.

India is the world’s 12th largest consumer market. It is projected that by 2025, it will be ahead of Germany and will become the fifth largest economy of the world. There is an explosive growth in almost all the areas of consumer goods and services. Communication that accounts for 2 percent of consumer’s spending today will be one of the fastest expanding categories with growth of about 13 percent (McKinsey, 2007).

The market for the mobile handset is also growing with the growing demand for mobile telecom services. This demand will continue to grow in future also. India at present is the second largest market for mobile handsets (Indian Brand Equity Foundation, 2005). The growth in this sector has been improved due to liberalization of telecommunication laws and policies. The consumers of both rural and urban areas, from college-going students to mature elders, of almost all income groups have started using mobile telecom services.

According to Indian Brand Equity Foundation (2005), the mobile handset market, which was worth about $2 billion two years ago, had shown a growth of 60% per annum. The GSM (Global System for Mobile Communications) handsets had 84% share and CDMA (Code Division Multiple Access) handsets has 16% market share. There are various players in the GSM market. Nokia was leading the market with 59% market share (Prashant, 2005). Among the other players, the prominent are Sony Ericsson, Samsung, Motorola and LG. They are offering wide range of models for the users of different preferences.

Approximately one-sixth of the total mobile phone customers are at the ‘very base of the economic pyramid’ (BOP), with per capita incomes of less than $1 per day.

A recent study by London Business School found that, in a typical developing country, a rise of ten mobile phones per 100 people boosts GDP growth by 0.6 percentage points (Waveman et al., 2005).

Most of the mobile manufacturers do not try entering the low income group markets; some others have quietly pursued strategies of experimentation in developing unique
product and service propositions for some of the world's most needy consumers (Prahalad and Hammond, 2004).

One of the world's biggest challenges of serving BOP markets is to ensure availability of mobile products and services throughout the country, and not just in cities. Unlike in the developed world, distribution channels in BOP markets can be fragmented or non-existent and the task of simply getting products to people can be a major hurdle to overcome.

Mobile firms face a lot of problems reaching out to low income consumers in India's 627,000 villages, spread over 3.2 million square kilometres, which do not even have proper roads and are not well connected to other cities. During monsoons these rutted dirt tracks are completely washed away. In such conditions, the time taken to reach out to these consumers, living in the poorest of villages, increases significantly leading to stretched supply chains and adding cost. So while there might be a significant BOP market of more than 700 million Indians, delivering mobile telecommunication services to them is not easy.

Further, BOP consumers have low disposable incomes. These consumers receive their income on a daily rather than weekly or monthly basis. Two-thirds of the Indian villagers are in the bottom income band making them acutely sensitive to price, and more than two-thirds of their income is typically spent on food. Other products such as soaps, shampoos, medicines and even telecommunication services must be purchased with the meagre income that is left over.

2.5 Studies Addressing Different Dimensions Having an Impact on Distribution Strategies

2.5.1 Supply Chain Management and Distribution

The definition of "supply chain" seems to be more common across authors than the definition of "supply chain management" (Cooper and Ellram 1993; La Londe and Masters 1994; Lambert, Stock, and Ellram 1998). La Londe and Masters (1994) proposed that a supply chain is a set of firms that pass materials forward. Normally, several independent firms are involved in manufacturing a product and placing it in the hands of the end user in a supply chain (i.e., distribution)—raw material and
component producers, product assemblers, wholesalers, retailer merchants and transportation companies are all members of a supply chain (La Londe and Masters 1994). In a similar context, Lambert, Stock, and Ellram define a supply chain as the alignment of firms that brings products or services to market. Note that these concepts of supply chain include the final consumer as part of the supply chain.

Another definition notes a supply chain is the network of organizations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services delivered to the ultimate consumer (Christopher 2003). In other words, a supply chain consists of multiple firms, both upstream (i.e., supply) and downstream (i.e., distribution), and the ultimate consumer.

Supply chain management (SCM) has been receiving the attention of managers, consultants and researchers since the early 1980s, thus, it cannot be considered a completely new field of research. Various authors (Christopher, 2003; Harland, 1996; Cooper et al., 1997; Croom et al., 2000) cite the work of Oliver and Webber (1982), entitled “Supply Chain Management: Logistics Catches Up with Strategy”, as the publication in which the term “Supply Chain Management” was used for the first time. In both this and other early publications (Houlihan, 1985; Jones and Riley, 1985) the term was used with reference to management techniques which sought to reduce the stocks held in firms of the same supply chain, linked by customer–supplier relationships.

Recent years have witnessed a renewed growing excitement and top management attention on the subject of SCM in consequence of the impressive results of successful SCM programmes achieved in supply networks co-ordinated by large, high performing focal firms, such as Hewlett-Packard (Davis, 1993; Lee et al., 1993), Compaq (Sweeney, 1995; Zarley and DaMore, 1995), Digital Equipment Corporation (Amtzen et al., 1995), Xerox (Camp and Colbert, 1996; Hewitt, 1997), and Benetton Group (Camuffo et al., 2001).

Numerous examples of companies who appear to be successfully managing their supply network witness how, according to a SCM approach, organisations do not seek
to achieve cost reductions or profit improvements at the expense of their supply network partners, but rather seek to make the supply network more competitive as a whole. Thus, SCM can help firms to improve supply by devising better distribution strategies, which should translate into improved competitiveness and benefits for all parties involved, in terms of more efficient use of resources in achieving the final customer service goals, improved relationships between supply network members, more precise planning and control of materials and information flows from suppliers to end users, reduction in supply network inventories, lead time compression, etc. (Ellram, 1991; Cooper and Ellram, 1993; Cooper et al., 1997; Simchi-Levi et al., 2000).

As some authors noted (New, 1995; Saunders, 1995; Harland, 1996), the concept of SCM has gradually been developed from the original one—centred on inventory management across supply networks—into a concept with a broad span of concern and a holistic approach which aims to “...integrate all the key business processes, from end users to original suppliers, which provide products, services and information that add value for the customers” (Cooper et al., 1997).

2.5.2 Relationship Management and Distribution

Companies world-wide recognise the importance of meeting customers’ needs to succeed in the competitive market-place. They realise that optimising operations within the four walls of their enterprises is not enough to achieve business excellence. They understand that the involvement of suppliers, distributors and retailers, which is critical to improve quality and meet customer specifications, can enhance their performance.

Christopher (2003) defines a supply chain as the network of organisations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate consumer.

According to Ellram (1991), SCM is an integrative approach to dealing with the planning and control of the materials flow from suppliers to end-users. It manages the distribution of goods and services in the supply chain as well as the flow of cash and
information. It is an approach aimed at cooperatively managing and controlling
distribution channel relationships for the benefit of all parties involved, to maximise
efficient use of resources in achieving the supply chain’s customer service goals.

Channel management research and practice has long recognised the importance of
managing relationships between the people and firms performing distribution
functions—functions that create value by making products and services available to
customers in an appropriate form at the right place and time.

Macneil (1980) indicates that pure discrete transactions are rare in business exchanges.
Almost all channel transactions have some relational elements that can be used to
coordinate channel activities and manage relationships between channel members

Manufacturers, distributors and retailers have recognised that the management of
distribution activities offers significant opportunities for firms to create strategic
advantage and achieve extraordinary financial performance.

Empirical research shows that channel members who are committed to a relationship
perceive the relationship to be characterised by trust, commitment and idiosyncratic
investments as well as perceived benefits, good communications, satisfactory prior
interactions, shared values and goals, functional conflict, balanced power or
dependency and limited opportunistic behaviour (Anderson & Weitz, 1992; Anderson

Further, risk reduction is a potential benefit of channel relationships (Achrol & Stern,
1988).

Thus, an important aspect of distribution strategies is to lay emphasis on better
channel relationships for it may help each and every member involved in the supply
chain in achieving their targets easily and may guarantee better returns and improved
coordination.
2.5.3 Technology and Distribution

Whilst mid in an era of rapid development in technology, companies face increasing need to coordinate their logistics activities with their up and downstream counterparts, that is, in their supply chains. New technological solutions have provided companies with completely new ways for information sharing in support of coordination and on the other hand, for handling of transactions with less friction.

Technology has had a substantial impact on supply chains and distribution. Scanners collect sales data at the point-of-sale and electronic data interchange (EDI) allows these data to be shared immediately with all stages of the supply chain. The application of these technologies has substantially lowered the time and cost to process an order, leading to impressive improvements in supply chain performance (Cachon and Fisher 1997, Clark and Hammond 1997, Kurt Salmon Associates 1993).

It is now a general belief within industry that capturing and sharing real-time demand information is the key to improved supply chain performance. Sharing demand and inventory data can improve the supplier’s order quantity decisions in models with known and stationary retailer demand (Bourland et al., 1996; Chen, 1998; Gavirneni et al., 1999; Aviv and Federgruen, 1998). Lee et al. (2000) use shared information to improve the supplier’s order quantity decisions in a serial system with a known autoregressive demand process. Liljenberg (1996) studies how to use shared information to improve the supplier’s allocation of inventory among the retailers.

Recently with development of technology, the concepts of supply chain design and management have become a popular operations paradigm. The complexity of SCM has also forced companies to go for online communication systems. For example, the internet increases the richness of communications through greater interactivity between the firm and the customer (Walton & Gupta, 1999).

Supply chain management emphasizes the long-term benefit of all parties on the chain through cooperation and information sharing. This confirms the importance of technology in SCM which is largely caused by variability of ordering (Yu et. al., 2001).
To keep costs down, an organisation must have a high level of discipline: each person knows what needs to be done, knows how to do it and does it quickly and efficiently. This argues for the organisation to have a high degree of standardised procedures and for everyone to be trained in these procedures and to execute them without question. Yet, in an ever-changing market place, it is important to also be able to innovate, to offer new service packages and new organisational linkages with the customer. To do this requires a discipline of change which encourages innovation and yet retains the stability of existing procedures until innovations are ready for wide spread adoption. Improved technology can address these problems and ensure better distribution.

2.5.4 Inventory Management and Distribution

Inventory management has become an integral part of distribution and supply chain management today. Proper management of the inventory ensures effective distribution, reduced costs and enhanced customer satisfaction.

Determining an optimal policy for an inventory system configuration is a difficult choice. Too often, the estimation of the costs of carrying inventory in a distribution system is limited because they are considered to be only a minor portion of the total distribution costs. However, inventory can represent a significant proportion of distribution costs.

Van Beek (1981) investigated different strategies for locating inventories in a two-level distribution system that consisted of a central manufacturing plant, a central distribution centre and four local distribution centres. The objective of the model was to determine the “best” distribution strategy that minimized the sum of inventory carrying and ordering cost over all stocking points in the system. Davis and Davidson (1991) observed a significant difference in cost between order sales and stock sales manufacturing in finished goods inventory for the auto industry around the world and concluded that the opportunity to shrink this inventory holds immense potential. Rajagopalan and Kumar (1994) analysed the issue of providing the customer with the option of purchasing from stock or by placing an order and found that the optimal quantity of stock to be held by the retailer decreases when the option of placing an order is offered. The basic design problem in any production and distribution network
is to match supply and demand at the output points of the system in the most economical way.

Most of the existing mathematical models have focused on individual components of the network design like warehouse location. They fail to include inventory cost as a component of their objective function and have assumed pre-specified transportation choices. The evaluation of strategic changes to a distribution system configuration involves the estimation of several costs and benefit measures, including the impact on the amount of inventory carried in the total distribution network. Perl and Sirisoponsilp (1989) proposed the only existing work on the interdependence between location, transportation and inventory decisions. In their paper, they provide a schematic representation of the interdependence between facility location, transportation and inventory decisions.

Strategic distribution centre location decisions can include determination and location of number of warehouses and plants, warehouse and plant capacity load ratio, assignment of customer demands to open warehouses and assignment of open warehouses to open plants among others. Strategic transportation decisions include choice of transportation mode (rail, truck, air, ship) and choice of type of carriage (common, contract, private). Other decisions can include the size of shipments (or shipment frequency), and assignment of loads to vehicles. Inventory decisions are concerned with total inventory level in the system, location of inventories, and levels of cycle stock at various locations. There is a strong interdependence among all three decisions. An increase in the number of distribution centres increases total system inventory. The location of inventories also determines the transportation mode choices, type, and choice of carrier. A decision to maintain good customer service would require the use of faster and more reliable transportation mode. A decision to change the average level of cycle stock held at a facility would lead to a change in shipment size. Due to recent trends in emerging technologies and competition, companies are convinced that it is no longer valid to assume that a single unit transportation cost is sufficient when we analyse among distribution centre locations, or to consider inventory decisions as related only to number and location of warehouses and independent from transportation decisions.
2.5.5 Environmental Management and Distribution

The decisions related to managing the supply chain and supply chain strategy are already considered important in many organizations. As more executives adopt environmental practices, supply chain strategies will only increase in importance.

With companies increasingly relying on their supplier's environmental performance (Narasimhan and Carter, 1998), managers are coming to understand that environmental compliance is not sufficient; governments and consumers require better environmental stewardship. Environmental performance and the move to lean manufacturing, with its incumbent focus on cost effectiveness, exert greater pressure on materials departments to seek cost reductions in all materials-oriented processes, including disposal (Womack et al., 1990).

Discussions of environmental performance have usually focused on industries such as chemicals, petrochemicals, mining and semiconductors. Recently, though, managers have come to realise that a large and increasing amount of environmental risk can be found in nearly every company's supply chain. The increasing interest in integrating environmental practices and business finds researchers considering 'ecological sustainability' as a framework for studying management practices (Sarkis and Rasheed, 1995; Klassen, 1993; Klassen and McLaughlin, 1993; Wood, 1991). 'Environmentally conscious business' now influences product design (Allenby, 1993; Sroufe et al., 2000), process design (Porter and van der Linde, 1995), manufacturing practices (Gupta, 1995; Klassen and McLaughlin, 1996; Thierry et al., 1995; Winsemius and Guntram, 1992) and more recently purchasing.

Integration of environmental performance with business and functional strategies is a dynamic, two-way process that relies on a number of information sources, including corporate objectives, business unit and functional capabilities, market objectives, competitive pressures and customer requirements.

The direct environmental input provided by functional and business-level executives to the business strategy development process drives strategic integration. In the end, a top-down communication structure cannot result in an integrated business and functional strategy. Linking environmental business strategy to each functional
strategy has the added advantage of linking all the functional strategies to one another, which helps to remove many of the barriers to environmental integration.

The process of linking purchasing and business strategy results in clear functional objectives that drive the formulation of specific environmental strategies for purchased materials, or commodities.

However, these strategies are never truly ‘implemented’ until they are integrated at the commodity or product family level.

2.5.6 Marketing Strategies and Distribution

Effective distribution of goods calls for proper marketing strategies so that the losses are reduced and productivity is increased. Top managers are constantly faced with the problem of how to trade off competing strategic marketing initiatives. For example, should the firm increase advertising, invest in a loyalty program, improve service quality, or none of the above? Such high-level decisions are typically left to the judgment of the chief marketing or chief executive officers, but these executives frequently have little to base their decisions on other than their own experience and intuition.

Some of the aspects that need to be assessed in order to form a marketing strategy may be Financial Accountability and Customer Equity.

**Financial Accountability**

Although techniques exist for evaluating the financial return from particular marketing expenditures (e.g., advertising, direct mailings, sales promotion) given a longitudinal history of expenditures (Berger et al. 2002), the approaches have not produced a practical, high-level model that can be used to trade off marketing strategies in general. Furthermore, the requirement of a lengthy history of longitudinal data has made the application of return on investment (ROI) models fairly rare in marketing. As a result, top management has too often viewed marketing expenditures as short-term costs rather than long-term investments and as financially unaccountable (Schultz and Gronstedt 1997). Leading marketing companies consider this problem so important that the Marketing Science Institute has established its highest priority for
2002–2004 as “Assessing Marketing Productivity (Return on Marketing) and Marketing Metrics.” The firms should achieve this financial accountability by considering the effect of strategic marketing expenditures on their customer equity and by relating the improvement in customer equity to the expenditure required to achieve it.

**Customer Equity**

Although the marketing concept has reflected a customer-centred viewpoint since the 1960s (Kotler 1999), marketing theory and practice have become increasingly customer-centred during the past 40 years (Vavra 1997). For example, marketing has decreased its emphasis on short-term transactions and has increased its focus on long term customer relationships (e.g., Håkansson 1982; Storbacka 1994). The customer-centred viewpoint is reflected in the concepts and metrics that drive marketing management, including such metrics as customer satisfaction (Oliver 1980), market orientation (Narver and Slater 1990), and customer value (Bolton and Drew 1991). In recent years, customer lifetime value (CLV) and its implications have received increasing attention (Berger and Nasr 1998; Mulhern 1999; Reinartz and Kumar 2000). For example, brand equity, a fundamentally product-centred concept, has been challenged by the customer-centred concept of customer equity (Blattberg and Deighton 1996; Blattberg, Getz and Thomas 2001). Customers and customer equity are more central to many firms than brands and brand equity are, though current management practices and metrics do not yet fully reflect this shift. The shift from product centred thinking to customer centred thinking implies the need for an accompanying shift from product-based strategy to customer-based strategy (Gale 1994; Kordupleski, Rust, and Zahorik 1993). In other words, a firm’s strategic opportunities might be best viewed in terms of the firm’s opportunity to improve the drivers of its customer equity.

**2.5.7 Distribution Network and Distribution**

Distribution refers to the steps taken to move and store a product from the supplier stage to a customer stage in the supply chain. Distribution channels are sets of interdependent organisations involved in the process of making a product or service available for use or consumption (Stern and Ansary, 1988). Distribution management
is an overarching term that refers to numerous activities and processes such as packaging, inventory, warehousing, supply chain and logistics (www.investopedia.com).

Very few products are sold by their producers directly to the end customer (McKinnon, 1989). For most of the part, products travel through one or more intermediaries, such as company-owned distribution functions, wholesalers, dealers, brokers and retailers.

Distribution is a key driver of the overall profitability of a firm because it directly impacts both the supply chain cost and the customer experience. Good distribution can be used to achieve a variety of supply chain objectives ranging from low cost to high responsiveness. As a result, companies in the same industry often select very different distribution networks. Effectively managing the entire distribution process is critical to financial success and corporate longevity. The larger a corporation or the greater the number of supply points a company has, the more it will need to rely on automation to effectively manage the distribution process (www.investopedia.com).

Distribution management decisions are at the core of marketing decisions for any company. This aspect is magnified in a country like India where high retail density, multitude of consumer classes and huge disparity between purchasing power, infrastructure, culture etc. makes sales and distribution very complex (Venugopal, 2008).

Dell distributes its PCs directly to end consumers, while companies like Hewlett Packard distributes through resellers (Magretta, 1998). Both companies have different distribution networks and are chosen keeping in mind various factors such as the cost, viability, customer base, location facilities, availability of raw material, etc.

2.5.8 Financial Strategies and Distribution

Great opportunities and challenges lie ahead in managing financial flows in supply chains. In the past thirty years, tremendous strides have been made regarding supply chain efficiencies—sharply reduced lead times, lower inventories, more responsiveness, increased variety, more collaboration on planning and forecasting, and improved customer service (Hausman, 2005).
In many business entities, financial, information and physical flows are often not synchronised. Managers take decisions from an operational or financial point of view and do not recognise the impact of supply chain management on financial performance or vice versa. Growth, profitability and capital utilisation are better optimised managed through information, financial and physical supply chains amalgamation. Operations and finance departments have to collaborate to reach to a common platform for achieving organisational goals (Saikrishna, 2011).

The value of supply chain initiatives should be measured in terms of impact on cash flow and market value, and on key internal financial performance metrics such as economic profit (EVA), return on capital, return on equity, working capital, etc.

Finances should be taken care in terms of labour management, hiring of transport, storage of inventory, secure warehousing and delivery on time. Optimising of finances is necessary because the supply chain forms a chain between the retailer and the customer and a lot depends on them, hence a need to understand the sensitivity of their job is a must for logistics personnel. This can be achieved with sensible hiring and optimisation of finances (www.indianretailer.com).

The supply chain financial flow is at a critical threshold of evolution. Current trends in supply chain and financial flow management clearly favour the use of automated payment solutions. Continued expansion in this area offers high potential for (Hausman, 2005):

- Reducing significantly purchasing processing costs.
- Accelerating payment and invoice reconciliation.
- Reducing collections costs significantly and minimising the number Days Sales Outstanding (DSO).
- Creating greater processing efficiencies in the procurement of goods.
- Enhancing visibility, which means less uncertainty in accounts receivable (A/R) and accounts payable (A/P) and a reduction in Working Capital needs.
In order to optimise the overall performance of the company, it is vital to help establish the link between effective supply chain management and enhanced financial performance.

### 2.5.9 Risk Management and Distribution

Manufacturing supply chains today tend to be global in nature, comprising of complex interactions and flows between tens, even hundreds and thousands of companies and facilities geographically distributed across regions and countries (Gaonkar and Viswanadham, 2004). Such chains are currently in operation in a variety of industries such as electronics, automotive, aerospace, etc. Despite their complexity, most manufacturing supply chains are structurally similar. The member companies in a typical manufacturing supply chain network include the suppliers and their suppliers, assembly plants, distributors, retailers, inbound and out bound logistics providers and financing institutions. In fact under the intense competitive scenario prevalent today, competition is no longer between companies but between supply chain networks with similar product offerings, serving the same customer.

Because supply chain performance is inherently unpredictable and chaotic, supply chain practitioners often must seek safety mechanisms to protect against unforeseen events (Tang et. al., 2007). Significant efforts are expended to expedite orders, to check order status at frequent intervals, to deploy inventory “just-in-case” and to add safety margins to lead times. These are some of the creative ways employed to counter the occurrence of unforeseen events. These time and material inventories along with limited communications among supply chain partners hide the problems until they lead to serious consequences. Whilst risk has always been present in the process of reconciling supply with demand, there are a number of factors, which have emerged in the last decade or so, which might be considered to have increased the level of risk. These include - a focus on efficiency rather than effectiveness; the globalisation of supply chains; focused factories and centralized distribution; the trend towards outsourcing; reduction of the supplier base; volatility of demand; lack of visibility and control procedures. As a result, it has become extremely important for channel masters to employ risk management tools in the management of their supply chains (Tang, et. al., 2007).
Supply chain risk is defined by the distribution of the loss resulting from the variation in possible supply chain outcomes, their likelihood, and their subjective values (Ponis, 2010). Supply chain risks comprise risks due to variations in information, material and product flows, which originate at the original supplier and lead to the delivery of the final product to the end user. Thus supply chain risks refer to the possibility and effect of a mismatch between supply and demand. Furthermore, risk consequences can also be associated with specific supply chain outcomes like supply chain costs or quality. Within this context, we can identify the following basic constructs of supply chain risk management:

- Risk sources,
- Risk consequences,
- Risk drivers
- Risk mitigating strategies.

An increased awareness of the existence of the disturbances and their sources of origin in the supply chain may enable better preparedness for handling or preventing them.

In the field of business logistics, these important risk-sharing issues are often mentioned but not further elaborated on (Cooper and Ellram 1993; Cooper et al., 1997; Motwani et al., 1998; Skjoett-Larsen, 1999; Mentzer et al., 2001).

One complication for supply chain risk sharing is that the companies involved often have different business logic, e.g. in terms of how their revenues and costs are generated, and the size, specificity and life span of investments. The firms have individual relations between revenue and product life cycles, “clock-speed” (Fine, 2000), and the design of products and processes. The differences in business logic and clock-speed might reduce truthful information sharing and introduce production inefficiency as well as risks of technological inefficiency. In other words, although the need for joint coordination and risk sharing might be larger, the increased asymmetry of information and business logic would probably result in the separate companies of a supply chain trying to myopically reduce their own risk. A lack of effective incentive structure to induce global supply chain optimization may promote the
opportunistic and myopic behaviour of the chain firms. This behaviour is Pareto-dominated, i.e. it implies a suboptimal overall chain profit and it may even threaten the long-term viability of the chain.

2.6 Gaps in Existing Literature

The review of literature brings out the following gaps:

- Majority of the studies reported in the literature are carried out in the context of developed countries. The number of studies carried out in the Indian context is scanty.

- When seen in the context of distribution strategies studies in different sectors, most studies be it in national or international context, pertain to auto and auto component sector.

- Scanty literature was available for mobile handsets. Most of the literature available referred to focussed case studies of industrial players. There is, therefore, an acute shortage of literature related to distribution strategies of mobile handsets in the Indian context.

The present research is an attempt to fulfil these gaps. Keeping in view the importance and relevance of distribution strategies for any product, a comparative study, which is undertaken, may prove to be useful in identifying where each player lacks and why one player scores over the other. An analysis of their strategies might be an eye opener for other players.

The identified gaps have provided direction and motivation for the present research, which is reported in the subsequent chapter.

2.7 Chapter Summary

In this chapter, extensive review of literature related to different aspects of distribution was presented. In line with the nature and scope of present research product development, studies related to distribution, logistics and supply chain management were reviewed and presented. Further, studies focusing on distribution as regards different industries in India were reported. Studies related to mobile handset
distribution were also presented. Lastly, studies linking different dimensions with
distribution strategies were reviewed and compiled. Subsequently, the gaps in the
literature were identified and reported. The identified gaps have provided direction
and motivation for the present research, which is reported in the next chapter.