CHAPTER 3

INDIAN GARMENT INDUSTRY - AN OVERVIEW

3.1 INTRODUCTION

The garment and apparel industry plays a vital role in the Indian economy and is the single-largest source of foreign exchange earnings for India. The twelfth five year plan (2012-2017) envisages that India’s exports of garments and clothing is around US$ 64.41 billion by the end of March 2017. The garments industry accounts for 14% of industrial production, which is 4% of GDP; employs 45 million people and accounts for nearly 11% share of the country’s total exports basket. India is the world’s third-largest producer of cotton and has the largest cotton acreage in the world. India also has an established and expanding polyester fiber and filament yarn industry. It is the world’s second largest garment producer after China, accounting for about 15% of world’s production of cotton garments.

India is also the world’s largest exporter of cotton yarn with 20% of the total and accounts for about 7% of world trade in fabrics. The Indian garment and apparel industry is diversified and has the capacity to provide a wide variety of garments to meet different market needs. It has access to a large pool of skilled labor as well as trained and skilled technical and managerial personnel. Nevertheless, India’s garment and apparel industry faces several structural problems. Foremost, the slow pace of modernization, particularly in the weaving, dyeing and finishing, and
apparel sectors have hampered the growth and competitiveness of the industry. Other structural problems include a restricted fabric base, dependence on cotton, limited product mix, low productivity, multiple and discriminatory tax policies and high infrastructure costs. Import restraints and market access barriers have fostered industry inefficiency and limited growth.

Global garment and clothing industry is worth US$ 584 billion where clothing accounts for 60% of share. Global trade is expected to grow to US$ 910 billion by 2013, whereas bulk of the increase is expected to be in clothing, projected to grow to US$ 510 billion. The US market alone accounts for US$ 84.85 billion of apparel exports. Garment and apparel sector alone accounts for 14% of total industrial production. Apparel exports contribute around 8% to India’s overall exports and 48% to garment exports.

Table 3.1  India’s garment export to top five countries as on dec. 2012

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Country</th>
<th>% of Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>USA</td>
<td>18.43</td>
</tr>
<tr>
<td>2</td>
<td>China</td>
<td>9.56</td>
</tr>
<tr>
<td>3</td>
<td>UAE</td>
<td>7.11</td>
</tr>
<tr>
<td>4</td>
<td>UK</td>
<td>6.60</td>
</tr>
<tr>
<td>5</td>
<td>Bangladesh</td>
<td>5.17</td>
</tr>
<tr>
<td>6</td>
<td>Others</td>
<td>53.13</td>
</tr>
<tr>
<td>7</td>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

(Source: Ministry of Garments-India)

Exports of garments and clothing products from India have increased steadily over the last few years, particularly after 2004 when
garments export quota stood discontinued. India’s garments & clothing exports registered a robust growth of 25% in 2005-06, recording a growth of US$ 3.5 billion over 2004-05 in value terms thereby reaching a level of US$ 17.52 billion and the growth continued in 2006-07 with textiles and clothing exports of US$ 19.15 billion recording an increase of 9.28% over the previous year and reached US$ 22.15 billion in 2007-08 denoting an increase of 15.7% but declined by over 5% in 2008-09. Exports of garments & clothing grew from US$ 21.22 billion in 2008-09 to US$ 22.41 billion in 2009-10 and have touched US$ 27.47 billion in 2010-11. In the financial year 2011-12, exports of garments and clothing, has grown by 20.05% over the financial year 2010-11 to touch US$ 33.31 billion. Garments exports in the period 2012-13 are witnessing a (-) 4.82 percent growth in dollar terms although there is 8.10 percent growth in terms of rupees. During the year 2012-13, readymade garments account for almost 39% of the total garments exports. Apparel and cotton garment products together contribute nearly 74% of the total garment exports. The export growth rate in India is explained in the following Figure 3.1.

(Source: Ministry of Textiles (International Trade Section))

**Figure 3.1**  Garment export growth rate in India
To attract reputed manufactures of garment machinery in the field of spinning, weaving and processing they must be invited to set up facilities in India to meet the growing requirements of Indian industry. One of the biggest factors which have triggered the growth of the Chinese industry is the domestic availability of the garments machinery. Globally reputed garment machinery manufacturers have set up units in China and have developed models which are suitable to the Chinese industry. Indian garment sectors should also encourage the global manufacturers to setup similar units in India to meet the requirement of the Indian garment industry. To increase the FDI, the working group recommends that government may consider FDI proposals from garment machinery manufacturers on a selective basis. The success of China as the fastest growing economy in the world is due to a great extent because of large scale FDI flowing into the country in all sectors, including garments. Currently, India is the second largest garments economy in world after China, but the gap between these two economies is huge. In order to reduce this gap and sustain the position of being the second largest garment economy, India needs to attract FDI in the garments sector.

3.2 GARMENT INDUSTRY

India’s garment industry is a well organized enterprise and is one among the best in the world. It constitutes of designers, manufacturers, exporters, suppliers and wholesalers. Indian garment industry has carved out a niche in the global markets and earned a reputation for its durability, quality and beauty. Today’s changing consumer preferences - buying branded apparel and fashion accessories, major boom in retail industry, people shopping at department and discount stores, shopping malls, with rising disposable incomes, government policies focused on fast-track garment export growth and ambitious goals have created several
investment opportunities in India. During the year 2012-13, garments accounted for almost 39% of the total garments exports. The total garment exports during 2012-13 was valued at Rs. 137619.44 crores as against Rs. 129829.30 crores during the corresponding period of financial year 2011-12, registering an increase of 6 percent in rupee terms. The same was valued at US$ 25263.74 million as against US$ 27328.06 million during the corresponding period of previous financial year registering a decline of 7.55 percent in US dollar terms. Indian apparel industry is expecting positive growth in the coming years mainly due to the removal of excise duty on branded garments and made-ups along with expected revival of overall economy. A report released by Care Research, India states that domestic garment industry is expected to grow at around eight percent year on-year from US$ 37.35 billion in fiscal year 2012-13 to US$ 50.62 billion in fiscal year 2015-16. The growth in Indian clothing sector would be primarily driven by the upsurge in the Indian economy coupled with the rising per capita disposable income.

According to the Care Research report, factors like the changing fashion trends, growing consumer class, rising urbanization, increasing retail penetration and the increasing share of the designer wear together have led to the growth in the apparel industry of India. The Government of India has promoted a number of export promotion policies for the garment sector. It has also allowed 100 percent foreign direct investment in the Indian garment sector through automatic route. According to the Union Budget 2013-14 Technology Up-gradation Fund Scheme (TUFS) to continue in 12th plan with an investment target of Rs. 151,000 crores (US$ 27.58 billion), Rs. 50 crores (US$ 9.13 million) was allocated to Ministry of Garments to set up apparel parks within the scheme for integrated garment parks to house apparel manufacturing units.
A new scheme called the integrated processing development scheme will be implemented in the 12th plan to address the environmental concerns of the garment industry. Working capital and term loans at a concessional interest of 6 percent to handloom sector was provided. Scheme of Fund for Regeneration of Traditional Industries (SFURTI) extended to 800 clusters during the 12th plan. Some of the initiatives taken by the Government to further promote the industry are; India and China has signed a Memorandum of Understanding (MOU) for promotion of exports of Indian handicraft, India and Mauritius have signed a MOU to enhance the trade & economic relations by expanding business and cooperation in the sphere of garments and clothing including sericulture and silk and fashion industries. A total of 61 garment parks approved under the SITP are expected to generate over 1 million jobs. Union Minister for Commerce, Industry and Garments, Government of India, has announced a scheme on usage of agro-garments in the North East region of India with a five year budget of Rs. 55 crores. Maharashtra has attracted Rs. 3,834 crores investments in 411 new garment projects due to the new garment policy.

3.2.1 Region Wise Garments Distribution in India

When the geographical distribution of India is analyzed, it is divided into Northern, Southern, Eastern and Western parts. Each region has its own specific demographic and environmental conditions so varies in the economic contribution of the sectors to the Indian economy. Cities like Amristar, Ludhiana, Faridabad, Kanpur, Ahmadabad, Mumbai, Delhi and Surat of North India and Bangalore, Coimbatore, Tirupur, Madurai and Chennai of South as shown in Figure 3.2 are the major garment hubs of India where abundant of garment manufacturing and export take place.
Figure 3.2  Major garment centre’s in India

The statistical data for exports of major cities are shown in Table 3.2. The statistical data clearly shows that the large volume of exports takes place in Tirupur compared with other region.
Table 3.2  Indian garments exports in the year 2011-2012

<table>
<thead>
<tr>
<th>Cities</th>
<th>% of Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delhi</td>
<td>14.24</td>
</tr>
<tr>
<td>Mumbai</td>
<td>12.79</td>
</tr>
<tr>
<td>Surat, Ludhiana, Jaipur</td>
<td>10.83</td>
</tr>
<tr>
<td>Tirupur</td>
<td>14.59</td>
</tr>
<tr>
<td>Bangalore</td>
<td>11.37</td>
</tr>
<tr>
<td>Chennai</td>
<td>11.19</td>
</tr>
<tr>
<td>Other Regions</td>
<td>24.99</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

(Source: Apparel Export Promotion Council)

3.3  TIRUPUR-BIOGRAPHY

![Tirupur: India's 'Textile Valley'!](Source: rediff.com)

**Figure 3.3  Tirupur - garment valley**

Tirupur district of Tamil Nadu was framed in February 2009 and it is well-developed and industrialized. The Tirupur banian industry, the cotton market and the famous uthukkuli butter provide a vibrant economy to this region. Tirupur city is the administrative headquarters of
this district. The district is named after the city of Tirupur, in Mahabaratham Arjuna (Pandavas) returned the cattle’s captured by enemies and returned back to Dharapuram (Nirai Meetal) Nirai Thiruputhal and become Tirupur. Since the 1990s, the formation of the new Tirupur district had been urged by the exporters of Tirupur. Tirupur city and surrounding region, where there is considerable industrial and business activities, was to be the core area. They believed that a new district would facilitate administration of the region and allow more aggressive developmental measures.

Tirupur district was framed in 2009, carved out of the Coimbatore and Erode districts making it the 32nd district of Tamil Nadu and one of the ten most industrialized and economically developed districts of Tamil Nadu. Before the formation of Tirupur district, Avinashi, Madathukulam, Palladam, Tirupur and Udumalpet were taluks of Coimbatore district and Dharapuram and Kangeyam were taluks of Erode district. The new taluk Madathukulam was outlined after the formation of this district. Tirupur is a small city compared to Coimbatore; it is the center of Tamil Nadu cotton knitwear industry and successfully markets its products in India and overseas. It is one of the fastest growing cities in India in terms of Industry. It is called the knits capital of India as it caters to famous brands and retailers from all over the world. Tirupur contributes to a huge amount of foreign exchange in India. It has spurred up the garment industry in India for the past three decades. It’s economic boom boosts the morale of Indian industrialist. Great thing about Tirupur economy is that it is ever growing. Tirupur has the largest and fastest growing urban agglomerations in Tamil Nadu. Tirupur stands as the life for millions of people in Tamil Nadu. The knitwear industry which is the soul of Tirupur has created millions of jobs for all class of people. There are
nearly about 3000 sewing units, 450 knitting units, hundreds of dyeing units and other ancillary units which are un-countable.

There are more than 2500 apparel manufacturing units and 750 dyeing units in Tirupur. It also has 300 printing units, 100 embroidery units and 200 other units like compacting, raising and calendaring units. The export market’s turnover was around Rs. 8500 crores and local market’s turnover is about Rs. 1500 crores in 2012. Millions of underwear pieces come out of Tirupur every year. Nearly every international knitwear brand in the world has a strong production share from Tirupur. It has a wide range of factories which export all types of knits fabrics and supply garments for kids, ladies, and men’s garments innerwear exclusive. The city is known for its hosiery exports and provides employment for about 300,000 people. Some of the world’s largest retailers including C&A, Switcher SA, Wal-Mart, Primark, Oviesse, Switcher, Polo Ralph Lauren, Diesel, ARMY, Tommy Hilfiger, M&S, FILA, Respect, H&M, HTHP, Whale and Reebok import many garment items and clothing from Tirupur city. A large market for export rejected pieces also exists in the Khaderpet locality close to the railway station in Tirupur.

3.3.1 Demographic Profile of Tirupur

Tirupur district reported a population of 2,471,222, roughly equal to the population of the nation of Kuwait or the US state of Nevada according to 2011 census. This gave it a ranking of 176th among districts in India (out of a total of 640). The district had a population density of 476 inhabitants per square kilometer which is higher than the 2001 population density of 367 inhabitants per square kilometer. Its population growth rate over the decade 2001-2011 was 29.69%. The relatively large growth rate was due to an influx of workers from other parts of India due in turn to
Tiruppur’s rapid industrialization during this period. Tirupur had a sex ratio of 988 females for every 1000 males and a literacy rate of 79.1%.

![Graph](Source: Census2011.co.in)

**Figure 3.4 Population distribution of Tirupur**

In 2011, the populace was 38.52% of rural and 61.48% of urban; this represented an increase in the urban populace of 39.13% from 2001 and a relatively lower increase in rural of 15.37% from 2001. Average literacy rate of Tirupur in 2011 was 78.68 compared to 71.08 of 2001. If things are looked out at gender wise, male and female literacy were 85.49 and 71.82 respectively. For 2001 census, same figures stood at 80.44 and 61.37 in Tirupur district. Total literates in Tirupur district were 1,760,566 of which male and female were 9,59,623 and 8,00,943 respectively.

### 3.4 IMPACT OF GLOBAL ECONOMIC CRISIS ON TIRUPUR GARMENT INDUSTRY

India’s economic planning since 1951-1952 led the country to adopt LPG (Liberalization, Privatization and Globalization) Policy in 1991
and achieve a GDP of 9% in 2007-08. In 2007, economic crisis gripped the US and by late 2009, it hit European countries too. Due to this, India’s GDP growth rate declined to 6.5% in 2011-12. The Indian garment industry is one of the largest garment industries in the world and India earns around 27% of the foreign exchange from export of garments and related products. The garments industry is the second-largest employer in India after agriculture. India exports about 50 percent of the total production of garments and of which, 60 percent is exported to the US and the European Union countries.

Unfortunately, India is unlikely to meet the export target for garments ($40.59 billion) for the fiscal year 2012 - 2013, despite the rupee depreciation and export concessions announced in the foreign trade policy, as key markets of US & Europe face slowdown in demand. The country had exported garment products worth $34 billion in 2011 - 12, up 26% from a year before, despite the global macro-economic crisis, partly due to a 15% depreciation of the rupee against the dollar. AEPC estimates that more than 125 cotton and man-made fibre garment mills have closed down in the last three years. Moreover, the existing garment companies are facing a huge setback in exports owing to slowdown in the US and Europe. This has forced the Indian garments sector to bear high cost of credit and increase in raw material prices.

### 3.4.1 Outcome of Economic Crisis

Tirupur, the well-known garment hub of India, has more than 5,000 garment manufacturing and job work units in the district. Tirupur is the biggest centre for exports of knitwear in India and seen as one of the most dynamic garment clusters in the developing world. Nearly 6 lakh people of Tirupur are dependent for livelihood on garment manufacturing
and related industries. In fact, when the garment industry was booming, Tirupur was portrayed as ‘Dollar City’ and ‘Little Japan’ by media. From Tirupur 55% to 60% of exports are targeted at the European market and 30% at US market. Table 3.3 depicts the year wise export data from Tirupur.

**Table 3.3 Year-wise export data from tirupur**

<table>
<thead>
<tr>
<th>Year</th>
<th>Value (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004-2005</td>
<td>6500</td>
</tr>
<tr>
<td>2005-2006</td>
<td>8500</td>
</tr>
<tr>
<td>2006-2007</td>
<td>11000</td>
</tr>
<tr>
<td>2007-2008</td>
<td>9950</td>
</tr>
<tr>
<td>2008-2009</td>
<td>11250</td>
</tr>
<tr>
<td>2009-2010</td>
<td>11500</td>
</tr>
<tr>
<td>2010-2011*</td>
<td>12500</td>
</tr>
<tr>
<td>2011-2012*</td>
<td>12500</td>
</tr>
</tbody>
</table>

(Source: TEA (Tirupur Export’s Association))

*The increase in turnover is due to price increase and quantity wise it is on decreasing side.

Up to 2006-07, the growth registered at an average of 10-12 percent year-on-year basis. In 2006-07, Tirupur had earned around Rs. 11,000 crores in foreign exchange. But in 2007-08, it declined to Rs. 9,950 crores. For the last three years the growth has remained at around Rs. 11,500 - 12,500 crores. While it should have reached about Rs. 17,000 crores in FY 2011-12, this stagnation brought on by a combination of global and local issues and have shaken the foundation of the industry. The growth of Tirupur garments did not continue for long time due to growing global economic crisis and with the rising cotton prices, Tirupur
faced many serious troubles. Just some time before the global financial 
crisis began, Tirupur garment export business was hit by the appreciation 
of rupee value against US dollar. Then they were hit by the global financial 
crisis.

While the Central Government was deciding to take out cotton 
from the list of essential commodities, it was open for speculation by the 
online trading companies. Its price, per candy, consequently went up from 
Rs. 28,400 to Rs. 65,000, directly affecting the yarn price (the major raw 
material for garment). The cotton yarn price jumped from Rs. 110 to 
Rs. 200 per kg and has been increasing since then. As a result of all these, 
the industry lost around Rs. 1500 crores. Apart from global economic 
crisis, factors like increase in cotton price from 70-100% affected the 
exporters. All dyeing units were closed by January 2011 as directed by 
High Court due to pollution problem. Hence the exporter started dyeing of 
clothes at Ludhiana, Chandigarh, Mumbai & other parts of India which 
increased the production cost and labor cost which increased up to 60% in 
last two years.

Severe power failure problem has been hurting the industry for 
the last three years. This year 60% of power failure problems were faced 
by Tirupur garment industry. During power failure time, they are running 
the unit by captive power, which is almost 2.5 to 3 times costlier. India’s 
bank interest rates are higher compared to China and Bangladesh. 
For example, Bangladesh has an interest rate of around 7-8 percent but the 
indian garment industries are paying 13-14 percent interest. Apart from 
this, transportation charge has also been increased due to increase in fuel 
cost.
In general, the production cost of garment soared high and it has become very difficult to compete with other countries. Due to economic crisis in US & Europe, the buyers are asking for discount in the garment price. With increase in cost of raw material, power, labor, dyeing, fuel etc, it has become very difficult to get orders from buyers. Also, internal problems like high interest rates threaten to derail growth of Tirupur garment export. In volume terms, business is down 15 percent. But in real terms, considering in terms of price hikes and dollar rate hikes over the past one year, business is down by over 30 percent for a city that does exports worth Rs.12,500 crores.

Tirupur garment industries reveal that the capacity utilization by the industry is not more than 50-60 percent for bigger exporters and 30 percent for medium and small exporters. Thousands of workers lost jobs and are in severe distress. According to Tirupur exporters association, more than 20,000 workers lost their jobs in just one year. Most of those employees work on contract basis and are easier to get rid of when required. Due to low demand from US & Europe Union, the exporters are forced to look for new markets like South America, some parts of Africa and Japan though it will take a couple of years to establish their presence in these new markets. Interest rates are the highest in India among its competitor countries. The depreciating rupee against the dollar is not giving much benefit to the exporters as the buyers would always want their suppliers to reduce the price when rupee value depreciates against dollar. Also the input costs have gone up substantially.

Exporters from Tirupur have expressed concern over the duty free access given to 46 garment items to Bangladeshi garments. The garments imported from Bangladesh are 20 percent cheaper than the garment produced in India. With this advantage, Bangladeshi products will
flood Indian market and domestic marketers profit will get reduced. The Bangladesh garment exports were showing higher year-on-year growth rate than India in the global market. In 2010-11, when the Bangladesh garment exports had clocked US$15 billion, India’s garment export was US$11.16 billion only. The main reason for Bangladesh industry having more exports than India is their low cost of manufacturing due to lower wages. After allowing import of Indian cotton and yarn under duty free the raw material cost in Bangladesh became cheaper than the yarn sold in India’s domestic market. This will increase their export additionally in the global market.

In the Union Budget 2011-12, excise duty at 10 percent was imposed on readymade garment sold under a brand name in the domestic market. The tariff value at 45 percent of the retail sale price in domestic market attracts this duty and this has made Indian garment costlier. Only the exporters who are having their own spinning mill can survive and it is very difficult to do business for small exporters and also yarn export has been banned, it is still not available in the market. The TEA has achieved certain milestones in the garment sectors as two percent interest subvention available only for SME (Small Medium Enterprises) units and now it has also been extended to readymade garments upto 31st March 2013.

Extension of two percent duty credit scrip up to 31st March 2013 for exports made to EU and US. Extension of 4 percent duty credit scrip for exports made to Latin America, Africa and CIS countries. The inclusion of seven new markets additionally each in Focus Market Scheme (FMS) and special focus market scheme will be helpful and attractive to explore new markets. Zero Duty EPCG scheme was extended up to 31st March 2013. The Tamil Nadu Industrial Investment Corporation Limited (TIIC) recently planned to provide 3% interest waiver for the new
loans given to Micro, Small and Medium Enterprise (MSME) sector and this positive measure has come at a time when the sector is pressurized by a lot of issues, including high cost of credit.

The export of garments from Tirupur began in 1978 and as it slowly grew, the European retail chains like C&A began exploring the products from the city in the early 1980’s. A handful of manufacturers exported garments worth Rs. 15 crores in 1985. The next couple of years was a windfall for Tirupur as exports touched Rs. 300 crores in 1990. Exports declined by 10 percent in 2007-08 due to appreciation of rupee against dollar in 2007-08 which was further damaged by the global recession. In 2008-09, exports registered were Rs. 11,250 crores and in 2009-10, it just showed a meager growth to reach Rs.11,500 crores. In 2010-11, the exports reached Rs. 12,500 crores and the number remained the same for the following year. However, in the last financial year (2012-13), Tirupur achieved Rs. 13,000 crores in exports.

3.5 ROLE OF INFORMATION TECHNOLOGY IN GARMENT INDUSTRY

Some years back the textile and garment industry used to be single most export earner for India, now information technology and Information Technology Enabled Services (ITES) companies have taken that place pushing garments to number two. India is known for both of these industries around the world. The combination of these two can create synergy, if properly used. The application of IT in garment and garment industry can help them in improving the overall performance. In country like India it is very important that garment industry remain strong and growing continuously. Many big garment units have already adopted IT in their companies in various forms. They use machineries with latest
technology available in the world and these machines utilize IT in many areas such as production monitoring, quality monitoring and control, etc.

The emergence of information and communication technology is not only reshaping the business models but also intensely interlining enterprises across its internal as well as external value chain. In other words business enterprises are in the process of major transformation in order to meet the challenges of network economy. The role of ICT is redefined as a fundamental enabler in creating and maintaining a flexible business network of inter organizational arrangements such as joint ventures, alliances and partnerships, long term contracts, technology licensing, and marketing agreement. Traditionally in house developed customized Management Information Systems (MIS) have been used to enhance business networking and now enterprise resource planning systems, supply chain management systems, customer relationship management systems and e-business portals are being used to establish business networking systems.

Most of the small and medium enterprises in India are in early stage of business networking as they have recently started adopting integrated information systems such as ERP and supply chain systems. An integrated transaction oriented information systems is concerned with the seamless flow of data and work flow among the business functions of the enterprise resulting into improved administrative and operational efficiency in the organization. The absence of such systems in the enterprise may result into the following business problems: high lead time in business processes, high cycle time in business transactions, high inventory, poor utilization of financial as other enterprise resources, poor productivity and high stock outs.
Accounting software such as Tally is extensively used by most of SME’s in India. Though Tally has many advantages it is limited by many drawbacks. It is an off the shelf package solely catering to the needs of the function of accounting and it is very low on user customization. It does not have planning capabilities. No feature of costing exits in the package. It is standalone package and hence non-integrated with the other business functions such as production, sales and distribution of the company. In-house developed customized information systems are generally time consuming and very often poor in maintenance. Retention of IT personal becomes difficult. It is functional automation system and lacks process innovation and systems integration capabilities. The integrated transactional information systems such as Radix, MakeESS, Octopus-E and Tech Solutions etc. claim to offer integrated transactional oriented information systems solutions at an affordable cost.

However since these systems lack in terms of planning capabilities, the implementation has to be accordingly designed. Apart from , there are no many examples exist to demonstrate the visible impact on the enterprise performance. The micro ERP such as NAVISION is new to Indian SME’s. Although it has been adopted by large number of SME’s in Europe and USA, it has yet to demonstrate its presence and usefulness for Indian SME’s. The major ERP vendors particularly BaaN and IFS are found to be best fit for SME sector. BaaN has maximum presence among manufacturing SME’s worldwide including India. ERP is defined as an integrated, multi-dimensional system for all functions, based on a business model for planning, control and global optimization of the entire supply chain, by using state of the art IS/IT technology that supplies value added services to all internal and external parties.
ERP is an integrated system that allows information to enter at a
single point in the process (e.g., at the materials receiving stage of a
manufacturing process) and update a single, shared database for all
functions that directly or indirectly depend on this information.
This integration should take place in real time, not through interfaces or
programs that transfer information to one or more modules only after the
information has already been processed and updated in the module through
which it entered the system. ERP would be enabling an enterprise to
balance its resources such as manpower, machines, materials, money,
methods and marketing to stay competitive in a globalized economy.
An ERP solution covers all the functions like human resources, corporate
finance, production planning and control, materials management, quality
management, plant maintenance, services management, sales and
distribution. In short, it controls the whole ‘nervous system’ of an
enterprise.

The multiple benefits through successful utilization of
Information Systems (IS) also delivers advantage in ‘Strategic’, apart from
‘Tangible’ and ‘Intangible’ ways. SME’s can adopt information systems
for many of the same reasons that large one do, but the most common
reason is to establish a platform for growth. It is therefore essential for
Indian SME’s to absorb appropriate information and communication
technology tools to leverage business advantage. Effective utilization of
ICT tools will provide SMEs a disciplined business environment to operate
in, where decisions concerning supply and demand are fully supported by
facts and help maximizing business value in order to enhance growth and
competitiveness.
3.5.1 Emerging Trends in E-Commerce in Garment Industry

E-commerce is an exemplary concept in the future of garment and apparel industry. It is playing a major role in the present scenario of garment and apparel industry. It is also very significant that the future of garment and apparel industry is complete only with e-commerce. Diverse e-commerce applications are being implemented in the garment and apparel supply chain. Information and communication technologies have the capacity to make extravagant amounts of information available to users located in various parts of the world. ICTs also facilitate rapid communication between them. One application of these technologies is in the development of e-commerce to support electronic trading.

3.5.1.1 E-commerce: a new concept and scope

E-commerce can be specified as any form of economic activity conducted through computer-mediated networks. The potential of e-commerce caught the public attention as a result of ventures such as the electronic bookshop. As a result there are a growing number of other internet based retailers in the Business-to-Consumer (B2C) e-commerce area. However, Business-to-Business (B2B) e-commerce is growing much more quickly than B2C forms of electronic trading. E-commerce is a new and exciting technology, attracting much interest. It has the power of fundamentally changing the ways in which companies do business. It is having a profound effect on the management of the supply chain. Aspects of e-commerce are much diversified. E-commerce has a large impact on industry as a whole, including aspects associated with B2C e-commerce, B2B e-commerce. In recent years there has been a dramatic increase in companies practicing electronic commerce.
Two basic modes of organizing such companies have emerged. The first is creating a “brick-and-mortar” company, by installing an e-commerce division. The second is initiation of an enterprise as an electronic commerce company (dot.com), without previous organizational links to a traditional “brick-and-mortar” organization. Both modes of corporate practice of electronic commerce require redesign, recalibration, and even restructuring of key organizational dimensions. In such companies, there is also a question of applicability of traditional organizational dimensions to this new format of conducting commerce. As electronic markets and electronic commerce proliferate, there has been a marked increase in scientific studies of this phenomenon.

The emerging conventional wisdom suggests that electronic commerce is different enough to warrant an in-depth examination of traditional organization design in the present global scenario. E-commerce and e-business have increasingly become a necessary component of business strategy. E-commerce also acts as a strong catalyst for economic development. The integration of information and communications technology in business has heavily improved inter organization relationships and intra organizational relationships. Specifically, the use of ICT in business has improved productivity, encouraged greater customer participation, enabled mass customization and has also reduced costs.

With the help of developments in the internet and web-based technologies, distinctions between traditional markets and the global electronic marketplace are gradually being narrowed down. The strategic positioning, the ability of a company to determine emerging opportunities and utilize the necessary human capital skill are the main aims of each and every firm. To make the most of these opportunities through an e-business strategy that is simple, workable and practicable within the context of a
global information setting and thus new economic environment is the focus of e-commerce. E-commerce coupled with the appropriate strategy and policy approach enables small and medium scale enterprises to compete with large and capital-rich businesses.

The garment companies are using enterprise resource planning in various levels. Major reasons for companies opting for ERP are; it integrates financial information and customer order information. The ERP process standardizes and speeds up manufacturing processes and human resources information. It also helps in increasing productivity and quality levels. In simple terms, an ERP system organizes all the information of a company into one centralized system. In India a large number of garments and garment companies are small in size and fall under SME sector.

Due to their size and facilities available the decentralized and small companies confront five major challenges as adapting to changes in the multilateral trading system (price deterioration and the need to cut cost). The system needs fast and frequent responses to the product orders from retailers. Development of strategic alliances with retailers includes the exchange and management of information based on a relationship of trust.

In order to meet these changes, manufacturers will need to communicate intensively with retailers and implement the necessary communications network, which are usually supplied by retailers. Though some companies are utilizing IT in considerable amount the penetration of IT in Indian garments and garment industries are much below its potential. There is a general view among the SMEs that the ERP packages supplied by the international companies are very expensive hence they cannot utilize
it. The interactions with the Indian software developers reveal that many companies presently are offering garment industry oriented ERP packages at cheaper rate as compared to multinational ERP packages. Secondly the downward movement of cost of hardware items has made the application more affordable.

In order to effectively implement the technology, it is important to understand the potential benefits and the costs. The primary benefit is that buyers are expecting automated order entry and status, and companies that are unable to provide this facility will be a significant disadvantage. This phenomenon is sometimes known as the ‘digital divide’, a differentiator between those who have access to advance computing and telecommunication technologies and those who do not. When suppliers and vendors can communicate around the world, in real time, then Work-In-Progress (WIP) times are reduced considerably. To make the ERP implementation successful the involvement and commitment of top management is essential.

It is very important to select a right team, in terms of steering committee and core Committee. IT team should be a part of the core team and also proper training has to be provided to users at all levels. Most apparel maker’s supply chains now span the globe with many hands touching the garment before it reaches the consumer. But, along the way the complexity of coordinating the product definition and managing the communications, avoiding miscommunications is an immense challenge for many companies. If information is not 100% accurate, products fail to meet customer expectations or arrive too late for the intended season, this can result in deep markdowns to liquidate the inventory before the next season of products arrive.
3.5.2 E-commerce: The Perception

Electronic commerce or e-commerce refers to a wide range of online business activities for products and services. It also pertains to “any form of business transaction in which the parties interact electronically rather than by physical exchanges or direct physical contact”. E-commerce is usually associated with buying and selling over the internet, or conducting any transaction involving the transfer of ownership or rights to use goods or services through a computer-mediated network. But this definition is not comprehensive enough to capture recent developments in this new and revolutionary business phenomenon. A more complete definition is: E-commerce is the use of electronic communications and digital information processing technology in business transactions to create, transform and redefine relationships for value creation between or among organizations and between organizations and individuals.

3.5.2.1 E-commerce as e-business

E-commerce is an improved version of the existing traditional business without the involvement of human beings but only uses the electronic media. While some use e-commerce and e-business interchangeably, they are distinct concepts. In e-commerce, information and communication technology is used in inter organizations or intra organizational transactions and in business to consumer transactions. In e-business, on the other hand, ICT is used to enhance one’s business. It includes any process that a business organization (either for profit, governmental or non-profit entity) conducts over a computer-mediated network. A more comprehensive definition of e-business is: “The transformation of an organization’s processes to deliver additional customer value through the application of technologies, philosophies and
computing paradigm of the new economy.”

Three primary processes enhanced in e-business are: production processes, which include planning of raw materials, ordering, procurement and replenishment of stocks from time to time; processing of payments; links with suppliers through e-media; and production control processes; customer focused processes, which include promotional and marketing efforts, selling over the internet, processing of customer’s purchase orders and payments, and customer support, among others, providing after sales support and internal management processes, which include employee services, training, internal information-sharing, video-conferencing and recruiting. Electronic applications enhance information flow between production and sales forces to improve sales force productivity.

3.6 CATEGORIES OF E-COMMERCE

The major different types of e-commerce are:

- Business-to-Business (B2B)
- Business to-Consumer (B2C)
- Consumer-to-Consumer (C2C)

3.6.1 B2B E-Commerce

B2B E-commerce is defined as e-commerce between companies. This is the type of e-commerce that deals with relationships between and among businesses. About 80% of e-commerce is of this type and most of the experts predict that B2B e-commerce will continue to grow faster than the B2C segment. The B2B market has two primary
components: e-infrastructure and e-markets. E-infrastructure is the architecture of B2B, primarily consisting of the following: Logistics transportation, warehousing and distribution; application service providers deployment, hosting and management of packaged software from a central facility; outsourcing of functions in the process of e-commerce, such as web-hosting, security and customer care solutions; auction solutions software for the operation and maintenance of real-time auctions in the Internet; content management software for the facilitation of website content management and delivery; web-based commerce enabler.

E-markets are simply defined as websites where buyers and sellers interact with each other and conduct transactions. Most B2B applications are in the areas of supplier management (especially purchase order processing), inventory management (i.e. managing order-ship-bill cycles), distribution management (especially in the transmission of shipping documents), channel management (i.e. information dissemination on changes in operational conditions) and payment management (e.g. Electronic Payment Systems or EPS).

The literature available on the subject of B2B e-commerce business models varies greatly. Vassilopoulou Konstantina et al (2013) defines business models from different viewpoints, each focusing on different components. This leads to a fragmented and confusing picture regarding the shape and role of e-business models and the factors that distinguish successful business models. Most of the journal articles on the subject focus on a specific category of e-business model. This section categorizes the business models represented in the literature. Based on these business models found in literature, taxonomy containing the following seven categories: sourcing models, ownership models, service based models, customer relationship management models, supply chain
models, interaction models and revenue models was developed.

3.6.1.1 Sourcing models

The first category of B2B e-business models is the sourcing model. The type of sourcing that is typical for a particular product or industry will often influence the choice of e-business model adopted by the organization. There are two types of e-business models such as systematic sourcing and spot sourcing. The first is systematic sourcing. Systematic sourcing is adopted in industries where contracts are typically negotiated with qualified suppliers. The relationships are generally close and long term relationships. The second type of sourcing is spot sourcing. This is generally adopted for commodities or standardized products. The customer wants to fulfill an immediate need at the lowest possible cost. The type of product being sold also makes a difference to the sourcing type. Manufacturing inputs includes raw materials and components that go directly into a product and are usually purchased from an industry-specific or vertical supplier or distributor who is generally sourced through the systematic sourcing method. The operating inputs consist of maintenance, repair and operating goods and these are generally sourced through the spot sourcing method.

3.6.1.2 Ownership models

The basic e-market types can also be grouped in terms of the ownership of the website. Eric K Clemons & Ravi Aron (2002) states that online channel structures can be owned by one or more manufacturers or primary producers individually or in co-operation, or they can be owned by a new entrant third party. Tim Laseter et al (2001) categorized e-commerce sites as independent, consortia or private networks depending on their
ownership. Independently-owned websites are “pure-play dotcoms financed by venture capital”, industry consortia-owned websites are those backed by pooled funds and private networks are websites that are created by individual companies.

Websites that are independently owned make up the majority of ownership models currently on the web, but are now risking extinction as few companies which are finding clear ways to create value for the buyer or seller. They also have to deal with the greatest amount of competition. Independent models are at the risk of extinction and must therefore look for ways to conserve cash while adding value to the customer. In order to do this, they must find a niche market where they can develop a sustainable customer base whose business they can measurably benefit.

This is the best way to add value to the industry and encourage participation in the e-market place. Second, a small group of companies must be committed to the survival of the consortium. Too many owners could lead to the downfall of the consortium if insufficient companies have invested and those that have lose the desire to keep the consortium alive. Privately-owned e-business websites are those developed and used by a private company to source goods and sell goods to their customers. These Internet ventures seek revenue growth and efficiency. This type of ownership model may consume resources that may otherwise support the consortia and independent models. This type of model is probably more flexible than the other two since it does not depend entirely on new business to survive. Companies can just transfer their existing business to the internet, while cutting down on transaction costs and possibly attracting new customers.
3.6.1.3 Service-based models

Another way to classify business-to-business e-business models is to group them according to the services that the site offers. The attributes and services include information exchange, digital catalogs, online auctions, logistics services and supply chain planning. Tim Laseter et al (2001) classified this type of model into total procurement models, catalog buying models, auction houses, collaboration facilitators, full service models and specialty service models.

Auction houses focus primarily on matching buyers and sellers through online auctions, but do not offer digital catalogs. Strategy Business found that 27% of the companies surveyed were using this type of B2B e-business model. Auctions have been around since the beginning of the internet boom and thus are a familiar and well-practiced way of doing business on the internet, but with auction software becoming so inexpensive, these types of sites must find creative ways to add value to the customer to endure the competition. Auctions are a good way to make the price discovery process more efficient.

Collaboration facilitators focus their website primarily on supply chain planning and design collaboration to aid collaboration between buyers and sellers. This type of model is used by only 3% of the companies surveyed, but they seem to represent an emerging trend. The full-service model offers all the services mentioned above on their website. This model accounts for only 5% of the companies surveyed and is generally owned by a consortium due to the large amount of revenue required to offer all of these services.
3.6.1.4 Customer relationship management models

Frank Dignum (2002) categorizes e-business models according to the services offered to the customer. The categories comprise of customer and supplier management models, and sales support and online catalog models. The customer and supplier management model relies on using information collected from the customer to improve their experiences with the company. Companies can use the internet to get information from their customers on their products and the transaction performance. This allows the company to better serve the customer and helps to build a closer relationship with the customer. In B2B transactions, this type of model can be used to form closer relationships with important clients by optimizing products and production planning in relation to customer orders. This article identifies two variant types of relationships that can be generated between the supplier and the customer. The first type of relationship involves forming tight relationships with a few big customers/suppliers. This type of relationship usually occurs in markets with only a few companies or few dominant companies.

The second type is a looser relationship between customer and supplier of standardized products and many global suppliers, where suppliers are chosen on an order-by-order basis. The internet can help these companies to attract customers by making information about products easily available online and by making order processing easy by means of online ordering. This allows customers to accurately determine the products they want by indicating a combination of values for all parameters. More customized products can also be sold via the internet, but the selection process may not be so easy. Companies using this type of e-business model must decide how their catalog ordering will be supported.
The advantages of using a VAN to process orders are security of data and the reliability of the network, but these networks are closed and would only be available for existing customers. It is also important when developing an online catalog to determine what information to provide the customer and how to set up the catalog so that it is easy for the customer to find what they are looking for. Catalogs can also be customized for big customers so that they only see products that are of interest to them. An efficient customer relationship e-business model will include all of these parts in order to differentiate itself, stay competitive and maximize customer relations. Sales, marketing and customer service should be integrated between the front and back office. Information obtained from customers should be analyzed in order to serve the customer better and the web should facilitate greater communication between the customer and supplier.

3.6.1.5 Supply chain management models

Supply chain management e-business models are not discussed in the literature as much as might be expected. Most of the e-business models speak primarily about the management of parts of the supply chain and not the system as a whole. Supply chain management, however, is the ultimate in e-business models, and it may be difficult for many companies to obtain complete control of their supply chain via the internet. Business to business e-business models can also be characterized by the way that the website facilitates interactions between buyers and sellers. Websites connect one supplier with one customer, sales portals connect many suppliers with one customer, procurement portals connect many customers with one supplier and exchanges connect many suppliers with many customers.
Websites connect suppliers and customers on a one-to-one basis. Sales portals connect many suppliers with one customer and are organized by the procurement department of the customer. Only large companies with enough buying power to oblige suppliers to trade through its portal usually do this. Companies using this type of model can standardize supply information and have centralized control over procurement. Procurement portals connect many customers to one supplier. Several customers can use this type of model to bundle their procurement and establish leverage against suppliers. Exchanges connect many suppliers with many customers and are usually not organized by the customer or the supplier but by an independent third party.

3.6.1.6 Revenue models

Thomas P Novak & Donna L Hoffman (2001) characterizes e-business models according to how they generate value for the customer and how they generate revenue for the company. They characterize the value models as brokerage models, content models, search models, incentive models, freeware models, communication models, control models, outsourcing models, entertainment models, transaction models, affiliate models and community models.

The brokerage model is defined as a type of market that brings together buyers and sellers and facilitates transactions. This type of model is third-party owned and generates revenue by collecting a transaction fee from participants, selling advertising, charging subscriptions or through sponsorship. The benefits of this type of model for buyers are that they have direct access to broader supply sources, and procurement costs, intermediary transaction costs and markups are reduced. The benefits for sellers are direct access to broader markets, reduced transaction and selling
costs, improved operating efficiencies and reduced working capital costs through better inventory and receivables management.

### 3.6.2 B2C E-Commerce

Business-to-consumer e-commerce or commerce between companies and consumers, involves customers gathering information; purchasing physical goods (i.e. tangibles such as books or consumer products) or information goods (or goods of electronic material or digitized content, such as software or e-books) and for information goods, receiving products over an electronic network. It is the second largest and the earliest form of e-commerce. Its origins can be traced to online retailing (or e-tailing). B2C examples involving information goods are E-Trade and Travelocity. The more common applications of this type of e-commerce are in the areas of purchasing products information and personal finance management, which pertain to the management of personal investments and finances with the use of online banking tools.

### 3.6.3 C2C E-Commerce

Consumer-to-consumer e-commerce or C2C is simply commerce between private individuals or consumers. This type of e-commerce is characterized by the growth of electronic marketplaces and online auctions, particularly in vertical industries where firms/businesses can bid for what they want from among multiple suppliers. This paves way for developing new markets. This type of e-commerce comes in at least three forms: Auctions facilitated at a portal describes about peer-to-peer systems, such as the Napster model (a protocol for sharing files between users used by chat forums similar to IRC) and other file exchange, and later money exchange models; Classified ads at portal sites and e-business
models.

3.7 E-COMMERCE AND ERP

Technology continues to advance at a pace that few can keep up with. Business owners can certainly have a hard time ensuring that their systems are always up-to-date to take advantage of the latest and greatest. However, despite being difficult to keep up with technological advancement, these advancements are vital to business success particularly from system integration perspective. A glaring example of system integration neglect is the frequent disconnect between back-end enterprise resource planning software systems and e-commerce web stores. These two pieces of software are crucial for modern business operations and yet are often managed as separate silos with little integration or reciprocal communication. Needless to say this causes a number of problems.

The evolution of business increased the pace of its activities, including interactive relationships between customers, suppliers and distributors commitment with their employees and society, competing with their rivals and reporting the government and many more. All of the above activities make business more complex in terms of their performance, disclosing and sharing of information. The information flow is vital for the business operations, the flow of information may be vertical, cross business and integration of technology with modestly redesigned processes for order handling, purchasing or customer services.

The speed of information flow towards external parties directly depends upon the generation of information done by internal parties to business, for example if one customer orders for particular goods (let us say A) to the marketing department, but because of lack of information
from either production or logistics department, it may fail to provide the information to customer which may not be in favor of business, it may lose a customer. The contemporary need of free-flow, accurate and speed of information is much more needed as compared to earlier information system. It is very clear from the above discussion that there are two ways of information flow; one is outbound and the other one is inbound information. E-commerce, e-business and ERP are those techniques which disseminate the information as per the need of the hour. The word ‘E’ in case of commerce and business refers to the electronic exchange of information, where e-commerce and e-business are different concept of channelizing the information, on the other hand ERP is software that assists to e-commerce and e-business in generation, storage, sorting and dissemination of information.

E-commerce emphasizes on selling, distribution and making purchase from suppliers. E-business includes e-commerce but also covers internal processes such as production, inventory management, product development, risk management, finance, knowledge management and human resources. E-business strategy is more complex, focused on internal processes and aimed at cost savings and improvements in efficiency and productivity. ERP systems are the software tools used to manage enterprise data across different functions. Over the last few years, e-commerce has become a common activity for many companies. Some of them leap into this challenge without considering the cultural changes that the situation involved, as well as the infrastructure necessary to continue with the initial project. In order to begin the development of a business in the electronic jungle, there are some points that need to be covered. It is necessary to establish a marketing strategy to create a catalogue of products, define the costs and the sale prices, the target market shipping and handling.
Nowadays, most of the enterprises are willing to incorporate the development of e-business. This new technology, which is based on the net, has arrived and will stay for a long time. But to set it up properly, it is necessary to rely on the good organization of the information and the processes. It is a challenge due to the fact that most of the companies do not have their own systems department to give support to solve their particular needs. All the main departments of the companies are also affected, since there is a specific need of strategies and solutions that should be updated. Besides, it is relevant to have in mind the mission and vision of the enterprise and have an effective communication system for the strategic points. In order to visualize a proper development, the work has to be accompanied by trained staff.

The first step to follow is to select an internet service provider. While it could be possible to use a solution or own development, it would need to cover the basic needs of a catalogue of products, shopping carts, methods of payment with secure transactions, as well as order processing. There are two factors that will directly influence the work; therefore, it is very important that there should be a reliable hosting provider and reliable means of distribution. Once these issues are decided, the location of the virtual shop would be the next step to bear in mind and one of the options would be to go to a specific offer for the hosting of virtual shops.

It is essential to take into consideration of the security part inside the shop and the transactions. There are two security standards designed especially for e-commerce: Secure Socket Layer (SSL) and Secure Electronic Transaction (SET). The first one does not allow a third party to decode the document, through which it uses random keys, with a certification and a digital signature that has the specific function to guarantee that only the concerned user will be able to decode the message.
At the same time, SET is a security payment standard based on advanced encryption techniques in order to develop internet transactions. It works with public and private keys protected by SSL and it is designed to encrypt the transactions to avoid indiscreet interference.

To setup these applications within the stipulated time, there is a huge offer in market. However, all the equipment like servers, routers and switches could be acquired directly with the manufacturer or through an ISP or ASP. The ASP has lately become indispensable for integrating the e-commerce, since they cover all the business software including the sale and renting of equipment, links and web hosting among others. The size of the developing business is not important, for it would always need the guidance of an expert in the area and depending on the place where it is based, this could mean selecting a more convenient service to hire in that location. The IT executives of general industry with experience and implementation of ERP are now discovering the new rules of business and they are increasing demand for their clients due to this factor. The users of enterprise resource planning have improved their operations through the unification of the production systems and administration with other information technologies and are now expanding these tools to their chain of supply for their clients.

3.7.1 Growing Importance of System Integration

Discussing the issues in more broad terms brings up the importance of ensuring all systems across the organization are as integrated as possible. There is an abundance of varied software solutions available to business to improve productivity. In today’s age the difficult part is not finding a means of improving the effectiveness of the organization but rather deciding which means to employ and how to make sure there is
consistency across the business. Rather than employing various disparate systems to accomplish business tasks, decision makers should always seek out as few systems as possible that are integrated tightly. This usually starts with finding a robust ERP system to manage inventory, accounting, customer relationship management etc. followed by business extension software such as e-commerce. When it is possible to view every aspect of the business and control all systems from one place, then the business will succeed. To an extent, there is a difference between system communication and integration. It is one thing to allow communication between two systems and fully integrate the two systems.

The main difference being the number of communication points between the systems, or rather the variety in the information that is based on between them. A well-integrated system will allow for drilling down into data across functions. For example, sales and conversation history can easily be found via a customer relationship management module as well as open orders and quotes. The value of this sort of functionality cannot be overstated. Consumers have come to expect pricing and inventory information from retailers in real-time, so having a quality e-commerce website is increasingly important. E-commerce provides a channel for customers to access information and purchase products 24/7, 365 days a year and has potentially huge implications for increasing sales volumes for both B2B and B2C companies. However, many companies fail to realize that having a strong front end e-commerce site is useless without integration with a strong back end ERP system. In order to be successful in an online marketplace and to keep up with increased demand, the e-commerce strategy must include proper inventory management software. The best approach to get started with e-commerce is to implement a fully integrated e-commerce and ERP solution as a joint project.
Some businesses, mainly early adopters of e-commerce, are entering the next stage of ICT use, e-business. They have begun to engage in increasingly sophisticated uses of ICT, involving business process reengineering and more complex technology. In such firms, B2C and B2B e-commerce are components of an overall e-business strategy. External relations with customers as well as internal processes are being linked. Marketing and sales, logistics and delivery, after-sales service, supply chain management and other business functions are integrated in an overall e-business strategy. Most SME’s appear still to be at a stage where establishing a web site or adopting e-commerce is the main issue. Successful integration of external and internal business processes in e-business necessitates organizational and management changes which may entail proportionally greater costs and risks for SMEs.

In addition, smaller firms may have fewer incentives to integrate their business processes than larger firms, which have more complex business processes and resources to harmonize and co-ordinate. It may therefore take more time and resources for SMEs to adopt e-business strategies. However, in the near future, B2C and B2B electronic commerce will have to become components of SMEs’ overall e-business strategy and “normal” business processes that are supported by ICT’s and carried out on electronic networks. In relation to assisting SME’s to integrate e-business into their entire business process, there could also be more emphasis on integrating e-government into the business process. For example in Australia, government compliance activities tend to be undertaken separately to other ‘back office’ business processes. The Business Entry Point (BEP) is currently implementing mechanisms that more closely integrate e-government activities into the day-to-day activities associated with running a business. E-business will have greater appeal to SME’s if
their B2B, B2C and B2G activities can be more closely integrated. Making use of e-government initiatives as an incentive for SME’s to go online is crucial but again, these need to be seamless and integrated into business activities more generally.

3.7.2 Benefits of ERP in E-Commerce

The solutions for electronic commerce are moved like the beats of the heart of business strategies. Therefore, it is common for companies look for a proper way to firmly integrate their e-commerce engine with their transactional applications, but with dozens of ERP and business application systems on the market, it is a waste of time to integrate a commerce engine to these systems. The electronic commerce gives the possibility of facing the storage in real time in order to reach clients through the web. It combines the product information with the multimedia information, and manages the sales process from the beginning to the end, taking into account the orders and helping the enterprise to adapt its offer to the specific needs of the individual business associates. To describe the processes that involve the integration of ERP systems and electronic commerce, it could be described as the flow of operations that take part in the marketing between two companies.

Initially, the availability of products is displayed in a catalogue, and the shipping orders made online are under subjection to the prices defined for the selected articles. The conditions of the prices stipulated will be for the different clients. At the same time, the integrated systems could indicate the availability and dates of delivery of the purchase through online. The storage of information resulted from the purchase of products and payment transactions are saved in databases of the trader. They could be emitted and supported in magnetic media or printed files. It could also
exist as an interactive exchange of information if the companies involved in the purchase using systems like SAP R/3. For example, a company using that system can mark the clients that also use the same system with the objective of registering the online purchase orders. This transaction creates a document automatically in a system and a sale order in the providers system, which reduces the quantity of details that both companies should enter and reduces the risk of incorrect detail entry with the opportunity to reduce the costs of communication.

The marketing of products on a large scale is also benefited by the integration, since the catalogues of products are available in several languages. Currencies are seen by the whole world without having to be near the place of origin, without an extra cost. Additionally, the publicity and marketing costs of the products are reduced. E-business or electronic business is the new proposal for speeding up and improving the efficiency of the business. Most clients are ready to receive better service than they were offered in the past. The experts state that taking an enterprise to the next level of ERP (to E-business) will require not only the implementation in the intern systems, but also working with the associates in the chain of supply which is dealing with the flow via the internet. A new rule is becoming law for manufactures: “An integrated chain of supply is the only way to absorb the demand of products”.

The optimization of the operations will certainly reduce the costs of processing, administration and transport and this leads to a new competitive advantage. Finally, the orientation of the implantation of these systems should be directed to the optimization of the companies’ operations, focusing on the premise to satisfy the clients’ needs. The traditional concept of the modern enterprise is changing from a collection of internal functions to an integration of the relationship with
clients and providers. With ERP systems, the companies have the ability to transcend the functional limits through the definition of their own business processes. However, the new development based on e-business models and electronic commerce has forced the companies to look for processes to allow the communication between themselves.

The companies have showed an important interest in the alternatives and this gives commercial profits in the administration of the supply chain, the electronic commerce and the automation of the sales force, which has lead to the use of e-business to reach the competitiveness in the market. ERP systems like SAP R/3, People Soft and J.D. Edwards offer e-business solutions using tools like web site developing, intranet and back-office sales. For that, they have selected software that includes Java, JSP, PHP, ASP and HTML. In the particular case of SAP R/3, it also uses tools ITS (Internet Transaction Sever), which represents the link between the SAP R/3 system and the web. BAPI’s (Business Application Programming Interfaces) allow clients and third party software vendors to integrate their components with SAP R/3; IAC’s (Internet Application Components) provide the logical business design of the website and RFC’s (Remote Function Calls). The interface series is implanted like libraries, which allows for the communication with other software programs. These solutions are integrated into the processes of customer service and operations management such as: materials, finance, human resources, distribution and sales. The unification of different functions could greatly benefit the manufacturing sectors, service companies, public and financial sectors
3.8 ERP FOR MANUFACTURERS

The management of the information is the key for any company. The manufacturing industry experienced the first systems created with the objective to integrate the details and information, and to organize the different productive processes with MRP (Materials Requirement Planning), which have developed what is now known as ERP. These resources are fundamental to understand how information technology has contributed to the competitive advantages of the industrial sector. ERP was created for the big industries and the cost was usually not an obstacle to reach the objective of productivity. Traditionally, ERP was expensive and out of reach of SMEs, but today it has been expanded in order to provide for small and medium sized companies. These Businesses now have the ability to implement ERP to satisfy their needs.

The decision to change from manufacturing to enterprise is related to the fact that an ERP system could be applied to a whole enterprise instead of only a manufacturing section. ERP could also be applied to services and other businesses not related to manufacturing. The manufacturing resource planning included all the sources in relation to the manufacturing such as material, human resource, equipment and finances. When the competitive strategy changed from low price and great variety to speed, ERP found the right place to give profit to this new strategy. The system connects to all the offices of a group of business throughout the entire world. This program allows the companies to design products with the entrance of engineers all over the globe, installing factories in various areas to produce pieces and components for many countries and the information of all the parties involved.
The traditional systems are limited to planning the assignment of the resources for one industrial plant or company, while ERP plans the resources for all the sectors of an enterprise. ERP can also apply to specific services related to the business. It is known that a traditional enterprise bases its manufacturing processes with four pillars: the material, machines, manpower and money. The present needs count another resource as indispensable for manufacturing: the information to manage the rest of the resources. ERP takes into account this new resource and includes the main files of planning and transactions. The master files contain details or routes, processes, accountancy, personnel, inventory, etc. The planning files include the production plan, the requirements of demand planning, master plans of production, request of material planning and capacity planning. Finally, the transaction files bring together the information regarding the operations like client orders, purchasing orders and working orders among others.

3.8.1 Problems Related to Manufacturing Control

It is important to have a proper control of the manufacturing processes, but sometimes issues come up and limit the correct performance of this task. One of the most common problems is the fact that there are different demand sources for a product and its components. Some of the requirements of the product are determined by the needs of other products as well as products that are specified by the client. The previous requirements also have their origin in clients, but not in a direct way. The requirements of the product can be classified as dependent and independent demands. The independent demand for an article is not related to the demand of other products (i.e. finished products). However, the dependent demand is directly related to the material exploitation of the final product. This type of demand is calculated and it is not necessary to
be predicted.

Another relevant problem for the right control is the short lead times and urgent handling, which is due to the shorter life cycles of the products and fluctuations on the client demand. Some changes in the procedures of engineering lead to more trouble. If any problem occurs and affects the design or quality of the product, it is probable that a change in engineering will take place. Taking into account the client’s preferences, this change will increase, entailing other areas like marketing, production, storage, accounting and purchasing. The last problem that the control could face is the possibility of a change in the production plan. Since it is not immutable, the only constant in production is the change itself. The clients change their dates of order due to changes in the dates of expedition by providers, unexpected absences of employees, damages in machinery, etc. are some of the hurdles. The challenge is not getting rid of the changes, but confronting it.

3.9 ERP IN GARMENT INDUSTRY

ERP was coined as an extension of the concept of Manufacturing Resource Planning (MRP) software, which automated the process of keeping a manufacturing line supplied with materials to meet incoming orders. ERP is a suite of applications including financial, manufacturing, human resources and other modules that together automate the back-office business administration functions of an enterprise. Leading ERP vendors include SAP, Oracle, People soft and JD Edwards. Enterprise Resource Planning refers to the integration and extension of a business’s operational IT systems, with the end goals of making information flow within (and beyond) a company more immediate and dynamic; increasing the usefulness and shelf life of information; eliminating redundancy and
automating routine processes and making information system components more flexible.

Departmental boundaries generally become softer, accessibility of data is increased for partner companies and customers and the company’s ability to respond the marketplace is generally enhanced. Enterprise Resource Planning is the latest high-end solution information technology which has lent to business application. The ERP solutions seek to streamline and integrate operation processes and information flows in the company to synergies the resources of an organization namely men, material, money and machine through information. Initially implementation of an ERP package was possible only for very large multi national companies and infrastructure companies due to high cost involved.

Today many companies in India have gone in for implementation of ERP and it is expected in the near future that 60% of the companies will be implementing one or the other ERP packages since its competitive advantage. ERP (Enterprise resource planning) can be defined as a software solution that addresses the enterprise needs taking the process view of the organization, to meet the organizational goals tightly integrating all functions of an enterprise. It is an industrial term for the broad set of activities supported by multi-module application software that help a manufacturer or other parts of the business. ERP facilitates integration of company-wide information systems with the potential to go across companies.

With a select group of vendors offering enterprise-wide solutions for the garment industry makes it a very niche vertical. Many vendors have shied away from addressing this vertical due to the complexities involved. Few solutions offered are highly customized and
specifically addressed the IT requirements of the vertical. For example, 
Madura Coats, the Rs. 750 crores Indian subsidiaries of UK’s Coats Plc, 
the world’s leading sewing, threads, crafts and accessories manufacturers 
with 22% global market share and operations in 67 countries. In India, it 
operates through its two divisions-Coats India and Global Thread Supply 
employing around 7,000 people. Headquartered in Bangalore, the company 
has eight manufacturing locations in India and an office in Dubai. It uses 
Ramco’s IT solution in GTSI, Water Mill (an important dye house in Coats 
India) and at the group head office.

Coats felt the need for an ERP in order to bring an integrated 
enterprise management software system adequate for all business activities. 
The need for an integrated IT environment was triggered by the existing IT 
setup that was not able to handle the performance on peak load, along with 
inadequate user involvement. The legacy applications built into the existing 
system led to various problems such as redundant information 
management, soaring data maintenance costs, lack of coordination among 
various business functions and the like. Post the roll out of Ramco’s ERP, 
Coats India accumulate wide ranging benefits such as higher productivity, 
improved delivery performance, minimal IT maintenance and an integrated 
IT environment.

Going in for an integrated solution is the need of the hour for 
high to mid-end garment companies. Jupiter Knitting Company is one of 
the manufacturers and exporters of hosiery and knitted readymade 
garments located in Tirupur. Having sketched ambitious growth plans, the 
Rs. 40 crores company wanted to re-engineer its IT architecture for tighter 
controls and integration. It also wanted an integrated client-server system 
with a graphical user interface. After evaluating various options, the 
company chose the SAP all-in-one solution. Some of the major ERP
software’s for garment industries are shown in Table 3.4.

**Table 3.4 ERP software’s**

<table>
<thead>
<tr>
<th>Software Name</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACS Optima</td>
<td><a href="http://www.cgsinc.com/softwaresolutions/index.html">www.cgsinc.com/softwaresolutions/index.html</a></td>
</tr>
<tr>
<td>Bann</td>
<td><a href="http://www.bann.com">www.bann.com</a></td>
</tr>
<tr>
<td>BPCS</td>
<td><a href="http://www.ssagt.com">www.ssagt.com</a></td>
</tr>
<tr>
<td>Datatex</td>
<td><a href="http://www.datatex-tim.com">www.datatex-tim.com</a></td>
</tr>
<tr>
<td>JD Edwards</td>
<td><a href="http://www.jdedwards.com">www.jdedwards.com</a></td>
</tr>
<tr>
<td>Pointman</td>
<td><a href="http://www.pivotpoint.co.uk">www.pivotpoint.co.uk</a></td>
</tr>
<tr>
<td>SAP</td>
<td><a href="http://www.sap.com">www.sap.com</a></td>
</tr>
<tr>
<td>StyleFashion</td>
<td>NA</td>
</tr>
<tr>
<td>Abas</td>
<td>NA</td>
</tr>
</tbody>
</table>

(Source: Fibre2fashion.com)

Making its presence felt in almost all the fields, technology and modernization has entered the textile and apparel industry as well. Software applications are used in all the major operations of this industry. ERP is one of the widely recognized software applications used in the textile industry. It is used in various sectors of this industry like manufacturing, finance, Human Resource (HR), supply chain management, customer relationship management and many others. Majority of the ERP software applications are made in .net frame. It can also be made in other programming languages like PHP, MySQL, C#, VB, Python, etc. Figure 3.5 depicts the functions carried over by an ERP system in a garment sector.
Figure 3.5  Functional modules of ERP in garment industry

It mainly performs the task of integration of activities in various departments and thereby makes the process of communication easy. ERP software application makes it easy to access and understand the tasks performed by one department and reacat accordingly to the task. ERP software helps in increasing customer satisfaction. One can provide better service to customers as this application will regulate all the work carried out in the premise by building brand loyalty.

3.9.1  Need for ERP in Garment Industry

ERP covers the techniques and concepts employed for the integrated management of business as a whole with objectives of effective use of management resources to improve the efficiency of the organization. These systems designed to model and automate many of the basic processes of the company from the finance to the shop floor with a goal of integrating information across the company and eliminating complex expensive links between computer systems. It produces the dramatic
improvements when used to connect parts of an organization and integrate its various processes. Thus, it gives a better products and better services at affordable prices.

Textile manufacturing revolves around three entities as customers, banks and suppliers. A customer gives a sales order to the company and this form the basis for production planning. Raw material is purchased and dispatched to the mills. Receipts and payments are made through banks. Before the ERP deployment, most of the works were done manually resulting in inaccuracies both incorrect and missing entries. With the new system, the group wanted to maintain its procedures. ERP has enabled accountability, accuracy and transparency without breaking the existing workflow. ERP facilitates a companywide integrated information systems covering all functional areas such as manufacturing, sales and distribution, accounts payables, receivables, inventory, human resources, etc. ERP integrates and automates most of the business processes and shares information enterprise wide in real time and thus improves customer service and corporate integration.

ERP solution includes manufacturing, marketing as well as finance sectors. Datatex has been designing, developing and implementing solutions exclusively for the textile and apparel industry since 1987. Today there are over 380 implementations of TIM operating in 38 countries in 14 different languages, at the service of large, medium and small-sized textile manufacturers. Datatex is an international company with offices in Italy, Israel, USA, Germany and Switzerland. Datatex has created TIM a specialized ERP product addressing the information requirements of all segments of the textile and apparel industry. The TIM consists of modules such as Sales: for order acceptance, shipping and invoicing, planning: for optimizing and scheduling of production orders;
manufacturing: for the management of the production cycle, including dye house management and quality control inventory & purchasing: for the optimization of reordering, stock control and valuation policies; costing: for the monitoring and control of standard and actual costs.

3.10 ERP IMPACT IN ORGANIZATION

Nowadays, with the fast developing of industries and the need for managing procedures and resources, it has become very important to have a tool which can help to coordinate several activities and the best one is ERP. The advantages of having ERP are many. It gives the opportunity of integrating every procedure of the business while improving the quality of several areas simultaneously. These areas include human resources, accounting and operations. In addition, ERP helps to increase the production levels and to control the costs more efficiently and this means that it will be able to control the whole enterprise more efficiently. A very important facility of the ERP systems is that they increase the availability of the information, helping companies to have information in real time to make decisions and accurate prognostics regarding the organization.

It is important to mention that ERP systems are very powerful tool in processing and organizing financial data. It improves the development of the commercial activity in the short and long term. The enterprise management module can perform integral strategic planning, keeping an eye on the daily activities and having fluent communication with the investors. The human resources module allows making decisions and optimizing the company’s investments regarding employees. With all of these it can be seen that an ERP system brings visible advantages. It is a known fact that implementing an ERP could be expensive, or that only big organizations can reach it. Another important
consideration to make is that the implementation of ERP takes time and generates deep changes in the way business is done. But the important thing to remember is that every enterprise can see the benefits of the ERP systems, although for the first period it may only seem like an investment. The benefits indeed are really bigger than the costs and it is very valuable one to invest in an ERP system.

3.10.1 ERP for a Competitive World

It is essential for managers of the enterprise to develop different strategies to satisfy client needs in this competitive world, many of which have become hard to see. They are trying to anticipate what clients will expect or need and in that way they work to offer customized products. Companies are looking for software that can be capable of administrating every aspect of their business integrally. Many of them have been seeking new technological tools that can optimize their internal procedures and make them more efficient. The main consequence of this is the consolidation of the company and the satisfaction of their clients.

Companies must identify their needs in order to know which system can fit better with their inquiries. In this way either the software that is too sophisticated for the regular activities of the enterprise or a very simple system that will not satisfy the needs is chosen to lose money through too many updates. The probability of success when implementing ERP lay in the ability of the organization to integrate and consolidate the functionality of the system is more. If the enterprise has a defined structure and methods, they can get to progress from the selection phase to the operational one and reduce the risk, increasing the probability of success. Packaged ERP software might have many different modules. It is very probable that the first time when an ERP is purchased it’s necessary that all
the modules should be purchased from same vendor, but companies don’t always buy all the modules to the same vendor.

As the implementation of an ERP system could exist many years, the integration could be either the integration of modules from different vendors or the different versions of a sole vendor. Business practice combines strategies, technologies and processes to electronically coordinate both internal and external business activities and the management of resources. To get the most out of an ERP system it has to be tightly integrated with the remaining software of the enterprise. Over the years systems have accumulated vast amounts of data that is vital to the survival, operations and expansion of every organization. The integration of ERP systems with legacy systems is more complex than the integration of ERP modules and e-business applications. It usually requires the installation of a third party interface software to establish communication between ERP software systems and legacy systems. The second generation ERP systems use relational database management to store enterprise data. Data conversion for this case is often a time consuming and tedious process. This is why while most interface software providers offer typical solutions, others are being very successful by offering integration modules that automates or accelerates the transformation of legacy application logic and data into reusable components through several different interfaces.

When directors decide to implement ERP, a big change takes place in the operational level of the enterprise. This is especially true when compared to the traditional way. Organizations that get a complete adaptation to the new system are able to use hundred percent of the software’s benefits and applications, giving them a competitive advantage over other enterprises. A frequent problem in enterprises that have been expanding for years is that they have probably acquired other companies,
whether they were competitors or not and these new companies were using a different software system. In this way expanded enterprises could be using smaller systems together with the ERP and in many occasions it may be designed according to the company’s needs. In this case integration can take time and though it is probable the results can be very expensive. The key to make a good investment at this point with no regrets is to work as a team, and this includes professionals, managers from the different enterprises, employees and providers.

In a globalized economy success depends on the investments made in technology. The implementation of ERP is actually a challenge for many organizations and their chances for success are greater if they get to implement it properly. ERP providers are reducing their prices nowadays and they are making their products more accessible to many sectors. They are focusing their efforts in making the implementation immediately and by using the least amount of money. Another concern for providers is the wrong generalized idea that the implementation of ERP is painful and infinite. This is why they are trying to show results in a short time period.

Priorities are changing these days regarding ERP. Many enterprises are initiating new projects to use ERP in their sales activities, customer service and commercial planning instead of using it for back office functions. For some companies it means a huge effort to use their ERP systems for new e-business applications, while others are taking several actions in order to use software that can facilitate client-vendor relationships. Most of the users think that it was a good decision to move into ERP technology, but it is really important to understand that the system as a basic software. There are many modules and additional functions that can be added to the basic ERP according to the needs.
Another important area that will probably ask for additional functions is commercial analysis; here applications that allow to measure benefits directly should be used. These kind of applications need a well designed backbone ERP to make them work and in this way it is certain that there are a number of reasons to install an ERP system. However, it is highly recommendable to make a technology investment in hardware to make it work even better. Companies must work hard with the objective of integration for their software with web based applications, because in this way clients will be able to make a unique configuration of products and planning reparations through web sites. In addition, many enterprises use ERP systems to introduce commercial analysis software because these two elements can help managers to have a constant look at the operations. It can detect if a change on planning is necessary.

Information technology planning experts established that these new processes will not generate a big impact on the staff of the organizations, although in commercial areas there arise need to make few changes. The increasing desire of users to obtain more benefits from ERP together with the impossibility of some enterprises to agree this technology are generating doubts about the potential value of the system. Specialists comment on this matter that, ERP has to be seen as an information backbone and in that way investments are very convenient because of the cost of information which sometimes happens to be priceless.

3.11 CURRENT STATE OF ENTERPRISE RESOURCE PLANNING

To analyze the future trends of enterprise resource planning, it is first important to look at the current state of this industry. While this tool was originally used for manufacturing and human resources, it is now
being used in areas such as customer services, sales automation and supply chain maintenance. At the moment, it seems that ERP vendors are expanding the capability of their ERP products and many of them are catering to smaller businesses instead of just Fortune 500 companies. The advent of the internet has played an important role in the evolution of enterprise resource planning. A number of companies are combining their supply chain maintenance functions with the internet so that the suppliers can also have easy access to the information. When the suppliers are given access to this crucial information, they will be able to understand the needs of their clients. They will have a good understanding of how much they should produce and they will also become familiar with manufacturing issues. In addition to integrating the processes within a company, ERP vendors are working to merge the collaboration of suppliers, customers and the companies that work with them. In addition to this, on a domestic level, these vendors are working on an international level as well.

A number of experts have said that they feel the future of ERP may be in danger. There are a number of reasons why they voice these concerns. First, many ERP vendors have already catered to the needs of large companies. Many companies are using ERP system and predominantly the large scale industries. It means that the market for ERP is decreasing with Fortune 500 and 1000 companies. Even though a vendor can expect to make millions off the sale of a system, they will not make any more money beyond this and once a company has implemented an ERP system, they need little gain from the vendor. To solve these problems, a number of vendors are focusing on small to medium sized businesses. They are tailoring their products to these companies by reducing the size, cost and complexity of implementing them. If an ERP vendor wants to survive in this ever changing market, there are a number of
things they will need to do. They will first want to pay attention to processes that are not connected to a generic system. They want to look at things such as customer support and the ability of their clients to make decisions. The last thing they will need to do is target their products towards smaller companies. If an ERP vendor wants to succeed, they must understand the needs of their customers. Their customer service must be superior in quality and the prices must be decent, especially for small to medium sized businesses.

If a vendor does these things successfully, they can compete in the global market. The business world continues to change and ERP vendors must be able to adapt to these changes if they wish to remain competitive. As the focus moves further into the 21st century, it will become more important for organizations to integrate both their processes and information. It is critically important for manufacturers and customers to work at a higher level of understanding and coordination. In addition to this, the company must be able to effectively work with suppliers. Overall, an ERP is a strategic resource that will allow companies to synchronize processes that would otherwise be disconnected. Once these functions are integrated together, the company will be able to operate at a higher level of efficiency. This will lead to a greater increase in profits and the company can expand greatly. It has taken 40 years for an ERP to reach the level it has obtained today and it is still not perfected. However, it can allow an organization to have a great deal of stability at a time when the business market is exceptionally unstable. Before the 1960’s, most of the large companies had to manage their information in traditional ways. These traditional methods were tedious and many departments within the company would be isolated from each other. Today, enterprise resource planning has allowed companies to become more integrated than ever
before.

The textile industry in our country is one of the few industries in the country, which has the potential to emerge as a true global player. Recognizing the fact that industry needs intensive strategy and time-bound action plan to convert its core competence in availability of all major raw materials, skilled manpower, managerial competence and entrepreneurial skill to a competitive strength as a producer and supplier of top quality textiles at competitive prices, it is the comprehensive enterprise resource planning system with solution from SAP, TIM etc. It has been designed to meet today’s changing demands in corporate world. This system allows companies to regain active control of their whole administration and operations environment to increase efficiency and profitability. System enables new levels of business process and technology integration while laying the foundation for incremental evolution of the solution. The ERP is required to heighten quality, to make profit and to survive in the global market because this allows to think on the results and to make the beneficial correction. To run in competition the ERP is a fundamental aspect in consideration with other aspects.

Some of the key benefits achieved are improved punctual delivery, reduced purchasing cost, reduced inventory cost, reduced wastages, improved client relationship and reduced lead-time. Textile companies are looking for an ERP solution to fit their specific needs. Both generic and textile specific packages have been utilized in the industry. The barriers to implementation of ERP in textiles industries seem similar to those in other industries. Electronic commerce in the form of traditional EDI, but not electronic market place which have seen lots of changes in last year, is used by the textile industry.