CHAPTER 1

INTRODUCTION

1.1. Background of the research

World history has witnessed many waves of globalisation which has affected global economy and international trade. Emergence of an active international capital market in the 1970s, demise of communism and growing liberalisation reinforced the momentum of globalisation which resulted in current scenario of high mobility of capital and resources internationally (Solimano, 2004). Globalisation has benefitted international businesses through global sourcing (Trent and Monczka, 2003). Global sourcing means globalization in two respects: a) Internationalization of purchasing activities and b) Adoption of strategic sourcing orientation (Arnold, 1989). The strategic sourcing decisions are important to sustain competitiveness (Su and Gargeya, 2012) and these decisions are taken when the buying firm attempts to establish long term business partnership with international suppliers (Zeng, 2000). Cost is often a primary motivation for global sourcing (Handfield, 1994). In early phases of global sourcing, price along with quality consistency and reliable delivery were prime business winning factors for international suppliers. But over a period of time product innovation, product range and speed of delivery too became key determinants (Sweeney, 1994). Global sourcing decisions also cater to many other aspects of business like flexibility, diversification and strategic focus (Alguire et al, 1994; Jennings, 2002; Oke et al, 2009; Christopher et al, 2011).

The textile and apparel industry is dynamic, global, diverse, complex, and is a prime exemplifier of globalization (Su and Gargeya, 2012). One of the prime drivers of global apparel sourcing was search for lower costs (Gereffi, 1999; Leung, 2000; Jin, 2004; Buxey, 2005; Shelton and Wachter, 2005; Tyler et al, 2006; Su et al, 2008; Su and Kim, 2012). The global apparel sourcing manifested in three ways throughout the 1970s, 1980s and 1990s: first, sourcing of apparel from suppliers in lower wage sites across the world. Second, the rising power of large retailers and corporate buyers based in industrial countries who played a key role in organizing and coordinating these emerging global networks and clothing supply chains. Third, the
rise of information technologies and the deepening power of retailers demanding timely supplies of apparel in 1990s (Tewari, 2005). Apparel sourcing has received increasing attention over the last decade due to two important developments: a) The business firms have been competing increasingly in dynamic and complex world marketplace, considering continual changes and uncertainties in product availability, prices, and competition. b) The prominence of effectively managing global textile and apparel supply chain has increased (Su, 2013).

Global apparel sourcing have been facing various risks and challenges. The main perceived apparel sourcing challenge factors are: a) Regulations- tariffs, trade restriction bills, b) Logistics- inventory management, border-crossing procedures, transportation delays, c) Cultural difference- language barrier, different customs, different business practices, d) Country uncertainty- foreign exchange fluctuations, political instability (Cho and Kang, 2000). Many research studies have identified logistics problems as the number one global sourcing challenge (Monczka and Giunipero, 1984; Min and Galle, 1991; Birou and Fawcett, 1993; Bradley et al, 1998; Boyce, 1999) and these logistics problems may differ from one sourcing region to the other (Cho and Kang, 2000). The theoretical justification of the research is covered in following sections:

1.1.1. Global apparel exports

The textile and apparel industry is one of the most global of all industries as most nations are into the business of textile and apparel making with tremendous competition in global market. The industry possesses worldwide spread of supply network with significant contribution to the world economy and international trade (Gereffi, 1999; Su, 2013). The clothing sector has been a major example where developing countries have been able to significantly increase and diversify exports with positive effects on incomes, employment and poverty (Arora et al, 2004). The following subsections explain various relevant aspects of global apparel exports.
1.1.1.1. Historical perspective

Apparel is one of the oldest and largest export industries in the world (Gereffi, 1999). There are three reasons that the textiles and clothing comprise a unique industry in the global economy.

First, most developed countries as well as newly industrialized countries have used textile and clothing as typical starter to export-oriented industrialization. Even some least developed countries have been able to step onto the development ladder on the basis this industry. Millions of people, mostly women are employed in this industry in most of these economies (Adhikari and Yamamoto, 2008).

Second, this industry has very low entry barriers; it does not require huge capital outlay and factories can be set up that employ workers with relatively low skills. Therefore, this industry is characterized by high competition intensity (Gereffi, 1999; Lowson, 2002; Gereffi and Memedoviv, 2003; Brenton and Hoppe, 2007).

Third, this industry is the most protected of all manufacturing industries in the global economy, both in developed and developing countries (Adhikari and Yamamoto, 2008). Since US President J. F. Kennedy’s efforts to secure an international agreement regulating trade in cotton textiles in 1961, apparel production has been among the most protected manufacturing activities in the global economy (Bair, 2008). Historically, the clothing sector along with textiles played a major role in the initial industrial development of the UK, the US, Germany and Japan and have been paramount in successive waves of industrialization in Asia. (Brenton and Hoppe, 2007).

Since 1962 till 1991 world textile and apparel trade increased by more than 50 times, from less than $6 billion to $300 billion. Out of this $300 billion, a little less than two-third of trade was in apparel goods and the rest was in textile goods. In this period world textile trade increased by 30 times and trade in apparel grew more than 100 times taking the lion’s share of total world textile and apparel trade (Diao and Somwaru, 2001). Global apparel exports grew 181 percent during 1973-79, 132 percent during 1979-87 and an additional 22 percent during 1988-91(Christerson and
Applebaum, 1995). In 2004, global clothing and textiles exports were valued at $452.8 billion, making it one of the world’s most traded manufactured products (ITS, WTO, 2005).

1.1.1.2. Leading exporting countries

As per international trade statistics, WTO, 2013, China is the biggest exporter of clothing. In 1980, China’s share in world clothing was mere 4 percent and from there it risen to 37.8 percent in 2012. European Union is the second largest exporter with 25.8 percent share. Bangladesh and Vietnam have shown phenomenal growth in clothing exports in last two decades and currently have 4.7 percent and 3.3 percent of the world clothing trade respectively. Turkey’s growth in 1980-1990 is noticeable when they grew from 0.3 percent to 3.1 percent. India’s share is 3.3 percent of the world clothing exports with value of $14 billion and holds 7th position in the leading exporters of clothing. Table 1.1 illustrates data of top 15 clothing exporters.

Table 1.1: Leading exporters of apparel

<table>
<thead>
<tr>
<th>Exporters</th>
<th>Value</th>
<th>Share in world exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td></td>
<td>160.0</td>
</tr>
<tr>
<td>European Union</td>
<td></td>
<td>109.0</td>
</tr>
<tr>
<td>Hong Kong, China</td>
<td></td>
<td>23.0</td>
</tr>
<tr>
<td>Domestic exports</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>Re-exports</td>
<td></td>
<td>22.0</td>
</tr>
<tr>
<td>Bangladesh</td>
<td></td>
<td>20.0</td>
</tr>
<tr>
<td>Turkey</td>
<td></td>
<td>14.0</td>
</tr>
<tr>
<td>Vietnam</td>
<td></td>
<td>14.0</td>
</tr>
<tr>
<td>India</td>
<td></td>
<td>14.0</td>
</tr>
<tr>
<td>Indonesia</td>
<td></td>
<td>8.0</td>
</tr>
<tr>
<td>United States</td>
<td></td>
<td>6.0</td>
</tr>
<tr>
<td>Malaysia</td>
<td></td>
<td>5.0</td>
</tr>
<tr>
<td>Mexico</td>
<td></td>
<td>4.0</td>
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<tr>
<td>------------</td>
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</tr>
<tr>
<td>Cambodia</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>4.0</td>
<td>0.7</td>
</tr>
<tr>
<td>Pakistan</td>
<td>4.0</td>
<td>0.3</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>4.0</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Note: Value in $ billion and share in percentage

1.1.1.3. Role of WTO- Multi Fibre Agreement

Textile and apparel have been internationally traded under restrictions. In the 1930s, the US negotiated a Voluntary Export Restraint (VER) on Japanese textile exports. In the late 1950s, Japan, Hong Kong China, India and Pakistan agreed to voluntary export restraints for cotton textile products as cascading effect. During GATT meeting in 1959, the US brought up the problem of market disruption due to sudden large surge in imports from low-wage countries. This proposition of market disruption quickly became the key rationale behind future safeguard measures.

In 1961, President John F. Kennedy announced a new programme of assistance to the textile industry in the US, which resulted in a Short Term Arrangement (STA) in cotton textiles. This allowed temporary restrictions in face of market disruption for one year due to pending negotiation on longer-term arrangement. The Long Term Arrangement regarding international trade in cotton textiles (LTA) was signed in 1962. It imposed five percent annual growth cap on imports of cotton textile products for a five-year period (Spinanger, 1999; Thongpakde and Pupphavesa, 2000; Liu and Sun, 2004; Hayashi, 2005). The LTA effectively protected the cotton industry in developed countries. In 1974, Multi Fibre Agreement (MFA) was signed which replaced LTA and included items made of wool, silk and manmade fibres too.

MFA was intended to be a temporary measure. Under MFA, developed countries got time to restructure their apparel and textile industries before opening to competition from developing and low cost countries. MFA fixed quantitative limits known as
quotas for low cost developing countries on the volume of garments and textiles allowed to be exported to the US and European markets (Diao and Somawaru, 2001; Jin, 2004). The United States has been one of the largest importers of textile and apparel globally (Fox et al, 2007) and has a significant influence on world markets along with European Union. The United States had quotas on textiles and apparel from 46 countries. The European Union maintained quotas on textile and clothing from 21 countries (Elbehri, 2004). MFA sought to expand trade, reduce barriers to trade and progressively liberalise world trade.

After 21 years of MFA regime, in 1994 Agreement on Textiles and Clothing (ATC) was signed with intention to phase out MFA during the Uruguay Round of Multilateral Trade Negotiations. It was decided to abolish quantitative restrictions in ten years with four phases. Quota-based MFA preferential trade resulted in spreading of production base to an ever-increasing number of countries (Morris and Sedowski, 2006). On 31 December 2004, the ATC came to an end (Ramasamy and Yeung, 2008; Whalley, 2008). Due to phasing out of MFA, many developing countries aimed to increase their exports at the cost of smaller countries who enjoyed quota protection and duty free treatment (Knappe, 2003; Shelton and Wachter, 2005; Evans and Harrigan, 2005).

1.1.1.4. Post-MFA scenario

With MFA phase out, many small players not only lost to quota-guaranteed market access but also to China’s low production unit cost combined with high quality. China clearly emerged as world leader of apparel exports (Yu, 2005; Vander et al, 2006; Miller and Nuon, 2007; James, 2008; Whalley, 2008; Beresford, 2009; Choi and Smith, 2010). The trade became extremely competitive where good quality product coupled with on time delivery and competitive price were the minimum requirement to survive (Abernathy et al, 2006; Birnbaum, 2005; Brenton and Hoppe, 2007). In the fiercely competitive scenario it was must to work towards improving business management skills and minimizing lead time (Nuruzzaman & Haque, 2009).
1.1.1.4.1. MFA phase out and logistics

In the post-MFA scenario lead time became critical to competitiveness. Hence transport and logistics factors became relevant as garments are typically sourced from low cost countries, with time delays associated with logistical movements (Tyler et al, 2006; Brenton and Hoppe, 2007). In post-MFA world, the apparel supply chain gave importance to logistics connections with sourcing locations and became very sensitive towards transportation costs and other related risks (Abernathy et al, 2006). It was predicted that strong logistics and transportation services can enhance the competitiveness and conversely, service deficiencies may create business barriers (Nordas et al, 2006). The low cost countries which are not situated in the proximity of buying countries may face difficulty in getting export orders due to long transportation time (Evans and Harrigan, 2005; Brenton and Hoppe, 2007).

1.1.1.4.2. MFA phase out and shrinking lead time

Reduction in order lead time of apparel exports was due to two types of competition. One, due to MFA phase out there was fierce competition amongst exporters to bag orders in quota free world. For this, cost and time were two most crucial order winning criteria (Birnbaum, 2005; Oh and Kim, 2007). Second, the new business strategy popularly known as ‘Fast Fashion’ was spreading its roots (Barnes & Greenwood, 2006; Tokatli, 2007). Fast fashion aims to reduce the processes involved in the buying cycle for getting new fashion product into stores, in order to satisfy consumer demand at its peak and this was achieved primarily by lead-time reduction (Christopher et al., 2004; Bruce and Daly, 2006; Doyle et al, 2006; Kim at al, 2013). Since the emergence of this formula, it has been an ongoing trend to follow fast fashion business strategy by reducing lead times and thereby responding rapidly to market trends (Runfola and Guercini, 2013; Taplin, 2014). In the beginning of 1990s, the lead time was 120-150 days which was reduced to 90-100 days in 2007. Currently countries like India and Pakistan get 45-60 days of lead time whereas China is capable of shipping orders in 30 days also (Kapuge and Smith, 2007; Nuruzzaman & Haque, 2009).
1.1.2. Indian apparel exports

Although India has rich textile heritage, the linkages of its apparel industry with global clothing chains are relatively recent compared to textiles. Till 1970s India was mainly an exporter of textiles and barely had any export-oriented garment production. India’s apparel exports took off from mid 1980s. The first phase of growth of apparel exports took place in the early 1970s. Between 1970 and 1976 India’s apparel exports grew seven-fold in six years. The value of apparel exports rose from $30 million to $200 million. The second phase of growth began in the mid-to-late-1980s. This growth and was triggered by the government’s new textile policy. Apparel exports grew more than double in five years rising from $914 million in 1985 to $2.5 billion in 1990. The third phase of growth began in early 1990s and was catalysed by further progressive policies of government. Apparel exports grew at a compound annual growth rate of eight percent per year between 1991 and 1995 (Tewari, 2005).

Indian exporters have ability to produce novel products with innovative approaches and at comparatively low cost. Apparel buyers who are looking for innovative products prefer India as a sourcing destination. The diversified design sensibilities of different cultures, usage of vibrant colours, numerous kinds of hand embroidery and print techniques have given unique edge to Indian apparel exports. Yet design innovation is not the only benefit. Buyers work with Indian suppliers because of category expertise, a high level of convenience, functional capabilities, effective pricing structures, and good service (Singh, 2008). India’s export success reflects the growing number of manufacturers that were able to serve as full-package suppliers to a diverse set of foreign buyers (Bair, 2008). Many US firms consider India as primary alternative to China (USITC, 2004)

1.1.2.1. Importance of textile and clothing exports

The textiles and clothing industry is one of the mainstays of the Indian national economy. The textiles industry accounts for 14 percent of industrial production, which is 4 percent of GDP and gives employment to approximately 45 million people and is the highest employer after agriculture industry. Readymade garments
account for almost 39 percent of the total textiles exports (Narayan, 2008; Singh, 2008; Annual Report, Ministry of Textiles 2012-13). Readymade garments were the largest contributor to total textile and apparel exports for financial years 2012 (IBEF, 2014). Figure 1.1 gives detail of share of textile and clothing.

**Figure 1.1: Shares in India’s textile and clothing exports**

![Chart showing share of textile and clothing exports]

Source: India Brand Equity Foundation (2014)

**1.1.2.2. India’s performance and position in global apparel exports**

Since 1980s India has been able to register growth in apparel exports value but has not been able to enjoy substantial share of world apparel trade. Except 2005, the first year of free trading environment, the dismantling of quantitative restrictions had not pushed India’s clothing export to the desired level (Ref. Figure 1.1). In the new millennium, India’s share in world trade remained almost unchanged – hovering around 3 percent only (Ref. Figure 1.2). Whereas competitors like China and Bangladesh grew very fast. (Ref. Table 1.1). The total textile exports during 2012-13 (April-December) was valued at US$ 21996.04 million as against US$ 23819.72
million during the corresponding period of previous financial year registering a decrease of 7.66 percent (Annual Report, Ministry of Textiles 2012-13).

Figure 1.2: India’s Apparel Exports value wise (2003-2012)

![Graph showing Apparel Exports value in US $ Billion from 2003 to 2012](image)

Source: International Trade Statistics, WTO, 2003-2013, author’s compilation

Figure 1.3: India’s share in World Apparel Exports Trade

![Graph showing Percentage share in World Trade from 2003 to 2012](image)

Source: International Trade Statistics, WTO, 2003-2013, author’s compilation
1.1.2.3. India and post-MFA scenario

Asian countries especially India and China were predicted to be the potential beneficiaries of post-MFA with their stable supply networks and large production capacities (Chadha et al, 1999; Tewari, 2005; Bair, 2008; Thoburn, 2010). Cost competitiveness of the exporting country was predicted to become one of the most important determinants of apparel exports in the post quota regime.

India was not in a very comfortable position in this regard and needed to focus on cost reduction to compete with other Asian countries (Hashim, 2004). It was estimated that India’s share in world trade could quadruple from about 4 percent to 15 percent after the removal of quotas (Nordås, 2004) but India could not ever cross even 4 percent share of world apparel exports (ITS statistics, WTO, 2003-2013). China was the clear winner along with Bangladesh, Vietnam and Cambodia performing very well but India’s performance was disappointing (Thoburn, 2010).

1.1.2.4. Challenges of Indian apparel industry

The reasons for India not reaching to its predicted potential performance are many. Indian apparel industry suffers from technological obsolescence, fragmented capacities, low scales of operation, rigid labour laws, less competitive pricing, product quality and business culture issues, poor logistic support etc. (Hashim, 2004; Tiwari, 2005; Singh, 2008).

Study on buyers’ perception of India as an apparel sourcing country showed that while India was perceived satisfactorily on price, quality, flexibility, small order quantity etc. but was perceived unfavourably on lead times, responsiveness, communication, trust, meeting contractual obligations, ethical standards etc. (Verma, 2002). The existing challenges though not proving as deterrent for buyers to not to do business with Indian suppliers but may hamper long term business relationship. For Asian countries the supply chain lead time is longer and efficient order processing can help suppliers to improve lead time (Kumar and Arbi, 2008).
1.1.2.5. Logistical challenges

Few research studies have mentioned about logistics challenges affecting Indian apparel exports industry like port infrastructure, customs regulation, cumbersome inspection, poor rail and road infrastructure, poor quality of inland roads, large number of octroi posts, lack of available space, slow clearance time, no link facility at ports and airports (Ramachandran, 2001; Shetty, 2001; Verma, 2002). Due to a relatively poor infrastructure, it is more expensive for India to ship a single container of garments to the U.S. when compared to other Asian countries. India also faces transit time delays due to a scarcity of direct sailing vessels, as well as delays caused by general inefficiencies in Indian ports when compared to other Asian countries (Singh, 2008). Personal safety, security of shipments between factories and ports and bureaucratic red tape and infrastructure are issues while doing business with India (USITC, 2004).

1.2. Research questions and objectives

The background of the research emphasizes the importance of apparel exports in global sourcing and also the crucial role of lead time and logistics in this regard. Background history of Multi Fibre Agreement, post-MFA scenario and trade performance of leading exporting countries clarifies the performance and prevailing conditions of Indian apparel exports industry. Explanation of importance of textile and apparel industry to Indian economy, existing challenges hampering the lead time management and potential growth justifies the need of research work. Logistics related issues have emerged as one of the major challenging area for Indian apparel industry.

So far the body of literature only mentions few logistics challenges but does not cover entire gamut of micro level logistics challenges related to logistics of Indian apparel exports industry. The severity level of these challenges affecting delivery lead time has also not been covered in any study.
Therefore the research questions are,

- Research question 1: Which are the key issues and challenges that significantly affect outbound logistics activities having effect on delivery lead time of apparel exports?

- Research Question 2: What is the impact of key issues and challenges of outbound logistics activities on delay in delivery of apparel shipments and its cost implications to apparel exporters?

The research objectives based on research questions are:

- Research Objective I: Identification of key issues and challenges in context of international outbound logistics of apparel exports that affect delivery lead time.

- Research Objective II: Measurement of severity level of key issues and challenges in outbound logistics activities that affect delivery lead time of apparel exports.

- Research Objective III: Measurement of delay lag and cost implications to apparel exporters due to delay in delivery lead time of apparel shipments resulting from issues and challenges involved in outbound logistics activities of apparel exports.

1.3. Thesis organisation

The chapter organisation of the thesis is explained with the help of diagram. Figure 1.3 delineates the research structure of this study with the corresponding chapters from two to eight.
Figure 1.3: Research structure with the corresponding chapters

- **Chapter 2**: Literature Review → Research Gap
- **Chapter 3**: Research Aim/Objectives
- **Chapter 4**: Research Methodology → Conceptual Framework/Research Hypotheses
- **Chapter 5**: Phase I
  - Pilot Study
  - Identification / Validation of existing issues and challenges and cost parameters
  - Cycle time of logistics activities in no delay scenario
- **Chapter 6**: Phase II
  - Stage I
  - Identification of key issues and challenges
  - Relationship between key issues and challenges and outbound logistics activities
- **Chapter 7**: Phase III
  - Delay lag and cost implications
- **Chapter 8**: Conclusion, Contributions → Policy Implications → Future Scope & Limitations
1.4. Summary

The introduction chapter has provided an extensive coverage of relevant researched matters as background of the present of study. Globalisation brought out wide scope of opportunities for international trade and benefited world economy through global sourcing. Apparel industry adopted global sourcing in a big way and was considered as typical example for global sourcing. Apparel industry has been able to exploit the prime benefits global sourcing in terms of price, quality, and product diversification. But on the other side the industry has been struggling with the challenges in the areas of regulation policies, logistics performance, cultural differences, political and economic uncertainties, etc. Many research studies have emphasized logistics delays as most crucial risk to apparel exports considering the seasonality and time sensitivity of apparel products. The apparel industry has experienced extreme competition amongst suppliers and this competition increased due to abolition of quantitative restrictions in the post MFA phase. This fierce competition brought out the significance of lead time management, on time delivery and logistics performance. It was predicted that India will emerge as big gainer in the post MFA phase but it did not happen in the quantum which was expected. Indian apparel industry has played an important role in Indian economy and has grown over the decades since 1970. But Indian apparel industry has its own set of issues and challenges. Many researchers have identified delayed delivery and logistics hindrances as crucial challenges for Indian scenario. So far many studies have mentioned about these challenges but no study was found having focus complete logistics activities and related issues and challenges with respect to apparel exports. Moreover, the severity level of challenges affecting delivery lead time of apparel exports was not measured. Therefore, the identification of key logistical issues and challenges and their severity level of affecting delivery lead time of Indian apparel exports became main objectives of the study. The other objective was to find out the delay lag and cost implications to apparel exporters due to delay in delivery lead time of apparel shipments originating from logistical issues and challenges. The second last section of the chapter has outlined the research structure and chapter plan of the thesis.