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# A Study on Advantages of Sourcing Apparel from Bangladesh

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A STUDY ON ADVANTAGES OF SOURCING APPAREL FROM BANGLADESH

A Thesis

Submitted to the Graduate Faculty of the  
Louisiana State University and  
Agricultural and Mechanical College  
in partial fulfillment of the  
requirements for the degree of  
Master of Science

in

The Department of Textiles,  
Apparel Design and Merchandising

by

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## **ABSTRACT**

The United States apparel industry has become more dependent on the overseas vendors; it is important for the industry to get to know about the sourcing destination more precisely. In general, developing countries are the leading suppliers of the apparel goods for the United States. But in practice, these countries are different in their strengths and weaknesses to fit in the supplier base for the US market. This study sought to identify the benefit factors of sourcing apparel from Bangladesh.

The objectives of this study were to: Identify the considering factors of apparel sourcing; investigate the effect of these sourcing factors on Bangladesh; test the effect of these sourcing factors with regards to United States apparel imports; and identify relationships among sourcing factors regarding Bangladesh and United States imports. An online survey was administered to 106 industry professionals related to sourcing in the US. Data was analyzed using descriptive statistics and multiple regression. Participants found Bangladesh as a favorable apparel sourcing destination for several reasons.

Results indicated many US apparel retailers, brands, and importers do not have experience sourcing apparel from Bangladesh. Additionally, results indicated participants were not aware of the detailed offerings of the vertically integrated Bangladeshi vendors. Inexpensive labor and standard product quality were considered positive influencing factors to source apparel from Bangladesh. Participants found import tariff and lead time as constraints for Bangladesh. Currency exchange rate between US dollar and Bangladeshi taka was not considered an issue by the participants. Results of this study indicate multiple advantages exist for US based apparel companies to source their manufacturing in Bangladesh.

## CHAPTER 1. INTRODUCTION

When capitalism becomes global, economic activity is not a domestic phenomenon rather more international in scope. Economic activities across national boundaries have been named internationalization. Though this is an ancient phenomenon, globalization is a recent concept evolved from internationalization. The history of colonialism reflects this movement when colonial empires were in need of raw materials and new markets for trading their produced merchandise (Gereffi, 2002).

Two different types of economic transaction networks have evolved due to globalization – producer driven networks and buyer driven networks (Gereffi, 1994; 1999). A producer driven network includes industries like computers, aircrafts, automobiles and heavy machinery; whereas a buyer driven network includes branded manufacturers, open marketers and retailers of any kind. This pattern of trade globalizes labor intensive industries like footwear, handicrafts, jewelries and garments. In this model, the design or specifications are supplied by the brand or retailers who order the apparel merchandise. Generally, developing nations' vendors take the responsibilities of producing finished goods for the foreign buyers.

Textile and apparel manufacturing industries have been considered an important element in economic activity and growth since the beginning of the Industrial Revolution for basically two reasons: textiles and apparel are basic items of consumption in all countries, and apparel manufacture is labor-intensive, requiring relatively little fixed capital but can create a substantial employment opportunity (Joarder, Hossain, & Hakim, 2010). Thus, textiles and apparel have been major issues in trade relations among and between many countries (Dickerson, 1995). Consequently, a large number of agreements (multilateral and bilateral), mainly between

developing and developed countries, were signed over the years to control the quantity trade of textiles and apparel (Gelb, 2005).

Historically the United States (US) government has tried to protect the domestic apparel industry. In 1816 the political activity of lobbyists influenced congress to regulate cotton and wool imports (Giesse&Lewin, 1987). The trend is still in place even under trade liberalization as the average applied tariffs on imported apparel products are more than 10% when for other imported goods it is less than 5% in average (United Nations Conference on Trade and Development, 2002). But, the domestic production industry could not be sustained under the pressure of low-cost imports from developing countries. Over the last three decades, US retailers and brands have increasingly outsourced apparel from low cost overseas locations, notably Asia and Central America. Technological development in spinning, knitting, dyeing, weaving, in conjunction with imports of modern machinery helped developing countries to manage productivity and standardize quality of products (Organization for Economic Co-operation and Development, 2004). As the US apparel import matrix grew, it developed a mix of different countries from different parts of the world including China, Vietnam, Bangladesh, India, Mexico, Honduras and Indonesia.

## **1.1 Background**

This section contains a brief discussion of the key concepts that will be analyzed within the research study: Apparel Outsourcing, Labor Cost, Tariffs, Product Quality, Lead Time and Currency Exchange Rate.

### 1.1.1 Apparel Outsourcing

According to Shelton and Wachter (2005), the idea of outsourcing is “to move a job or function from a high cost to a lower cost location outside the country” (p 318). In the 1970s and 1980s global competition made ways for corporations, specially manufacturing companies, to import products (Cho & Kang, 2001). The initial goal of apparel outsourcing was to gain low cost operations and to satisfy the need for business flexibility that are essential to serve the market demand of low cost fast fashion (Shelton &Wachter, 2005). The Generalized System of Preferences Act (GSP) enacted by the US congress in 1974 was a controlling tool for the duty free import of textile and apparel products from developing counties including China and Bangladesh. In the 1990s, as organizations began to focus more on cost-saving measures, they began to import products keeping the necessary functions in-house to run a company’s core business including service function, research and development. To optimize profit, US apparel businesses relied on the production facilities of Far East countries like Hong Kong, Korea and China (Gereffi, 2001). As the Chinese economy has developed exponentially in last decades, importing product from China has become less profitable. Importers now seek to find alternative cost effective destinations for apparel products and with its strengths Bangladesh has come into the picture of the US apparel market as a leading outsourcing nation.

### 1.1.2 Labor Cost

Labor costs include not only the wage paid to an incremental unit of labor but also all the compensations paid to a laborer by an employer (Triplett, 2007). Location shift, the process of changing sourcing destination for low cost products, has become a common phenomenon in the textiles and apparel industry. This trend was observed as early as the 1950’s (Gereffi, 2002).In

most cases this move was from North America and Western Europe to Asian countries.

Neoclassical economics provided the simplest explanation for this shift (Gereffi, 2002). It states that apparel manufacturing being one of the most labor intensive operations, will be located in the countries with comparatively lower wages. Cho and Kang (2001) investigated the benefits of global outsourcing in the context of US apparel retail firms. They found cost reduction to be one of the most important causes for apparel outsourcing. As the apparel industry is highly labor intensive, wage is a significant part of the production cost. In that case, cost reduction is highly influenced by the low labor costs. When wages are significantly higher in the United States than some developing countries with large populations, apparel products can be sourced at reduced cost from those countries rather than from US manufacturing units (Barbee, 1998).

### 1.1.3 Tariffs

Tariffs are import taxes imposed by any government on imported goods (Clodfelter, 2012). Since the inception of textile and apparel outsourcing in the United States, the US International Trade Commission (USITC), has regulated businesses involved in international outsourcing. Among all products, imported textiles, apparel, footwear, and leather products face the highest amount of import tariff to pass the entry barrier in the United States (United States International Trade Commission, 2011). A number of agreements have been formed by the US government to regulate the inflow of the commodities, many of which have highly affected textiles and apparel imports. The Generalized System of Preference (GSP) was proposed at the first United Nations Conference on Trade and Development (UNCTAD, 2002) held in 1964. Under the GSP, the US allowed specialized tariff for certain manufactured articles imported from some specific countries, while for other non-preferred nations, import duties were put under most favored nation (MFN) categories (Clark & Zarrilli, 1992). Hence, tariff plays an important role in

apparel production and investment in several countries. Other acts including the North American Free Trade Agreement (NAFTA), African Growth and Opportunity Act (AGOA), the Trans-Pacific Partnership (TPP), Multi Fiber Agreement (MFA), and the Agreement on Textile and Clothing (ATC) have an effect on the import tariffs of apparel (Frederick &Staritz, 2012).

#### 1.1.4 Product Quality

According to the American Society of Quality (2015), product quality is “The characteristics of a product that bear on its ability to satisfy stated or implied needs”. Today’s consumers are quality conscious. They want quality products at low prices, though there are a few consumers who are willing to pay more for certain branded items believing that higher quality comes with higher price (Cho & Kang, 2001). Additionally, the quality of a product is not enough. The quality of service also matters for customer satisfaction (Cho & Kang, 2001). According to Bhaduri and Ha-Brookshire (2011), consumers are concerned about where the products come from, because country of origin is a representative of quality in their mind. Declaring a country of origin label is mandatory for all imported products sold in the United States (Federal Trade Commission, 2015). But, according to Ha-Brookshire (2012), “fibers, textiles, accessories, and other raw materials are produced in various countries and transported to other countries to be assembled into a final product” (p 19). Research has shown a connection between country of origin and consumer’s quality perception. However, no studies were found surveying apparel professionals’ opinions about the quality of products outsourced from Bangladesh.

### 1.1.5 Lead Time

According to Clodfelter (2012), lead time includes the time between placing an order and receiving the goods in house. Lead time is an important parameter of any kind of supply chain management. In a buyer driven commodity business, lead time is the time between placing the order and receiving the physical goods. Product development lead time is the other motivating factor in global sourcing. Lead time reduction is one of the expected processes in the international apparel trade that can meet the demand of fast fashion (Glock, 2012). Apart from apparel, some product categories are influenced by the productivity and profitability of the Japanese just-in-time system. Glock (2012) noted, “Reducing lead times is especially important in situations where customer demand is uncertain, since long lead times put the company at a high risk of running out of stock before an order arrives” (p 37). Hence, for this study, lead time is a considerable parameter for import benefit.

### 1.1.6 Currency Exchange Rate

Currency exchange rate is the currency price of one country compared to that of another country, and it changes on an almost daily basis (Berman, Martin, & Mayer, 2012). Both consumers and international businesses are affected by significant changes in currency exchange rates (Kamil, 2012). Exchange rate impacts primarily on international trade parameters such as import prices, consumer prices and export import volume (Berman et al., 2012). In 1995, \$1.00 US was able to buy 40.50 Bangladeshi Taka (BDT). However, in 2015 \$1.00 US now buys 77.50 BDT (oanda.com, 2015). In last twenty years, this 91.36% change in exchange rate has influenced the export import trade between the United States and Bangladesh, which will be considered for this study.

### 1.1.7 Summary

A number of studies have been conducted on the process of outsourcing and on the benefit and need of apparel sourcing from overseas countries, but this study will specifically examine the apparel trade relation between the United States and Bangladesh. Research has shown that there are several reasons for developed countries to be involved with a developing country for bilateral trade (Joarder et al., 2010). The history of bilateral apparel trade between the United States and Bangladesh can be found as early as the late 1970s (Haque&Taslim, 2011). Since then the business has grown and continues to grow on a large scale (World Trade Organization, 2015). But this bilateral trade has not received researcher focus and the driving forces behind this relationship have not yet been identified. It is predicted that understanding the effect of these factors will help retailers, brands and apparel importers to guide their business with Bangladesh in the future. Knowing what factors get positive influence and what factors get negative influence will help US companies to develop strategies to gain competitive advantage.

### **1.2 Statement of Problem**

Due to insufficient domestic apparel production capacity, the United States is dependent upon overseas vendors with sufficient and reliable production capacity. Low cost of imported products and high cost of domestic labor both encourage this nation to take help of the workforce of other countries to meet the domestic demand. Thus, it is necessary to evaluate the benefits that can be offered by a particular destination. No assessment or the wrong assessment can lead to the US absorption of huge financial loss in this sector.

### **1.3 Study Purpose and Objectives**

Retailers and importers of apparel products seek to gain benefit by outsourcing from overseas destinations (Shelton & Wachter, 2005). Different outsourcing destinations have different strengths and weaknesses (Lopez-Acevedo & Robertson, 2012). An assessment of Bangladesh on the basis of selected outsourcing criteria can identify its potential benefits to brands and retailers as an outsourcing destination. Hence, the main purpose of the study is to identify the benefit factors associated with the apparel outsourcing from Bangladesh. It seeks to investigate two main areas: (1) what are the considering factors of apparel outsourcing from Bangladesh? And (2) what is the intensity of the influence of these factors on the outsourcing decision?

- a) Identify the considering factors of apparel sourcing.
- b) Investigate the effect of these sourcing factors on Bangladesh.
- c) Test the effect of these sourcing factors with regards to United States apparel imports.
- d) Identify relationships among sourcing factors regarding Bangladesh and United States imports.

### **1.4 Scope and Significance of the Proposed Study**

For many years, most US firms have followed the buyer driven business model. Whereby, they design and/or market, but do not manufacture the products they brand; the actual production of their products is outsourced (Gereffi, 1994). This list includes retailers like Target, Walmart, Sears, Dillard's, JC Penney and Macy's, sport footwear companies like Nike, Adidas, Reebok, New Balance and converse, and fashion apparel companies like The Gap, Ralph Lauren, Forever 21, Liz Claiborne and The Limited (Gereffi, 2002). These companies are actually

“manufacturers without factories” and their design and marketing wings are totally separated from the physical production of the goods they sell. Gereffi (1994) stated “Profits in buyer driven chains derive not from scale, volume, and technological advances as in producer driven chains, but rather from unique combination of high value research, design, sales, marketing, and financial services that allow the retailers, designers, and marketers to act as strategic brokers in linking overseas factories and traders with evolving product niches in their main consumer markets” (p 95). Hence, selecting the right sourcing strategy is one of the key components for the success of the companies of this industry.

As the US apparel industry has become more dependent on the overseas vendors, it is important for the industry to get to know about the sourcing destination more precisely. There is a common ground found that, in general, developing countries are the leading suppliers of the apparel goods for the United States. But in practice, these countries are different in their strengths and weaknesses to fit in the supplier base for the US market. Most of these countries also supply apparel products in the European markets. So, there is a competition for the United States importers to place the right order to the right place. According to the World Trade Organization (WTO), in 2014, Bangladesh was the 2<sup>nd</sup> largest apparel exporter globally. Now, this study will add to the literature by identifying the benefit factors of sourcing apparel from Bangladesh.

Most of the previous studies investigating United States apparel outsourcing have focused on China. A few have examined Asian countries such as South Korea, Hong Kong, India, and Japan, as well as Central American countries including Mexico and Honduras. But in the last three decades, no published studies could be found that focused on the apparel business between the United States and Bangladesh with regards to apparel imports. As the US and Bangladesh

have maintained a trade relationship for a long time period, this study will help to fill the gap of the literary work.

The few studies that could be found regarding the apparel business in Bangladesh have focused on business growth after MFA, social influence apparel sector, sustainability of Bangladeshi garment factories, and foreign direct investment in Bangladesh. This study is unique as it will highlight the specific relation between Bangladeshi apparel manufacturing and the US apparel import.

### **1.5 Definition of Terms**

Apparel outsourcing – A process of procurement of apparel products from overseas vendors (Shelton &Wachter, 2005).

Bretton Woods system - A system of controlling international financial system and currency evaluation considering US in the leading role (Dooley, Folkerts-Landau, & Garber, 2004).

Capitalism - an economic system characterized by private or corporate ownership of capital goods, by investments that are determined by private decision, and by prices, production, and the distribution of goods that are determined mainly by competition in a free market (Merriam-webster dictionary, 2015).

Currency exchange rate - The currency price of one country in against that of another country is currency exchange rate (Berman et al., 2012).

Developing nations – The countries with gross national income per capita from US \$ 1,036 to US \$ 4,085 are developing nations (World Bank, 2013).

Fast fashion – Apparel that has very short life cycle, sometimes just few weeks not even a month (Keiser & Garner, 2012).

Just in time – A term first used by Japanese car manufacturing company Toyota which means having all the assembly parts available in the manufacturing plant without having any stored inventory (Stevenson, 2012).

Labor cost - Labor cost is the total compensations paid to a laborer by an employer (Triplett, 2007).

Lead time - The time between placing an order and receiving the goods in house (Clodfelter, 2012).

Product quality - Product quality is the characteristics of a product that bear on its ability to satisfy stated or implied needs (American Society of Quality, 2015).

Tariffs - Tariffs are import taxes imposed by any government on imported goods (Clodfelter, 2012).

Vertically integrated vendor - Vertically integrated vendor is the company which undertakes a process to integrate forward or backward linkage to improve its control over the supply chain (Stevenson, 2012).

## **CHAPTER 2. REVIEW OF RELATED LITERATURE**

This chapter discusses the literature related to the research topic - a study on advantages of sourcing apparel from Bangladesh. The following areas will be discussed; Framework for Examining Outsourcing, Outsourcing, Bangladesh Overview, US Apparel Imports, Labor Cost, Tariffs, Product Quality, Lead Time, Currency Exchange Rate, Summary, and it concludes with Hypotheses.

### **2.1 Framework for Examining Outsourcing**

The theoretical framework for this study is found in the Purchasing Handbook by Aljian (1958), where the Weighted Point Evaluation Method (WPEM) was first introduced for sourcing. The WPEM was appreciated for its usefulness and effectiveness. From the outset, this multi-criteria evaluation model had the advantage of simplicity, understandability and ease of implementation. The advantages of the weighted point method include the ability for the organization to include numerous evaluation factors and assign them weights according to the organization's needs (Dobler & Burt, 1996). The 3rd version of the same work published in 1973, continue to tout the method. Typically this system is designed to utilize quantitative measurements. In 1996, Dobler and Burt certified the WPEM as an effective and efficient method for evaluating vendors. With such longevity and acceptance within the purchasing world, WPEM is the method that will be used to generate a research model.

The WPEM weights various factors or criteria of concern to a total 100 percent. Variables are then rated on each of the criteria as to how each stacks up against the criterion's maximum. Finally a total rating is computed, which is the sum of rated weights. Variables are compared by the single total rating number. The variable with the highest total number is the

most influential; the second highest number is the second most influential and so on. We will analyze our sourcing variables on the basis of this method. A proposed analytical model is illustrated in Figure 2.1.

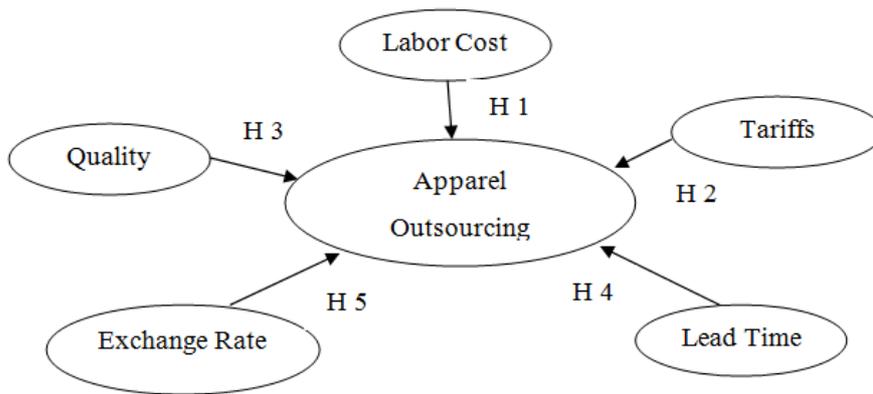


Figure 2.1 Proposed Analytical Model.

## 2.2 Outsourcing

### 2.2.1 Explanation of Outsourcing

According to Oshri, Kotlarsky and Willcocks (2015), sourcing is the act through which work is contracted or delegated to an external or internal entity that could be physically located anywhere and outsourcing can be defined as contracting with a third-party supplier for the management and completion of a certain amount of work, for a specified length of time, cost and level of service. Outsourcing is defined by Chase et al. (2004) as an “act of moving some of a firm’s internal activities and decision responsibilities to outside providers” (p 372). Lankford and Parsa (1999) similarly state “outsourcing is defined as the procurement of products or services from sources that are external to organization”. Again, Handfield (2008) defined

outsourcing as “the strategic use of outside resources to perform activities traditionally handled by internal staff and resources”. These and other definitions agree that outsourcing involves allocating or reallocating business activities (both service and/or manufacturing activities) from an internal source to an external source (Schniederjans, Schniederjans, & Schniederjans, 2015). Finally, outsourcing is a strategic decision by which an organization contracts out major functions to specialized and efficient service providers, who become valued business partners (Handfield, 2008).

### 2.2.2. History of Outsourcing

Searching for a competitive advantage to increase markets and profit has been a concept of companies since the industrial revolution (Handfield, 2008). Hence, the history of outsourcing in America’s history is said to date as far back as the 1800s when the manufacture of clipper ship sails was done in Scotland (Cantoria, 2011). Both Cantoria (2011) and Gobble (2013) confirmed the revival of outsourcing around the 1970s. Consequently, in the 1970s and 1980s, the lack of proper management structure and global competition made ways for corporations, especially manufacturing companies, to outsource (Hanfield, 2008). However, outsourcing was not formally identified as a business strategy until 1989 (Mullin, 1996). In the 1990s, as organizations began to focus more on cost-saving measures, they started to outsource those functions necessary to run a company but not related specifically to the core business (Hanfield, 2008).

Gobble (2013) researched the reasons for outsourcing in modern time. His findings include pursuit of lower costs, a tighter focus on core competencies, and increased agility. These are the basic factors behind outsourcing when corporations can hold onto core functions like

research and development (R&D), product development, and innovation. A 2011 survey by Ilan Oshri and Julia Kotlarsky of the Warwick Business School, commissioned by the outsourcing firm Cognizant, found that 70% of the 250 Chief Information Officers and Chief Financial Officers who responded believed that outsourced innovation had contributed significantly to their organizations' financial performance; 53% percent said that a vendor's innovation capabilities were an important factor in selecting an outsourcing firm. In today's fast-moving markets, that means wringing the most out of every possible advantage to reduce costs, speed development times, and get the best product possible to market—even if the best team for the job isn't inside the company.

### 2.2.3. Apparel Outsourcing

In the past decade or so, the popularity of outsourcing has increased significantly as a strategy for many North American and European companies (Kim & Rucker, 2005). Like other sectors, interest in outsourcing activities has also increased in the United States textile and apparel industries. Apparel companies want to gain competitive advantages from the evolving global marketplace (Su, Dyer, & Gargeya, 2009). The apparel industry is one of the first and largest industries actively and successfully involved in global outsourcing. Numerous apparel firms source globally without owning any production facilities: The Gap, Liz Claiborne, Nike, and The Limited are some among many. For example, Liz Claiborne, Inc., sources using 240 factories in 31 different countries (Jin, 2004). Countries with low labor costs got the chance to gain global market share in textile and apparel products that once were produced in the US (Shelton & Wachter, 2005). However, considering the amount of reduction in apparel production in the United States, it is obvious that labor costs are not the only reason that can explain production sourcing decisions (Gereffi, 2001). Research by Teng & Jaramillo found that, in 2005,

due to competition in the textile/apparel market, US apparel companies were adjusting their business strategies in many ways. One of those ways was by expanding their global outsourcing activities to reduce their manufacturing costs. Manufacturers in the USA moved to the foreign countries with more attractive tax policies and labor costs. In contrast, developing countries have adopted an aggressive devaluation policy for their currency to boost the demand of their products. Thus, purchasing becomes a much more critical part of the business process with the involvement of multiple international suppliers. Factors like cost, quality, lead time, flexibility and reliability are the main criteria on selecting a sourcing destination (Teng& Jaramillo, 2005; Sarkis&Srinivas, 2002). Outsourcing to developing nations continues to be a key strategy utilized by US textile and apparel brands (American Apparel and Footwear Association, 2015).

Ostroff (1996), on the other hand said that sourcing from the developing countries can be risky business. Bangladesh, Sri Lanka, China, Vietnam, Indonesia and the Philippines appear to be lucrative destinations for apparel and textile sourcing as their estimated hourly wage is less than \$1. These underdeveloped Asian countries have common problems: political and economic instability and doubtful infrastructures. Thus, identifying and selecting a sourcing destination remains one of the major challenges in an advanced manufacturing technologies' environment (Worldwide Responsible Accredited Production, 2015).

### **2.3 Bangladesh Overview**

Bangladesh has a long history of political evolution. Bengal was one of the wealthiest parts of the Indian subcontinent until the 16th century. Bengal was ruled by the Mauryas in the 2nd century BC, by Guptas in the 4th century AD, by Pal and Sen Dynasties until 1204 AD when the Muslim Sultanate period began (Bharadwaj, 2003). The Mughal dynasty was in charge from 1576 to 1757, after which the British East India Company and British Empire ruled over this

region till 1947 (Bharadwaj, 2003). From 1947 to 1970 Bangladesh was known by the name East Pakistan as a part of Pakistan (Islam, 2007). Bangladesh came into existence as an independent nation in 1971 after winning a nine month long war against the then military of West Pakistan (Heitzman& Worden, 1988; Islam, 1984).

Bangladesh now is a sovereign country located in the north-eastern part of South Asia in between India and Myanmar where the Bay of Bengal formed the southern coast line (Bangladesh National Portal, 2015). Officially named as People's Republic of Bangladesh, this nation possesses an area of 147,570 square kilometers (56,930 square miles) and its population is 150.2 million in a ratio of 50.83% male and 49.16% female (Bangladesh Bureau of Statistics, 2015). Among these people, 56 million are in the workforce and 30% of which are women (Bangladesh National Portal, 2015). The climate of this country is a kind of sub-tropical monsoon and humidity ranges from 36% to 99% when average temperatures can range from 11°C in winter to 38°C in summer (Bangladesh Bureau of Statistics, 2015). Bangladesh is one of the world's least developed countries with a high population density; it is vulnerable to climate change (Huq, Stevenson, &Zorzini, 2014). The national language of this country is Bangla, though English is widely understood and spoken (Bangladesh National Portal, 2015).

Bangladesh had a history of producing Muslin and Jamdani clothes in the early 17<sup>th</sup> century, which were famously used in luxurious garments in Europe and other countries (Ahamed, 2013). Muslin textile of Dhaka was globally desired, but this handloom industry was completely destroyed by British colonial repression to facilitate the flourishing of British textile industries in Manchester (Shikder, 2002).

From 1950 to 1980 jute and jute goods items were the main export products of Bangladesh (Haque&Taslim, 2011; Tanvir, Muqaddim& Hossain, 2014). During the fiscal year 1972-73, jute accounted for about 90% of the total export revenue of US \$377 million, but by the end of the 1970s, this ratio fell to about three-quarters of the total export revenue of US \$761 million (Haque&Taslim, 2011). Since the early 1980s, the readymade garments (RMG) industry has emerged as an important player in the economy of the country and has gradually replaced the jute industry (Haque&Taslim, 2011; Tanvir et al., 2014).

Ready to wear garments are now the largest export sector in Bangladesh, with more than 79% of the country's total foreign earnings generated from this sector in year 2012-13 (Wadud, Huda, & Ahmed, 2014; Export Promotion Bureau, 2015). The garments sector has experienced significant growth in Bangladesh for the last three decades, as shown in Figure 2.2. From a humble beginning of 12 enterprises in 1978, this industry currently consists of 4,296 factories in operation (Bangladesh Garment Manufacturers and Exporters Association, 2015; Tanviret al., 2014). Most of these factories are primarily distributed in two of the largest cities—Dhaka, the capital and Chittagong (Agenda, 2011; Tanviret al., 2014). Figure 2.2 shows the continuous and steady growth of garment factories in Bangladesh from 1984 to 2013. According to a Bangladesh Garment Manufacturers and Exporters Association (BGMEA) report, about 1,500 factories in Bangladesh follow international standards of manufacturing compliance (Alauddin, Saiful Islam, &Farjana, 2013). This sector provides opportunity for more than four million jobs, among which 3.6 million are women workers, which is 80% of the workforce (Tanviret al., 2014).

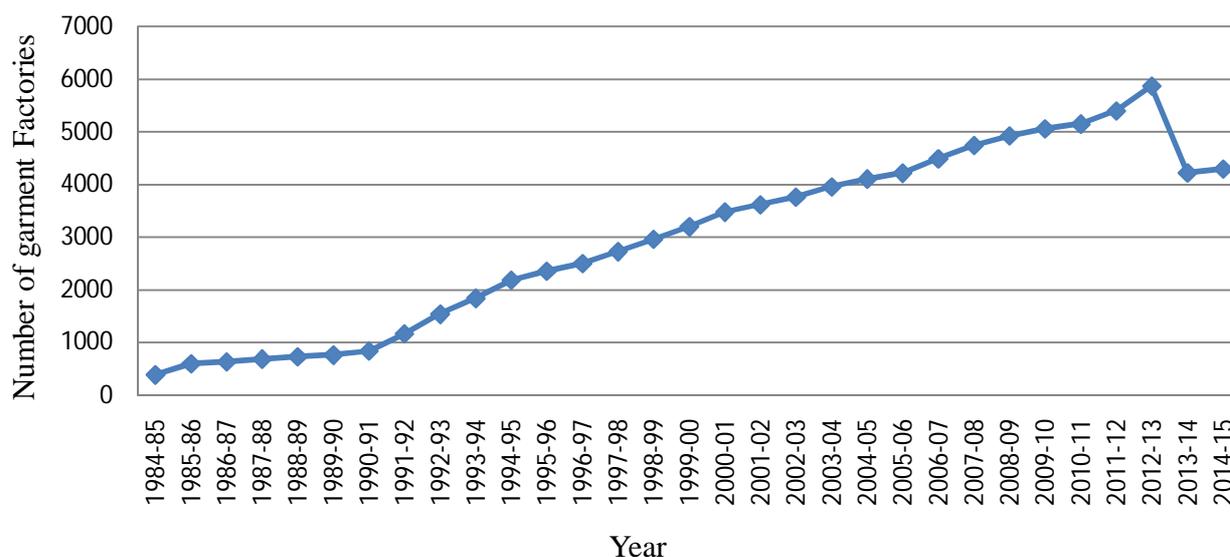


Figure 2.2 Garments Factory Growth of Bangladesh.  
 Note: Data produced by Export Promotion Bureau, 2015.

Ready-to-wear garments manufactured in Bangladesh are divided mainly into two broad categories: woven and knit products. Shirts, Jeans and trousers are the main woven products and undergarments, socks, stockings, T-shirts, sweaters and other casual and soft garments are the main knit products (Tanvir et al., 2014). Only a few categories, such as shirts, T-shirts, trousers, jackets and sweaters, constitute the major production-share (Bangladesh Garment Manufacturers and Exporters Association, 2015). Table 2.1 shows the gradual increase in export of different apparel categories in recent years. The growth percentage of Trousers and Jackets indicates the potentiality of exporting apparel of complex construction (Tanvir et al., 2014).

Table 2.1 Major Apparel Item Exported from Bangladesh.

YEAR	(Value in million US\$)				
	SHIRTS	TROUSERS	JACKETS	T-SHIRT	SWEATER
2011-2012	1733.54	4686.39	2231.16	4713.11	2340.34
2012-2013	1972.89	5185.48	2634.28	5143.22	2620.73
2013-2014	2173.73	5690.78	2973.16	5863.81	2932.94
2014-2015	2271.43	5697.83	3183.17	6064.13	2829.16

Note: Data produced by Bangladesh Garment Manufacturers and Exporters Association, 2015.

Bangladesh has shown tremendous growth in this industry (Berg et al, 2011) with exports of \$19 billion in 2012, second only to China (World Trade Organization, 2015). Figure 2.3 shows that the export volume of Bangladesh’s apparel is increasing every year; it crossed over \$ 25.0 billion in fiscal year 2014-15, shipping to about 200 countries and custom territories around the world (Haque&Taslim, 2011). The export earnings of the country are now equivalent to 18 percent of GDP suggesting considerable and growing importance of the export sector in thenational economy. The USA is the single largest importing country of Bangladeshi products while Germany and the UK are the second and the third largest (Haque&Taslim, 2011). Several sources and studies show that the North American and the European markets together provide outlet for about 90 percent of the apparel export of Bangladesh (Bangladesh Bank, 2015;Haque&Taslim, 2011).

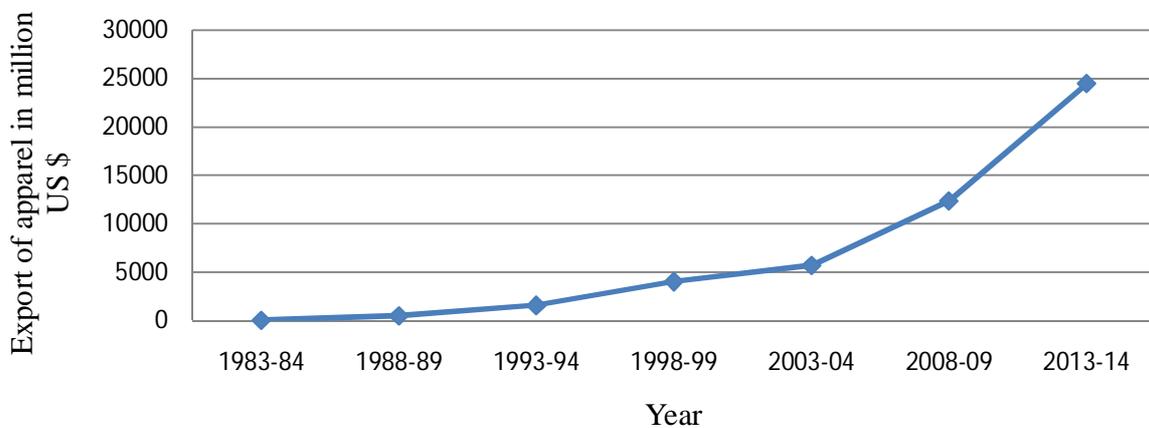


Figure 2.3 Bangladesh Apparel Export Historical data.

Note: Data produced by Export Promotion Bureau of Bangladesh, 2015.

Knit garments from Bangladesh have gained remarkable access to the European Union market in the last three years as shown in Figure 2.4. Additionally, as shown in Figure 2.4 the share of woven products in total garment exports from Bangladesh are a major source for the US

export. In comparison, export from Bangladesh to EU countries has grown at a higher percentage than export to the USA in the last three years.

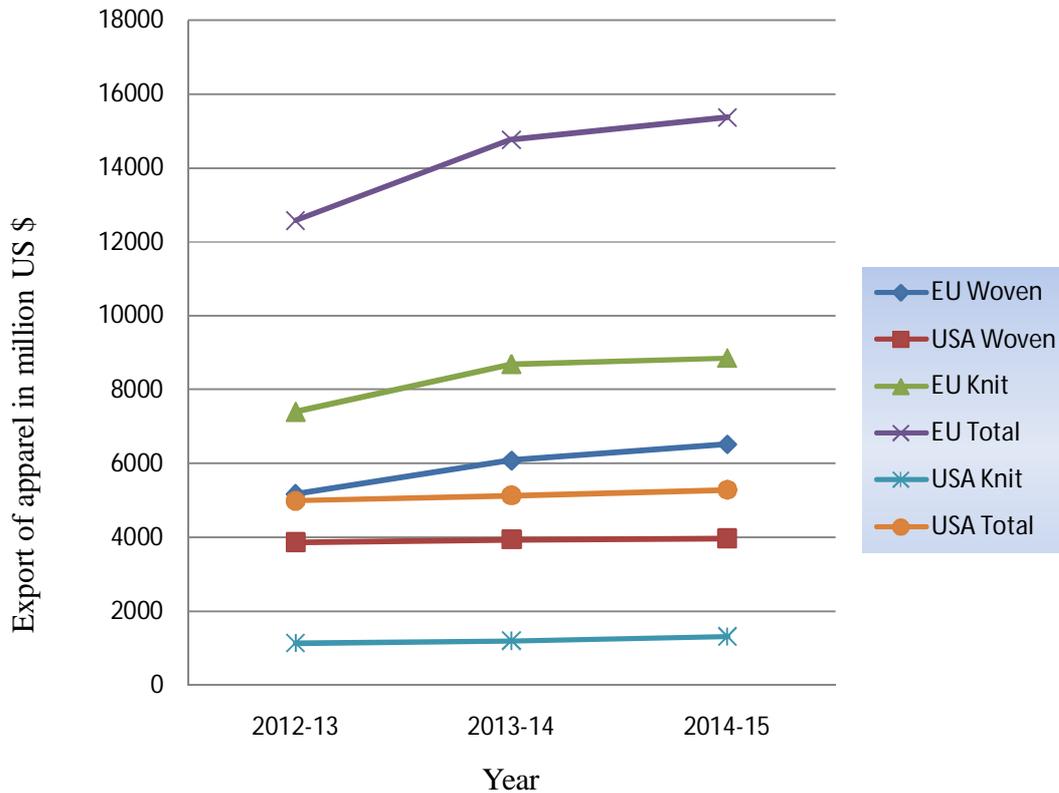


Figure 2.4 Destinations of Bangladesh Apparel Export.  
 Note: Data produced by Bangladesh Garment Manufacturers and Exporters Association, 2015.

In terms of exporting apparel to the USA market, Bangladesh observed a significant growth in knit apparels in the last two years with 5.92% in the year 2012-13 and 9.96% in the year 2013-14, as in Figure 2.5. The increase in total export value to the USA from Bangladesh reflects the advantages of outsourcing.

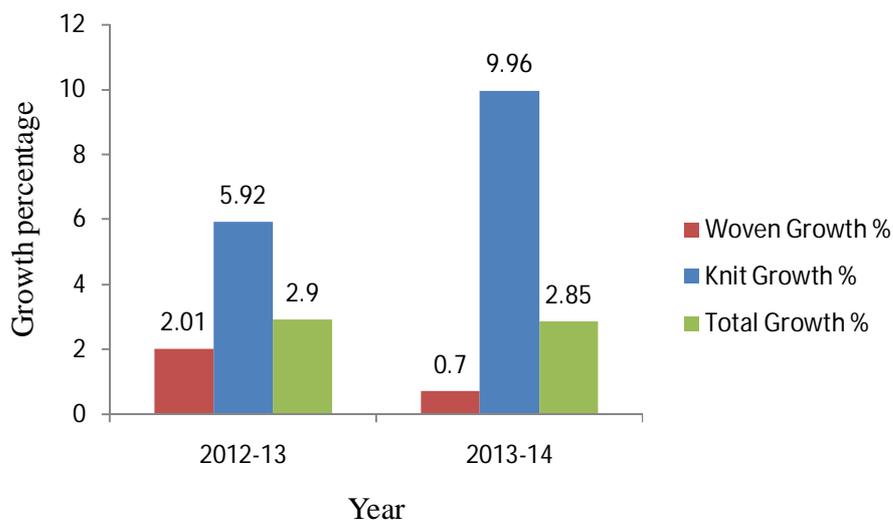


Figure 2.5 Growth of Bangladesh Apparel Exports to the United States.

Note: Data compiled from Bangladesh Garment Manufacturers and Exporters Association, 2015.

## 2.4 US Apparel Imports

The term import can be defined as the act of bringing goods or services into a country from abroad (Ha-Brookshire & Dyer, 2008). The United States and Japan are the largest apparel importers in the world and account for nearly 30% of the world's total apparel import (Lee & Hathcote, 2013). Since 1974, apparel imports in the US have increased as the importers significantly raised their import amount to serve the domestic demand. The countries from which these imports originate have changed in last few decades for several reasons. The Multi-Fiber Arrangement (MFA) of 1974 allowed developed countries to impose quantitative restrictions on textile and clothing imports from developing countries (Seyoum, 2010). But, after 2005 when the quota system was abolished sourcing destinations took a different route. As competition goes global, the domestic manufacturing was gradually replaced by the global manufacturers (Ha-Brookshire, 2009). A number of previous research studies on developed

countries found that their apparel industries have experienced import growth and decline in domestic production and employment (Lee, Karpova & Lee, 2014).

Figure 2.6 illustrates the textiles and clothing trade for the United States from 1980 to 2000. Between 1980 and 2000, apparel import dramatically increased by 776.03% from \$9,486 million to \$83,100 million. Hence the trade deficit increased by 1,322.47% from \$4,465 million to \$63,519 million. Figure 2.6 clearly shows this growth in apparel imports as well as the size of the apparel trade deficit.

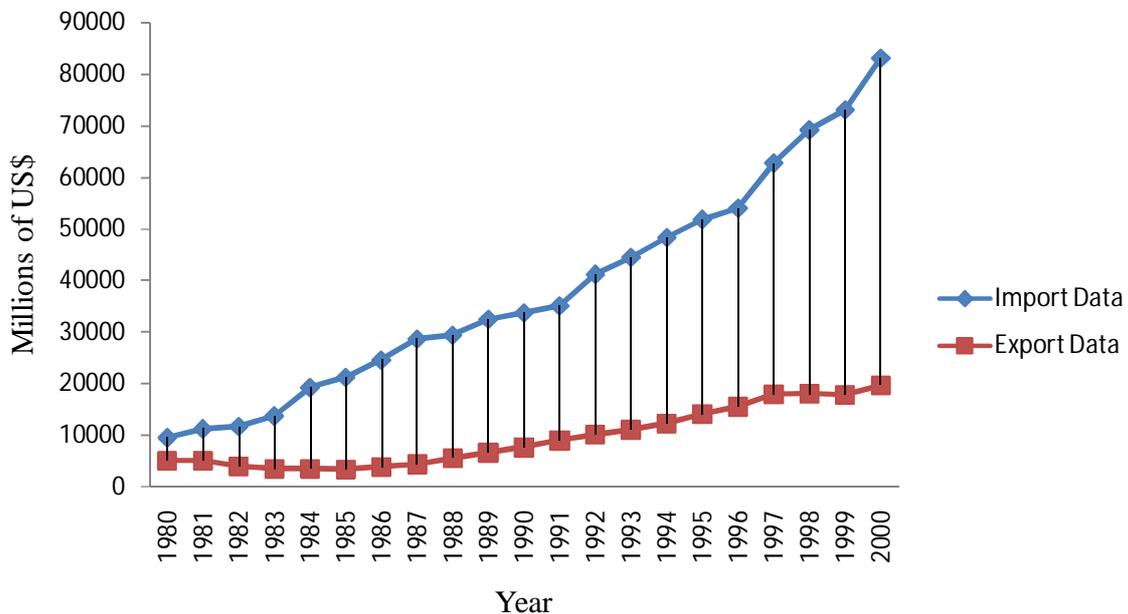


Figure 2.6 United States Apparel Trade Deficit from 1980 to 2000.  
 Note: Data produced by World Trade Organization, 2015.

The trend of increase in outsourcing for US importers continues even after the MFA era. Figure 2.7 illustrates apparel export and import from 2002 to 2014. A slight change of trend can be observed in 2008 and 2009 due to recession, but the trend continues to grow with 45.12% increase in import in the last twelve years and finally the import volume reached \$121.43 billion last year. The export line is quite steady for the same period that indicates the US apparel sector

trade deficit will continue to grow. Trade deficit reached 490.87% last year for the textile and apparel sector.

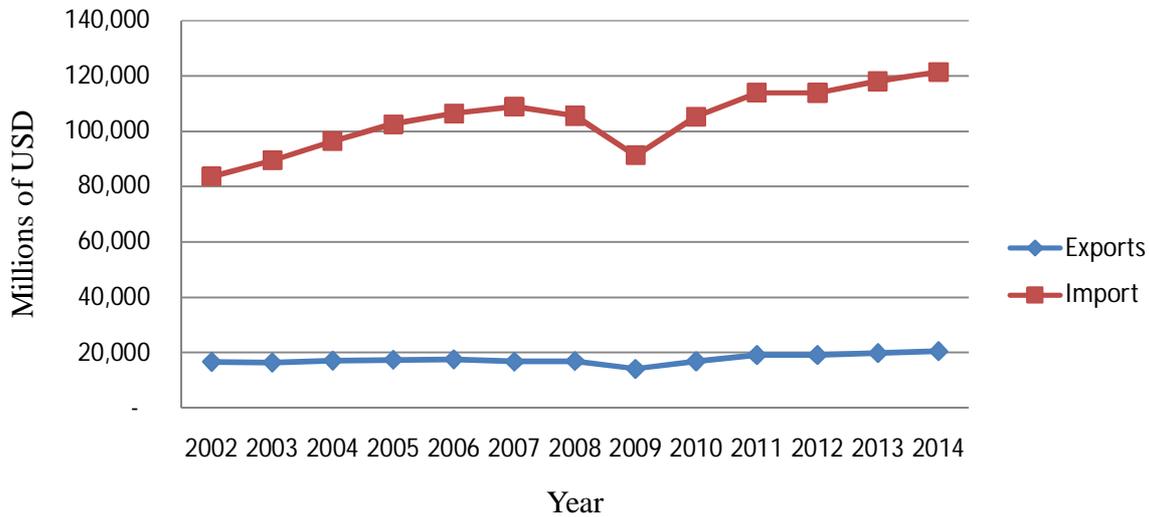


Figure 2.7 United States Apparel Exports and Imports from 2002 to 2014.  
 Note: Data produced by World Trade Organization, 2015.

Figure 2.8 illustrates changes in US apparel imports from China, Vietnam, Indonesia, Bangladesh & Mexico between the years 2002 to 2011, demonstrating that there was a significant difference in US apparel imports from these major countries during the last 10-year period. According to American Apparel & Footwear Association (2015), contributions of these five countries in the total import of the US for the year 2011 are 37.80%, 8.60%, 6.50%, 5.80% and 4.90% respectively. In last ten years, US imports of apparel from China continued to grow except in 2008 and 2009. After the recession, there is a tremendous annual increase in US apparel imports from China. Since the inception of outsourcing, China played a major role in US apparel imports.

Vietnam, Indonesia and Bangladesh were the leading exporters of apparel to the United States from 2002 to 2011. All of these countries experienced a significant growth in export to

the US in last decade. During the 1970s and 1980s South Korea and Taiwan were major trading partners of the United States (Hathcote& Nam, 1999). This shift in sourcing destination indicates US importers inclination towards continuous search for new suitable destinations. During the same time period Mexico, being geographically close to the US, continued to grow in its apparel exports to the US during 1974 to 1994. That trend was supported by the North American Free Trade Agreement (NAFTA) that allowed Mexico to enter the US market without any quota and tariffs restrictions if products made in Mexico were from US cut fabric. Recent declines in import from Mexico can easily be explained by the decline in US fabric manufacturing plants. Figure 2.8 illustrates 54.32% decline in export for Mexico to the US from 2002 to 2009.

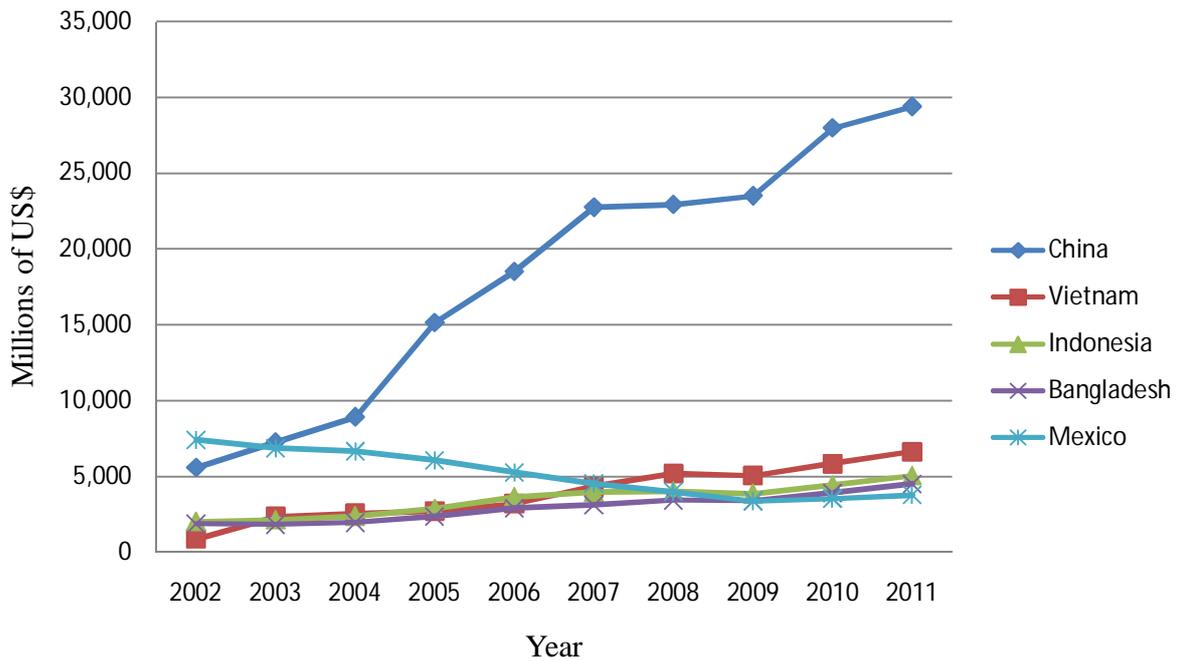


Figure 2.8 United States Apparel Imports from Sourcing Countries.  
 Note: Data produced by World Trade Organization, 2015.

Overall, China and Mexico are two key players in apparel export to the US for the last four decades. Vietnam, Indonesia and Bangladesh are the new entrants in this market after the phase out of Taiwan and South Korea. Hence, the import practice of US apparel sector is very dynamic and challenging.

## **2.5 Labor Cost**

Labor cost is one of the main factors in outsourcing apparel products from different countries. Retailers and importers of developed countries like to take advantage of low-cost labor of developing and under developed countries. Since 1980's, an increasing number of retailers have been increasingly pulled toward importing apparel goods from low-wage countries (Dickerson, 1995). According to Dickerson in 1995, the US apparel industry faced a long-term international movement toward outsourcing from developing countries as a result of lower labor cost. South Asian and East Asian countries, especially China, Bangladesh, India, Vietnam, Hong Kong, due to their relatively low labor cost and abundant labor force became popular sourcing destinations.

Labor costs generally account for about one third of the wholesale value of an apparel product in the US (Hathcote & Nam, 1999). Apparel production is a high labor intensive industry (Brown & Rice, 2013). Thus, low-labor cost plays an important role in the outsourcing of apparel products and the low-labor cost in developing countries provides a competitive advantage for the importers and retailers. Wage differential in the apparel industry between western developed countries and developing countries is quite high and causes global shifts in the textile and apparel production (Gereffi, 2002).

Though labor cost is not the only considerable cost that affects sourcing decisions, it is an important one (Sbordone, 2002). Buying power of the large firms create downward cost pressures on contractors, which eventually hits the labor wage and developing countries try to keep it as low as possible to sustain export volume (Anner, Bair, & Blasi, 2012). In 1978, the average wage for Chinese urban workers was \$0.43 per hour; by 2012 it had risen to \$1.76 per hour. China's wages increased faster than productivity since the late 1990s (Li, Li, Wu, & Xiong, 2012). That means Chinese labor is no longer inexpensive in the context of apparel exporting countries.

Figure 2.9 illustrates the comparative picture of the recent wage of the apparel workers in the countries who are leading exporters to the US. China is the highest paid country for their workers. Among the other Asian countries India, Vietnam and Indonesia recently raised the minimum wage of their workers, yet it is still less than a dollar per hour. Bangladesh with only US \$0.28 per hour wage is the lowest paid country among them. Due to geographical proximity with comparatively higher minimum wage rate than most of the Asian countries Mexico and Honduras are two big players in apparel export. Minimum wage for Mexico and Honduras are \$0.69 and \$1.47 per hour respectively.

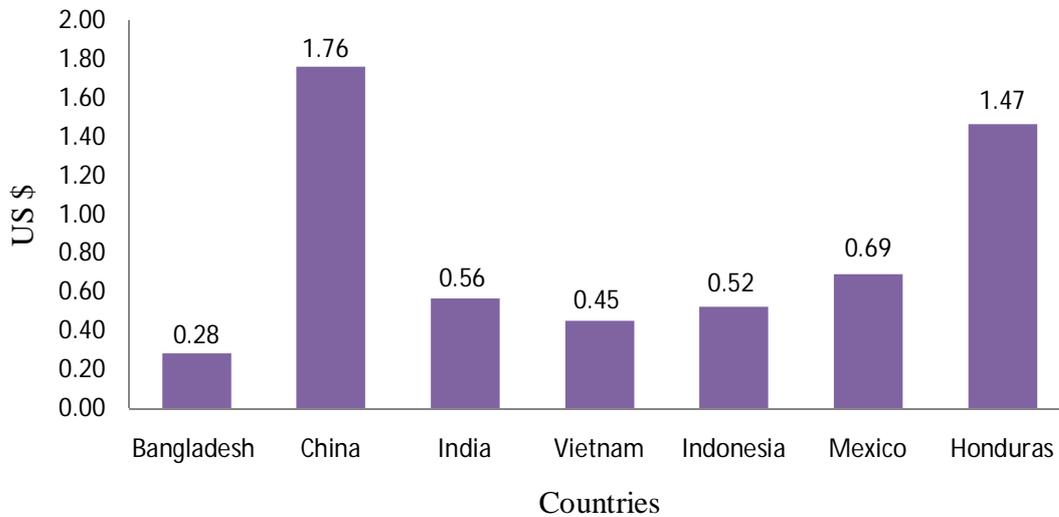


Figure 2.9 Minimum Wages Internationally.  
 Note: Data produced by Wage Indicator, 2015.

Low cost labor gives Bangladesh an advantage over its competitors even after the post MFA era. With the lowest amount of wage, the labor intensive apparel industry has a strong cost motivation to source from Bangladesh. Bangladesh holds an advantage over American apparel manufacturers with its labor cost.

## 2.6 Tariffs

Politics has its influence on import economy. Global sourcing is directly or indirectly influenced by the government regulation of different nations (Clodfelter, 2012). Thus the process becomes complicated. Among all the directly influential trade regulations, tariffs and quotas are the most important. Non-tariff restrictions, like complex documentation requirements for border-crossing processes, and various kinds of international trade bills, are also difficult challenges. Tariffs and quotas are imposed upon imported goods for two purposes: first, to earn revenue; second, to make imported goods more expensive to domestic customers; second one seems more important in recent times (United States International Trade Commission, 2011). To protect

domestic industries from foreign competition, tariff rates have been imposed as a trade restriction on import products by most of the governments of the world (Clodfelter, 2012). Several restrictions imposed by international trade bills are also a good example of governments' efforts to protect national manufacturers. As an example, several attempts have been made to impose import restrictions on textile and apparel products in the form of trade bills as the growth of imports has become a major concern for US textiles and apparel manufacturers. The Generalized System of Preferences Act (GSP) of 1974 is one of the important trade bills. GSP was a major controlling tool for the duty free import of textile and apparel products from developing countries. Among other barriers, border crossing procedures such as customs inspection is a significant one when a firm purchases foreign products (Gereffi & Frederick, 2010).

Previous research by Trela and Whalley (1990) suggested that tariff reduction can help the vast majority of developing countries on their apparel and textiles exports. Tariff rates are an important factor for the US importers to calculate the landed cost of import products. Table 2.2 illustrates that due to contract with the Caribbean countries, United States allows duty free entry for the apparel products made in those countries. Considering the history data found from United States International Trade Commission (2012), Mexico was the country to have varying tariff rates over time. It was 11.6 % in 1995 and now it is tariff free. The US government sets tariff for the other countries at the same level for different period of time. From 1995 to 2002 it was a gradual decline in tariff rate. After 2002, again tariff rate becomes steady. But still 16.8% tariff works as an entry barrier for Asian countries and 0% tariffs for the Caribbean countries creates a clear contrast in landed cost of the products.

Table 2.2 United States Customs Tariffs Percentage from 1995 to 2011.

	1995	1996	1997	1998	1999	2000	2001	2002	2010	2011
China	17.6	17.5	17.4	17.3	17.2	17	16.9	16.8	16.6	16.8
Mexico	11.6	8.7	5.8	2.9	0	0	0	0	0	0
Bangladesh	17.6	17.5	17.4	17.3	17.2	17	16.9	16.8	16.6	16.8
Nicaragua	17.6	17.5	17.4	17.3	17.2	17	0	0	0	0
Cambodia	17.6	17.5	17.4	17.3	17.2	17	16.9	16.8	16.6	16.8
Egypt	17.6	17.5	17.4	17.3	17.2	17	16.9	16.8	16.6	16.8
Vietnam	17.6	17.5	17.4	17.3	17.2	17	16.9	16.8	16.6	16.8
Pakistan	17.6	17.5	17.4	17.3	17.2	17	16.9	16.8	16.6	16.8

Note: Data compiled from United States International Trade Commission, 2012.

Thus tariffs and import regulations significantly influence sourcing decision in US apparel industry and sourcing destination can be varied on the basis of increase and decrease in tariffs for different countries.

## 2.7 Product Quality

Quality can be defined as fitness for use. Kuei & Lu (1997) described quality with five dimensions - quality of design, quality of conformance, availability, safety and field use. With reference to the previous studies, Christiansen (2011) states that quality is the conformance to requirements. He describes the dimensions of quality as performance features, reliability, conformance, durability, serviceability, aesthetics and perceived quality. Thus, quality is a multidimensional, multivariate and continuously changing concept.

Considering apparel products, quality is defined as the consumers' judgments about the performance of the product (Brown & Rice, 2013). Rayman, Burns & Nelson (2011) states seven factors of apparel quality; performance, components, garment care, appearance, construction or workmanship, style or fashion, and fit respectively. This confirmed Forsythe's findings in 1991 that consumers evaluated the apparel products through the use of extrinsic & intrinsic cues.

Extrinsic cues are brand name, price, package and store image and intrinsic cues includes the design, style, fabric type, fiber content and construction details. Garment quality also depends on garment seams durability, stitching, fabric construction, style and aesthetic like garment design, styling and overall performance (Brown & Rice, 2013). According to Skgkao (1994), the apparel attributes were workmanship in sewing, physiological comfort, usefulness, physical and chemical properties, suitability to individual preference and fissionability or brand. Abraham-Murali and Littrell (1995) also found fabric and garment construction, care, value, style and service as the quality attributes of apparel. Saricam et al. (2012) emphasized that the apparel quality attributes were performance and durability, style and fit, fashion or trendiness, brand name and price.

Customer tastes for quality change constantly in the apparel industry (Marufuzzaman & Ahsan, 2009). Moreover, customer satisfaction also depends on the service quality (Rayman et al., 2011). In addition, e-shopping quality refers to consumers' perception on products and service offerings (Ha & Stoel, 2012). The issue of production quality associated with the United States' major importing countries is causing people to rethink sourcing strategies. Research by Gaetan (1988) regarding sourcing evaluation factors from different parts of the world finds that product quality is one of the sourcing evaluation factors.

In 1995 Dickerson found that many Mexican products were of poor quality and US consumers had a widespread opinion that Mexican apparel was inferior to apparel made in US. A similar study by Moore (1995) suggests the apparel product quality level of Japan, South Korea, Taiwan and Hong Kong were regarded as top-quality. Dickerson (1995) forecasted the quality of Chinese apparel will be good. A study by Lumpkin & Crawford (2015) suggests that US

consumers do not favor the apparel products of developing countries. But, no studies were found investigating opinions on the quality of apparel products from Bangladesh.

## **2.8 Lead Time**

An important factor that US importers must consider today when outsourcing apparel is lead time. Lead time refers to “the time between ordering the merchandise and having it arrive in the store” (Dickerson, 1995, p. 187). In supply chain, lead time is the time spent by the chain to process the raw materials to obtain the final products and to deliver them to the customer (Bertolini, Bottani, Rizzi, & Bevilacqua, 2007).

According to Bertolini et al (2007) lead time includes supplier lead time, manufacturing lead time, distribution lead time, and logistic lead time for transport of raw materials. They found that during the last two decades, lead time compression is a major concern of the retailers and importers. It was a concern because lead time compression can generate competitive advantage in the supply chain by reducing inventory levels and cost to provide a better service level. It has been suggested that for better supply chain performance, a company can first look into lead time reduction (Kuhlang, Edtmayr, & Sihn, 2011).

A relatively new business concept is fast fashion where product life cycle is short and global sourcing is more challenging (Gupta & Dasgupta, 2014). Richardson (1996) researched rapid response in fashion apparel and stated that the business is a highly competitive one as brand image and styling can be quickly imitated. The competition on price and quality has intensified due to the availability of global sourcing. Now, the competition has shifted to the lead time and the process is demanding on quick response. In 1999, Hathcote and Nam suggested demand for quick response by the retailers and importers, was a disadvantage for US outsourcing to Asian developing countries. Quick response usually shortens the delivery time and increases

efficiencies in the production and delivery chain. Lead time largely depends on offshore geographical location and goods transportation time. In 1996, Ostroff noted the United States had begun to shift much of its sourcing from Asian countries to the Caribbean Basin Initiative (CBI) nations, especially for basic apparel because of the region's proximity and less shipping time.

Barrett and Ramey (1996) also point out the disadvantage in lead time when sourcing from the Far East. According to them, companies select a sourcing location based on several parameters. Besides wage costs and other factors, being geographically close to the market is now very important for apparel. And this is one of the reasons for a shift in production from Asia to CBI nations. They identified difference in time zone and difficulty in resolving problems as the main drawbacks. Findings state that CBI nations can provide four weeks better lead time than Asian countries when the best of an Asian supplier lead time is even more than seven weeks. However, a recent report noted in 2012, due to faster vessels, lead time from Asian suppliers are competitive and lead time decreases from several months in the 1990's to several weeks currently (Plank, Rossi, &Staritz, 2012).

Gupta &Dasgupta (2014) mentioned three critical lead times to be managed by fashion companies to harvest the best outcome of supply chain. These are: Time to market, Time to serve, and Time to react.Thus, a successful lead time strategy involves all these time factors and contributes in the sourcing decision. Bangladesh, being a south Asian country, should have less advantage than Central American nations, which we should examine in this research.

## **2.9 Currency Exchange Rate**

The exchange rate for a currency varies with time against that of other currencies and thus creates a great impact on buyers to know when to order. Financial losses are associated

with a poor prediction about the exchange rate (Zhang & Huang, 2012). Fluctuations in the exchange rate would remain the top priority of the companies as they moved forward (Guthrie&Harrup, 2011). The trade flows in textile and apparel industry have been significantly influenced by the change in exchange rates of the trading country currencies. Generally fashion retailers enjoy considerably long lead time (normally 4–6 months) while the sales seasons are short. Therefore, retailers want to purchase from the destination to possibly get a more favorable exchange rate (Hu&Motwani, 2014).

As a result of exchange rate fluctuations in the international market, importers typically increase or decrease their sourcing quantity based on how favorable the exchange rates are (Loftus, 2011). Research published in 1987 found that US exports generally move toward those countries where the US dollar weakens, and US imports increase from those countries where the US dollar is stronger than the local currency (Ghadar, Davidson, &Feigenoff, 1987). This trend has remained in effect today (American Apparel and Footwear Association, 2015).

A list of literature examining the relationship between exchange rates and exports using aggregate data has been presented by Clark et al. (2004). Following the collapse of the Bretton Woods System in the early 1970s, nominal and real exchange rates have fluctuated significantly (Greenaway, Kneller, & Zhang, 2012). A study by Chmura (1987) showed that the quantity of textiles and apparel imports is increased by a higher dollar exchange value. And dollar exchange rate depreciation causes decline in the import quantity, meaning that the strong dollar indicates that US importers and retail buyers find outsourcing attractive as it gives quantity benefit.

Figure 2.10 illustrates the currency valuation of the local currencies of the major apparel exporting countries against one US dollar from 2001 to 2015. Among the countries, only Chinese Yuan gets stronger against the US dollar in course of time. In 2001, one US dollar was

equivalent to 8.28 Yuan, but in 2015 it is equivalent to 6.20 Yuan. This currency appreciation has a great impact on China and US bilateral business.

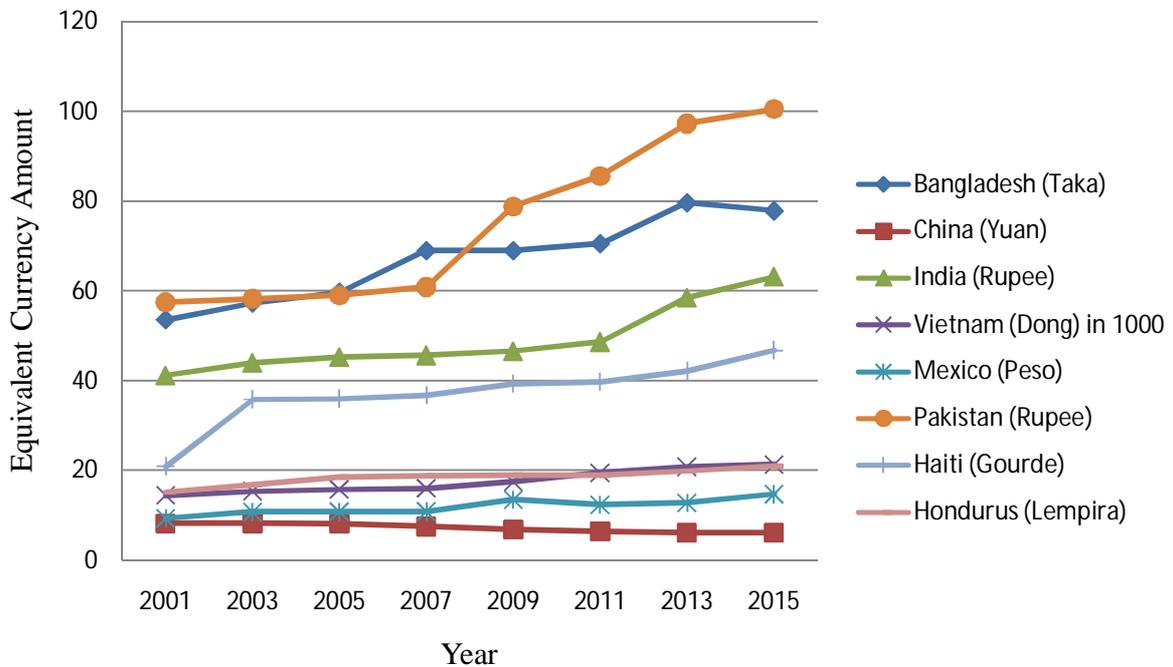


Figure 2.10 United States and International Currency Comparison.  
 Note: Data compiled from XE Currency, 2015.

All the other exporting nations experienced a decline in currency valuation with respect to US dollar in the course of time. Central American countries like Mexico and Honduras experienced the lowest amount of currency devaluation, whereas Pakistan in this span of time faced the highest percentage of currency devaluation. Currency devaluation of Bangladesh and India followed almost the same pattern. Exchange rate of the US dollar was equal to 53.58 Bangladeshi Taka in 2001 and now in 2015 it is equal to 77.87 Taka. According to the previous research the exchange rate trend between the US dollar and Bangladeshi Taka should influence the US import from Bangladesh positively (Hu&Motwani, 2014).

## **2.10 Summary**

In the literature review chapter, research concerning outsourcing, labor cost, product quality, tariffs, lead time and exchange rates was reviewed. US apparel business and its trend has been examined. Demography of Bangladesh and its apparel manufacturing strength also has been discussed. A theoretical framework for examining factors related to Bangladesh as a sourcing destination for the US has been proposed. There gaps in literature have been identified concerning quality, lead time, currency rate, tariffs and product costs related to the apparel business relationship between the US and Bangladesh. Therefore a study is proposed to identify the factors that can establish the bilateral relationship between these two countries.

## **2.11 Hypotheses**

Based on the review of the literatures, the following hypotheses have been developed;

H1: Labor cost positively influences apparel sourcing from Bangladesh

H2: Tariffs negatively influence apparel sourcing from Bangladesh

H3: Quality positively influences apparel sourcing from Bangladesh

H4: Lead time negatively influences apparel sourcing from Bangladesh

H5: Exchange rate positively influences apparel sourcing from Bangladesh

## **CHAPTER 3. METHODOLOGY**

This chapter discusses the methodology for this study and how the research objectives were reached and the hypothesis tested. The proposed methodology is discussed under four sections: proposed study, sampling, study instrument, and data analysis.

### **3.1 Proposed Study**

The purpose of this study was to identify and evaluate sourcing variables related to US apparel outsourcing and manufacturing strengths of Bangladesh. To accomplish this, professionals in the apparel industry involved in sourcing and buying were contacted and asked to participate in an online survey. An online survey containing variables related to apparel outsourcing from overseas countries was developed (Appendix 3). To meet the objectives of this study, several scales are used including open ended questions. Outsourcing variables are adopted from the previous study done by Hathcote and Nam (1999). Data was analyzed using suitable statistical procedures. Before collecting data, approval for this study was obtained from the Institutional Review Board (IRB) at Louisiana State University. All procedures and protocol designated by IRB was strictly followed in accordance with the National Institute of Health regulations and university guidelines and policies.

### **3.2 Sampling**

The research population was apparel sourcing and buying professionals from different US based organizations. This technique known as purposive sampling, the selection of participants based upon a specific need such as expertise or knowledge of a subject, provides the researcher with a sample of participants with the expertise capable of providing the desired information (Edmonds & Kennedy, 2013). The industry professionals were randomly sampled to form a convenience sample. Potential participants were identified by the researcher's business

contacts, and through professional organization membership lists including American Association of Textile Chemists and Colorists (AATCC) and American Apparel & Footwear Association (AAFA). Past research supports the benefits of purposive sampling when investigating apparel industry related issues (Cho & Kang, 2001). A target number of 150 participants were sought. A minimum of 100 participants are considered satisfactory to test the hypothesis and perform necessary statistical analysis (Mertler & Vannatta, 2013).

### **3.3 Study Instrument**

A 26 item online survey has been developed for this research (Appendix 3). The survey approach to data collection is widely used when researchers seek to obtain quantitative data that investigates opinions and attitudes of the study population (Edmonds & Kennedy, 2013). The survey consists of items related to labor cost, tariffs, product quality, lead time, exchange rate, and participant demographics.

The online survey consisted of four sections. The first section was a one page consent form. Section two contained 18 questions set on a Likert scale ranging from 1 strongly disagree to 7 strongly agree and collected information relating to labor costs, import tariffs, product quality, lead time and currency exchange rate. Section three contained seven multiple choice questions which collect demographic data related to respondent's background, relevant sourcing experience and working organization type. The fourth section had one open ended question regarding the participant's experience sourcing from Bangladesh. The essay response option in Qualtrics was used for the open ended question. This option permits the participant to write long detailed responses to open ended questions.

The survey was administered through Qualtrics 2016 online survey system and all information remained anonymous and confidential. The online survey method has the advantages

of lower financial and coding time costs, fewer coding errors, and more privacy and convenience for respondents when compared to traditional pencil-and-paper surveys (Kang & Park-Poaps, 2010).

### **3.4 Data Analysis**

Statistical Analysis System (SAS) Enterprise 6.1 package was used to analyze data. A correlation test was used to check if the variables are independent or interdependent. Principal component analysis with 'varimax' rotation is a suitable method for this study (Hair, Black, Babin, & Anderson, 2010). The independent variables were considered for further analysis. A multiple regression analysis was conducted to analyze observed data to find a relationship between dependent variable apparel import and several independent variables. The weighted method was used to categorize the ranks of the variables and their impact significance on apparel import. Data analysis included hypothesis testing, respondent's profiling, variables ranking and assessing research components. To understand the participants' demographics, descriptive statistics were generated. Responses to the open ended question were coded for content using the constant comparative method. This method permits the researcher to uncover emerging categories or themes in participant responses (Creswell, 2013). Both themes that emerged and direct quotes have been reported. The following procedures were followed to test the hypothesis.

H1: Labor cost positively influences apparel sourcing from Bangladesh. Average score above 4.0 on the Likert scale for the labor cost questions in combination with a positive R-square value on regression analysis was checked to support this hypothesis (Hair et al., 2010).

H2: Tariffs negatively influences apparel sourcing from Bangladesh. Average score above 4.0 on the Likert scale for the tariffs questions in combination with a negative R-square value on regression analysis was checked to support this hypothesis (Hair et al., 2010).

H3: Quality positively influences apparel sourcing from Bangladesh. Average score above 4.0 on the Likert scale for the product quality questions in combination with a positive R-square value on regression analysis was checked to support this hypothesis (Hair et al., 2010).

H4: Lead time negatively influences apparel sourcing from Bangladesh. Average score above 4.0 on the Likert scale for the lead time questions in combination with a negative R-square value on regression analysis was checked to support this hypothesis (Hair et al., 2010).

H5: Exchange rate positively influences apparel sourcing from Bangladesh. Average score above 4.0 on the Likert scale for the currency exchange rate questions in combination with a positive R-square value on regression analysis was checked to support this hypothesis (Hair et al., 2010).

## CHAPTER 4. RESULTS AND DISCUSSION

### 4.1 Descriptive Statistics

Participants of this study were recruited from the apparel sourcing or buying professionals working in the United States for different organizations. Among 122 responses, 106 were complete and included in the data. Seven respondents were excluded from the final analysis because they dropped the survey without responding to any survey question, and nine responses were not complete.

Majority of the participants (60%) were from midsize corporations with 1001 to 5000 employees and large corporations with 5,000 or more employees, shown in Table 4.1. Among the participants 38% were involved in apparel outsourcing from Bangladesh and 62% had never outsourced apparel from Bangladesh. Only 46% of participants were aware of the services offered by vertically integrated vendors of Bangladesh. Descriptive analysis revealed that 29% participants are now working with vertically integrated vendors of different countries, whereas 35% participants have experience of working with vertically integrated vendors of Bangladesh in some point of their career. The majority of participants were in the Importer category (46%) and the least in Retail Brand (23%) category (see Table 4.1). Few participants (9%) had previous experience with vertically integrated vendors in Bangladesh (see Table 4.1).

Table 4.1 Participant Characteristics (N=106)

Characteristic	Total	Percentage
Organization Type		
Retail Brand	24	23
National Brand	33	31
Importer	49	46
Others	0	0
Number of Employees in Organization		
0 – 100	0	0
101 – 1000	29	27
1001 - 5000	63	60
> 5000	14	13
Previous experience outsourcing from Bangladesh		
Yes	39	38
No	67	62
Currently use a vertically integrated vendor		
Yes	30	29
No	76	71
Previously used a vertically integrated vendor in Bangladesh		
Yes	36	35
No	70	65
Familiar with services offered by vertically integrated vendors in Bangladesh		
Yes	49	46
No	57	54

The results of outsourcing factors show that inexpensive labor is the most significant concern for the participants when they consider outsource apparel (see Table 4.2). Product Quality and Lead Time were found to be the second and third important concerns respectively. Ninety-four percent of the participants selected Currency Exchange Rate as the least concern when they consider apparel outsourcing from overseas destinations. This confirms previous findings by Hathcote & Nam (1999) that cheap labor and standard quality of apparel products are influencing factors of apparel outsourcing.

Table 4.2 Importance of the Constructs

Rank		Labor Cost	Import Tariff	Product Quality	Lead Time	Currency Exchange Rate
1 <sup>st</sup>	Frequency	100	0	3	1	2
	Percentage	94	0	3	1	2
2 <sup>nd</sup>	Frequency	2	4	98	2	0
	Percentage	2	4	92	2	0
3 <sup>rd</sup>	Frequency	0	20	2	82	2
	Percentage	0	19	2	77	2
4 <sup>th</sup>	Frequency	2	79	2	21	2
	Percentage	2	74	2	20	2
5 <sup>th</sup>	Frequency	2	3	1	0	100
	Percentage	2	3	1	0	94

## 4.2 Measurement Assessment

Data were analyzed in several phases that followed structured statistical procedures. The initial phase consists of assessing scale validity. To determine the dimensions of the constructs, Exploratory Factor Analysis (EFA) was conducted with SAS. To examine the EFA, variables were assessed using Principal Component Analysis (PCA) and to correct any oblique effect on factor output Varimax Rotation was applied (Hair et al., 2010). Any construct that had a loading of less than 0.600 was eliminated. Constructs containing dual loading were also eliminated to avoid biases (Hair et al., 2010). Scree Plot suggested five factors having Eigen value greater than 1. The rotated component matrix showing the items and factor loadings are presented in Table 4.3.

Table 4.3 EFA Results for Study Constructs

Component	Item	Loading
Labor Cost	Cut and sew costs in Bangladesh are comparatively lower than other countries	0.802
	One of the main reasons for outsourcing apparel from Bangladesh is low product costs	0.823
Import Tarrif	Apparel import tariff for Bangladesh is considerably higher than other countries	0.879
	Import tariff has negative impact on apparel outsourcing	0.703
	Import tariff is an obstacle to import apparel from Bangladesh	0.862
Product Quality	Bangladesh is a right destination for sourcing basic apparel items	0.624
	Bangladesh is a right destination for sourcing complex designed apparel	0.825
	You are satisfied with the workmanship of the apparel sourced from Bangladesh	0.896

Table 4.3 continued

Component	Item	Loading
Lead Time	Vessel shipping time from Bangladesh is comparatively higher than other sourcing countries	0.865
	Air shipment is not a feasible way for apparel transportation	0.866
Currency Exchange Rate	Higher exchange rate of US dollar against Bangladeshi Taka (US \$ 1.00 = 79.00 BDT) has an influence on apparel sourcing from Bangladesh.	0.974
	When US dollar gets strong against other currencies, it causes an increase in import from that destination.	0.957

Reliability of the questionnaire items was calculated using Cronbach's (1951) alpha for internal consistency ( $\alpha = 0.75$ ). A reliability of 0.70 and above indicated that the items had strong reliability and were retained. Table 4.4 shows the reliability of the constructs.

Table 4.4 Reliability Scores of Study Constructs

Constructs	Cronbach's Alpha	Number of Items
Labor Cost	0.822	2
Import Tariff	0.842	3
Product Quality	0.832	3
Lead Time	0.836	2
Currency Exchange Rate	0.841	2

### 4.3 Hypothesis Testing

#### 4.3.1 Likert Scale Output Testing

Arithmetic average was calculated for Likert scale scores on the basis of the relevant constructs (see Table 4.5). Results of Likert scale analysis revealed:

Table 4.5 Likert Scale Output

Constructs	Mean	Standard Deviation
Labor Cost	6.42	1.65
Import Tariff	6.25	2.26
Product Quality	6.48	1.78
Lead Time	5.32	1.19
Currency Exchange Rate	3.95	1.07

#### 4.3.2 Regression Output Testing

Multiple regression was conducted to test the proposed hypotheses and to determine the relationship between the variables as well as to determine influence of the constructs on apparel outsourcing from Bangladesh. Assumptions of multiple regression (linearity, normality, collinearity, and homoscedasticity) were addressed (Hair et al., 2010). The results of the multiple linear regression were significant as shown in Table 4.6.

Four of the five outsourcing constructs predicted apparel outsourcing from Bangladesh. The overall model was significant ( $F=16.82$ ,  $R^2=0.434$ ). Results of hypothesis testing based on multiple regression results revealed:

H1: Labor cost positively influences apparel sourcing from Bangladesh. H1 was supported as labor cost positively influenced apparel sourcing from Bangladesh ( $\beta=0.574$ ,  $t=4.07$ ).

H2: Tariffs negatively influences apparel sourcing from Bangladesh. H2 was supported as import tariffs negatively influenced apparel sourcing from Bangladesh as  $\beta= -0.2$  and  $t= -1.44$ .

H3: Quality positively influences apparel sourcing from Bangladesh. H3 was supported by the data ( $\beta=0.427$ ,  $t=3.60$ ).

H4: Lead time negatively influences apparel sourcing from Bangladesh. H4 was also supported ( $\beta= -0.045$ ,  $t= -1.45$ ).

H5: Exchange rate positively influences apparel sourcing from Bangladesh. H5 was rejected based on the negative coefficient value ( $\beta= -0.03$ ) and  $p\text{-value}>0.05$ .

Table 4.6 Result of Regression Analysis ( $N=106$ )

Dependent Variable (Apparel Outsourcing from Bangladesh)			
Independent Variables	Standardized Regression Coefficient (beta)	t value	Significance
Labor Cost	0.574	4.07	0.000
Tariffs	-0.200	-1.44	0.041
Product Quality	0.427	3.60	0.000
Lead Time	-0.045	-1.45	0.043
Currency Exchange Rate	-0.030	-0.46	0.649
F- value	16.82		
Adjusted R <sup>2</sup>	0.434		

From the results, 43% of the variance in apparel outsourcing from Bangladesh was predicted by Labor Cost, Tariffs, Product Quality, Lead Time and Currency Exchange Rate. The prediction was statistically significant as  $F(1, 106) = 16.82, P < 0.001$  (Table 4.6).

The results of the study supported four hypotheses and one hypothesis was not supported. Table 4.7 below summarizes hypotheses results. Results indicate, low cost labor, standard product quality, import tariffs and lead time influence apparel outsourcing from Bangladesh. In this study the effect of currency valuation was not significant enough to influence apparel sourcing from Bangladesh. This finding differs from the findings of Hathcote and Nam (1999) that exchange rate had influence over apparel outsourcing.

Table 4.7 Summary of Hypotheses and Results

H	Hypotheses	Results
H 1	Labor cost positively influences apparel sourcing from Bangladesh	Supported
H 2	Tariffs negatively influences apparel sourcing from Bangladesh	Supported
H 3	Quality positively influences apparel sourcing from Bangladesh	Supported
H 4	Lead time negatively influences apparel sourcing from Bangladesh	Supported
H 5	Exchange rate positively influences apparel sourcing from Bangladesh	Not Supported

#### **4.4 Results of Open Ended Question**

The open-ended question: “What has been your experience with or opinion of the service provided by the vertically integrated vendors in Bangladesh?” was answered in detail by 11 participants. Their written comments supplied additional insight into their opinions and experience with sourcing from Bangladesh. The most frequently discussed topics were the comparison between vertically integrated vendors and only “cut & sew” vendors. Seventy percent related preference for vertically integrated vendors over only “cut & sew” vendors. For example, one participant stated “Vertically integrated vendors are better than cut & sew vendors in terms of quality and service” [P7]. Others commented, “Comparatively better than stitching vendors” [P34] and “One stop solution and better lead time” [P48]. Only one participant shared different experience and said “I have not worked vertically integrated vendor in Bangladesh, but I have worked with vendors who have production in Bangladesh. In general, transporting the goods to the US is more challenging due to its geographic location” [P4].

## **CHAPTER 5. CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS**

### **5.1 Summary and Conclusion**

This study reveals the benefit factors of sourcing apparel from Bangladesh. US retailers, brands and importers can be benefited from the results of this study. The findings of this study confirm low labor cost and standard quality of manufactured products are the core strength of Bangladeshi vendors that should be considered by the buyers. This study also confirms import tariff and longer lead time have negative influence on apparel sourcing from Bangladesh. These results agree with previous studies that cheap labor and development in manufactured product increases the importance of global sourcing, for example Cho and Kang, (2001). An unexpected finding which does not support previous research is that currency valuation no longer appears to be a significant influence on sourcing destination.

Participants indicated low labor cost is the first choice of the buyers when they consider apparel outsourcing and select outsourcing destinations. Continuous search for low cost products propelled importers to move towards Asian vendors. After Hong Kong, Korea and China, Bangladesh is now one of the most competitive price providers. Findings support that still a significant percentage of buyers and importers did not experience apparel sourcing from Bangladesh and also a significant percentage are not informed about the services offered by Bangladeshi vendors. Hence, this competitive advantage can influence more business managers to outsource apparel from Bangladesh in the near future.

The results of this study also reveal product quality aspect of Bangladeshi vendors, which carries positive influence on outsourcing. This means Bangladeshi vendors can make apparel products maintaining international quality standard. This supports previous findings that

development in technology and global presence of information technology helped developing countries of the far east to match the demand of global quality standard (Hathcote & Nam, 1999).

Due to the geographical location of Bangladesh, longer vessel lead time for exporting product to the US is required compared to some other sourcing destinations. Participants in this study directly supported that fact. Despite having geographical distance, there is still scope for lead time reduction by using direct and faster vessels. Moreover, all the Asian countries are in the same situation in terms of vessel lead time to ship products to the US. Hence, this fact should not restrict apparel buyers to outsource apparel from Bangladesh as there are not enough geographically closer alternatives for US importers for apparel outsourcing.

Unlike previous studies, which reveal that higher currency exchange rate positively influence apparel outsourcing destination (Cho & Kang, 2001), this study showed that gradual increase in the difference of currency exchange rate between US dollar and Bangladeshi taka does not have significant impact on outsourcing apparel from Bangladesh. Hence, it can be predicted that in the future even if Bangladeshi taka gets stronger against US dollar it should not affect the bilateral apparel trade in between Bangladeshi vendors and US importers.

The results of this study provided information about benefit factors associated with outsourcing from Bangladesh by apparel retailers, brand and importers. Furthermore, it can provide a better understanding about important trade-offs that sourcing managers and apparel buyers face in various outsourcing alternatives.

## **5.2 Implications**

### **5.2.1 Theoretical Implications**

Labor cost, import tariffs, product quality and lead time directly influence apparel outsourcing from Bangladesh. If the labor cost is comparatively lower than other nations it is likely that buyers will buy more apparel products from Bangladesh. This study reveals that import tariffs negatively influences apparel sourcing. Hence, Bangladeshi vendors face a challenge in price competition from the vendors in countries included in the NAFTA agreement. Results of this study support longer lead time has a negative influence on apparel outsourcing from Bangladesh. The geographical distance between US and Bangladesh requires a longer vessel lead time than Caribbean countries. Bangladesh lacks a deep sea port which restricts Bangladeshi vendors from shipping products directly to US adding additional transit days. Therefore, faster vessels and a deep sea port can improve lead time and business possibilities for Bangladeshi vendors.

This study reveals sourcing professionals hold a positive view of vertically integrated apparel vendors. Vertically integrated vendors may be able to better control the final quality as they are involved in various stages of the product development. The study also implies a direct relationship between product quality and apparel sourcing. Respondents agreed that they considered product quality as an important factor of outsourcing. Acceptable product quality positively influences apparel sourcing from Bangladesh. Hence, US companies who are unaware of the quality offered by Bangladeshi vendors can be influenced by the results of this study. This study adds literature on the relationship between US apparel import and apparel export from Bangladesh.

### 5.2.2 Managerial Implications

The increasing trend of apparel outsourcing indicates increased competition internally and externally for US firms. Constant pressure from markets and consumers has forced retailers, national brands and apparel importers to lower the cost of products without compromising the quality of the products. Success in this business requires sourcing managers to find vendors who can produce quality products at a low cost. In this regard, Bangladesh with an abundance of relatively cost effective and a skilled labor force can offer attractive sourcing opportunities for US buyers and importers.

Since labor cost was found to be the most important concern for outsourcing apparel, the implications are that this can influence greatly the decision of the managers when they select overseas vendors. Managers therefore can contact BGMEA or Export Promotion Bureau in Bangladesh to find the available service offers that can be accessed from Bangladeshi vendors to maximize the business profits. US companies also need to build long term business relationships with Bangladeshi vendors to ensure sustainable business and to grow together. For example, retailers can patronize Bangladeshi cut & sew vendors to grow as vertical vendors where they can get one stop service. If the vendors can grow as vertical facilities, they would be able to engage more labor and more labor will offer further low cost.

Product quality was found to be one of the most important factors in the selection of an outsourcing destination for the apparel industry. Bangladeshi vendors can gain benefit by doing proper marketing of their skill of manufacturing quality products. And considering the results of

this study, brand managers can rely on the quality level of Bangladeshi vendors and can add Bangladesh as a possible option for their sourcing destination.

The final cost of a product includes import tariffs and managers need to consider all the cost parameters to estimate final cost of a product. Although Asian countries can provide lower product cost than other countries, final cost of the products manufactured in Asia is subject to tariffs for US importers. Tariffs imposed by the US government vary by country. Hence, managers must include this in their final cost calculations when shopping for possible outsourcing destinations. Currently, Bangladesh enjoys a good relationship with the US, which includes no tariff discrimination, making it competitive among Asian countries.

Sourcing managers also can consider the best possible lead time that they can get from Bangladeshi vendors. A well planned advance product cycle time can offer them better product price than they can get from geographically closer sourcing nations. Managers can make a decision based on their need, as there is a possible tradeoff between short lead time and low product cost.

### **5.3 Limitations and Recommendations for Future Studies**

One limitation of the study was that it was done with a convenience sample of professionals based in only the US, therefore the results cannot be generalized. Secondly, this study considered all the apparel products as a whole, future research can be done on different product categories. In this study intangible constructs like ease of communication, business friendly environment, sustainable business term, growth opportunity etc. were not considered. Therefore, future research could examine the influence of these constructs on sourcing from Bangladesh.

This study was modeled to find the influence of sourcing parameters on sourcing from Bangladesh. This model can be used to determine the influence of these parameters on any other prospective countries in the future. Future research should investigate the benefits offered by the vertically integrated vendors and the effects of those benefit factors on outsourcing decision. Results from this study indicated that a limited number of sourcing people know about the offerings of vertically integrated vendors of Bangladesh. This study received a lower percentage of responses from retailers and national brands than importers. Hence, a future research can focus on only retailer's private brands and national brands.

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## APPENDICES

### Appendix 1 Institutional Review Board Approval

#### ACTION ON PROTOCOL APPROVAL REQUEST



Institutional Review Board  
Dr. Dennis Landin, Chair  
130 David Boyd Hall  
Baton Rouge, LA 70803  
P: 225.578.8692  
F: 225.578.5983  
[irb@lsu.edu](mailto:irb@lsu.edu) | [lsu.edu/irb](http://lsu.edu/irb)

TO: Laurel Romeo  
Textiles, Apparel Design & Merchandising

FROM: Dennis Landin  
Chair, Institutional Review Board

DATE: December 16, 2015

RE: IRB# 3675

TITLE: A Study On Advantages Of Sourcing Apparel From Bangladesh

New Protocol/Modification/Continuation: New Protocol

Review type: Full \_\_\_ Expedited X Review date: 12/15/2015

Risk Factor: Minimal X Uncertain \_\_\_ Greater Than Minimal \_\_\_

Approved X Disapproved \_\_\_

Approval Date: 12/15/2015 Approval Expiration Date: 12/14/2016

Re-review frequency: (annual unless otherwise stated)

Number of subjects approved: 100

LSU Proposal Number (if applicable):

Protocol Matches Scope of Work In Grant proposal: (if applicable) \_\_\_

By: Dennis Landin, Chairman *D Landin*

#### PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING – Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
7. Notification of the IRB of a serious compliance failure.
8. SPECIAL NOTE: When emailing more than one recipient, make sure you use bcc.

*\*All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at <http://www.lsu.edu/irb>*

## **Appendix 2 Online Survey Consent Form**

### Online Survey Consent Form

This research titled “Apparel outsourcing risk factors associated to garment manufacturers of Bangladesh” is being conducted by MdShihabNur and Dr. Laurel Romeo of Louisiana State University. The purpose of this study is to determine the factors associated with apparel outsourcing from Bangladesh. Collected data will be used to: identify related sourcing factors and their influence on US apparel import from Bangladesh. By completing this online survey you give consent to participate in this research. Your responses to the survey will remain anonymous. You may choose not to participate or to withdraw from the study at any time without penalty or loss of any benefit to which they might otherwise be entitled. There is no compensation for completing this survey; however your participation is a valuable part of the assessment process. This study has been approved by the LSU IRB. For questions concerning participant rights, please contact the IRB Chair, Dr. Dennis Landin, 578-8692, or [irb@lsu.edu](mailto:irb@lsu.edu). For any further inquiry please feel free to contact:

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### Appendix 3 Outsourcing Survey

Please indicate your agreement or disagreement with the statements below.

- 1) Made in Bangladesh apparel are of low cost  
 Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree
- 2) Cut and sew costs in Bangladesh are comparatively lower than other countries  
 Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree
- 3) One of the main reasons for outsourcing apparel from Bangladesh is low product costs  
 Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree
- 4) Apparel import tariff for Bangladesh is considerably higher than other countries  
 Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree
- 5) Import tariff has negative impact on apparel outsourcing  
 Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree
- 6) Import tariff is an obstacle to import apparel from Bangladesh  
 Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree
- 7) Choice of apparel outsourcing destination varies depending on product quality  
 Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree
- 8) Bangladesh is a right destination for sourcing basic apparel items  
 Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree
- 9) Bangladesh is a right destination for sourcing complex designed apparel  
 Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree
- 10) You are satisfied with the workmanship of the apparel sourced from Bangladesh  
 Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree
- 11) Import lead time has an effect on selecting apparel outsourcing destination  
 Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree
- 12) Vessel shipping time from Bangladesh is comparatively higher than other sourcing countries  
 Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree
- 13) Air shipment is not a feasible way for apparel transportation  
 Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree
- 14) US dollar is considerably a stronger currency than Bangladeshi Taka  
 Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree

15) Higher exchange rate of US dollar against Bangladeshi Taka (US \$ 1.00 = 79.00 BDT) has an influence on apparel sourcing from Bangladesh.

Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree

16) When US dollar gets strong against other currencies, it causes an increase in import from that destination.

Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree

17) Vertically integrated vendors can provide better service than only cut and sew apparel vendors.

Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree

18) Overall Bangladesh is a favorable apparel sourcing destination.

Strongly Disagree  Disagree  Moderately Disagree  Undecided  Moderately Agree  Agree  Strongly Agree

Please answer the below questions based on your experience.

19) Have you ever been involved in the process of apparel outsourcing from Bangladesh?

Yes  No

20) Do you currently use a vertically integrated vendor?

Yes  No

21) Have you used a vertically integrated vendor in Bangladesh?

Yes  No

22) Are you familiar with the services offered by vertically integrated vendors in Bangladesh?

Yes  No

23) What is the type of your organization?

- Retail Brand
- National Brand
- Importer
- Others (please specify in the space) \_\_\_\_\_

24) How many employees work in your company?

- <100
- 101 - 1000
- 1001 – 5000
- >5000

25) Rank these factors according to their importance in outsourcing in your opinion. Please consider the most influential as 5 and the least as 1.

- Labor cost
- Import tariffs
- Product quality

- Lead time
- Currency exchange rate with US dollar

26) What has been your experience with or opinion of the service provided by the vertically integrated vendors in Bangladesh?

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Thanks for your time and participation

## VITA

MdShihabNur is currently a graduate student at Louisiana State University, Baton Rouge. He received a Bachelor of Science degree in Textile Technology and a Master of Business Administration degree from University of Dhaka. Thereafter, he worked in the industry for several years as a sourcing professional. He later decided to continue with graduate studies in the department of Textiles, Apparel Design, and Merchandising at Louisiana State University. After he receives his Master of Science degree, he plans to work in apparel industry.